

Draft Land Use Existing Conditions Report

Twin Creeks Environmental Centre Landfill
Optimization Project Environmental Assessment

WM Canada
Watford, Ontario



October 2023

Prepared by:

Monteith Brown Planning Consultants
610 Princess Avenue
London, ON, N6B 2B9



Monteith•Brown
planning consultants

Executive Summary

This Land Use Existing Conditions Report forms one component of the Environmental Assessment (EA) undertaken as required for the WM Canada (WM) Twin Creeks Environmental Centre (TCEC) Landfill Optimization Project. The EA is being carried out in accordance with the requirements of the *Ontario Environmental Assessment Act (OEAA)* and Terms of Reference (ToR), which was approved by the Ministry of Environment, Conservation and Parks (MECP) on December 13, 2022.

This report characterizes the planned and existing Built Environment Conditions within the On-Site and Off-Site Study Areas, with a focus on sensitive land uses (as defined by the Provincial Policy Statement (PPS) and the MECP D-1 and D-4 Guidelines). The On-Site Study Area is the existing TCEC site, and the Off-Site Study Area comprises lands within 1 km of the TCEC site and the entire settlement area of Watford, Ontario.

The approved ToR established “*Effects on Current and Future Land Uses*” as the evaluation criterion for the Land Use discipline, according to the following rationale: “*the continued operation of the landfill may not be fully compatible with certain current and/or planned future land uses in the Off-Site Study Area. Waste disposal facilities can potentially have a negative impact on sensitive land uses, in the vicinity of the site.*” The indicators for this evaluation criterion are: current and planned land uses; off-site recreational resources; off-site sensitive land uses as defined by the PPS and MECP D-series guidelines; and agricultural operations. Information from Provincial and local planning documents, aerial photography, and field reconnaissance (among other sources) was used to characterize existing conditions.

This report highlights planned and existing sensitive land uses within the On- and Off-Site Study Areas, as defined in the PPS and the MECP D-series guidelines issued under the legislative authority of the *Environmental Protection Act*, *OEAA*, *Planning Act*, and other related legislation.

The TCEC is the predominant existing land use within the On-Site Study Area, with the licensed landfill site spanning approximately 101.8 ha on the northern portion of the 301 ha site. A leachate transfer station, excess soil stockpile, poplar plantation (to treat leachate), and agricultural field are located to the south of the active landfill area. Several private recreational features managed by WM are also located within the On-Site study area, including the Watford Dog Park (at the south end of the site along Confederation Line), Nauvoo Park (a passive recreation park located to the north of the Watford Cemetery, on the west side of the site), and the Twin Creeks Nature Trail, which connects the two features.

The Lambton County Official Plan Map ‘1’ designates the On-Site Study Area as ‘Agricultural Area’. An Official Plan Amendment (OPA) is required for any proposed landfill expansion, which must be consistent with the County of Lambton Official Plan

and comply with the provisions of the *Environmental Protection Act* and relevant Provincial legislation (s.s. 7.11.6).

The Township of Warwick Official Plan Schedule 'A' shows a 'Waste Management Policy Area' designation wrapping around the On-Site Study Area, and most of the On-Site Study Area is designated as 'Landfill Site' with an 'Agriculture' designation on the southernmost portion of the property with frontage on Confederation Line. The 'Landfill Site' is specifically identified as "*the area described on Exhibit 4-1 in the "Warwick Landfill Expansion Environmental Assessment" as approved on January 15, 2007 by the Minister of the Environment*" (Part B, s.s. 13.2). Any new development or change of use on or within 500 metres of the Landfill Site will be subject to consultation with the Province before a *Planning Act* approval is adopted or granted, and a local OPA will be required prior to the expansion of an existing facility (Part B, s.s. 13.2 and 13.4, Part C, s.s. 3.6.2).

The Township of Warwick Zoning By-law 121 of 2012 Schedules 'A' and 'B' zone the majority of the On-Site Study Area as 'Industrial Waste Disposal' (M3-1), with small portions of the property zoned 'Natural Heritage – Significant Woodlot' (EP-WD) and 'Natural Heritage – Hazard' (EP-H) and the southernmost portion of the property zoned 'Agricultural 2-3' (A2-3). A former waste disposal site is also located within the bounds of the On-Site Study Area, identified with an asterisk.

The predominant land uses within the north, east, and west portions of the Off-Site Study Area are agricultural in nature, including cash crop farming, livestock barns, and scattered single-detached dwellings associated with agriculture operations. The Watford Settlement Area is located within the southwest portion of the Off-Site Study Area and includes the highest concentration of sensitive land uses in the study area, including residential (predominantly single-detached dwellings), recreational resources (parks, community centres, and arenas), and institutional land uses (schools, daycares, and churches).

The majority of the lands within the Off-Site Study Area are predominantly designated as 'Agricultural Area' on Map '1' of the County of Lambton Official Plan, with the entire 'Urban Centre' of Watford located within the Off-Site Study Area to the southwest and a 'Hwy 402 Service Centre' designation located at the northwest corner of the Off-Site Study Area, south of Highway 402 and west of County Road 79.

Schedule 'A' of the Township of Warwick Official Plan designates lands within the north, east, and west portions of the Off-Site Study Area as 'Agriculture,' with a 'Highway 402 Service Centre' designation and 'Employment Area' overlay located to the northwest. Several designated 'Significant Woodlots' are scattered through the agricultural area. A wide range of land-use designations are identified within the settlement area on Part 1 to Schedule 'A' (Watford), including 'Residential', 'Commercial', 'Mixed Commercial/Industrial', 'Industrial', and 'Open Space'.

The lands within the north, east, and west portions of the Off-Site Study Area are predominantly zoned 'Agriculture 1' (A1) on Schedule 'A' of the Township of Warwick Zoning By-law, with scattered 'Natural Heritage – Hazard' (EP-H) and 'Natural

Heritage – Significant Woodlot’ (EP-WD) zoning associated with streams and woodlands in the area. The Watford Settlement Area includes a wide range of residential (R1, R2, R3, and R5), commercial (C1, C2), institutional (I), Open Space (OS1, OS2), and industrial (CM, M1) zones, as shown on Schedule ‘B’. The CM and M1 zones are the only ones that do not permit sensitive land uses. The EP-H zone is associated with watercourses extending through the Watford settlement area. The ‘Agricultural 2’ (A2) zone applies to agricultural lands immediately surrounding Watford, and restricts livestock operations to a maximum of four animal units.

DRAFT

Acronyms, Units and Glossary

Acronyms

Acronym	Definition
EA	Environmental Assessment
EIS	Environmental Impact Study
GHG	Greenhouse Gas
LFG	Landfill Gas
MBPC	Monteith Brown Planning Consultants
MECP	Ministry of Environment, Conservation and Parks
OEAA	Ontario Environmental Assessment Act
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
OP	Official Plan
PPS	Provincial Policy Statement
TCEC	Twin Creeks Environmental Centre
ToR	Terms of Reference
WM	WM Canada
ZBL	Zoning By-law

Units

Unit	Definition
ac	acre
ha	hectare
km	kilometre
m	metre
m ²	square metre

Glossary

Term	Definition
Approval	Permission granted by an authorized individual or organization for an undertaking to proceed. This may be in the form of program approval, certificate of approval or provisional certificate of approval.
Capacity (Disposal Volume)	The total volume of air space available for disposal of waste at a landfill site for a particular design (typically in m ³); includes both waste and daily cover materials, but excludes the final cover.
Composting	The controlled microbial decomposition of organic matter, such as food and yard wastes, in the presence of oxygen, into finished compost (humus), a soil-like material. Humus can be used in vegetable and flower gardens, hedges, etc.
Composting facility	A facility designed to compost organic matter either in the presence of oxygen (aerobic) or absence of oxygen (anaerobic).
Environment	As defined by the Environmental Assessment Act, environment means: <ul style="list-style-type: none"> • air, land or water; • plant and animal life, including human life; • the social, economic and cultural conditions that influence the life of humans or a community; • any building, structure, machine or other device or thing made by humans; • any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities; or • any part or combination of the foregoing and the interrelationships between any two or more of them (ecosystem approach).
Environmental Assessment (EA)	A systematic planning process that is conducted in accordance with applicable laws or regulations aimed at assessing the effects of a proposed undertaking on the environment.
Evaluation criteria	Evaluation criteria are considerations or factors taken into account in assessing the advantages and disadvantages of various alternatives being considered.
Greenhouse gas (GHG)	Any of the gases whose absorption of solar radiation is responsible for the greenhouse effect, including carbon dioxide, methane, ozone, and the fluorocarbons.
Indicators	Indicators are specific characteristics of the evaluation criteria that can be measured or determined in some way, as opposed to the actual criteria, which are fairly general.
Landfill gas (LFG)	The gases produced from the wastes disposed in a landfill; the main constituents are typically carbon dioxide and methane, with small amounts of other organic and odour-causing compounds.
Landfill site	An approved engineered site/facility used for the final disposal of waste. Landfills are waste disposal sites where waste is spread in layers, compacted to the smallest practical volume, and typically covered by soil.
Leachate	Liquid that drains from solid waste in a landfill and which contains dissolved, suspended and/or microbial contaminants from the breakdown of this waste.
Mitigation	Measures taken to reduce adverse impacts on the environment.
Official Plan	An official plan describes your upper, lower or single tier municipal council or planning board's policies on how land in your community should be used. It is prepared with input from your community and helps to ensure that future planning and development will meet the specific needs of your community.
Proponent	A person who: <ul style="list-style-type: none"> • carries out or proposes to carry out an undertaking; or • is the owner or person having charge, management or control of an undertaking.
Receptor	The person, plant or wildlife species that may be affected due to exposure to a contaminant.

Glossary

Term	Definition
Terms of Reference (ToR)	A terms of reference is a document that sets out detailed requirements for the preparation of an Environmental Assessment.
Undertaking	<p>Is defined in the Environmental Assessment Act as follows:</p> <ul style="list-style-type: none"> • An enterprise or activity or a proposal, plan or program in respect of an enterprise or activity by or on behalf of Her Majesty in right of Ontario, by a public body or public bodies or by a municipality or municipalities; • A major commercial or business enterprise or activity or a proposal, plan or program in respect of a major commercial or business enterprise or activity of a person or persons other than a person or persons referred to in clause (1) that is designated by the regulations; or • An enterprise or activity or a proposal, plan or program in respect of an enterprise or activity of a person or persons, other than a person or persons referred to in clause (a), if an agreement is entered into under section 3.0.1 in respect of the enterprise, activity, proposal, plan or program ("<i>enterprise</i>").
Waste	Refuse from places of human or animal habitation; unwanted materials left over from a manufacturing process.
Zoning By-law	<p>A zoning bylaw controls the use of land in your community. It states exactly:</p> <ul style="list-style-type: none"> • how land may be used; • where buildings and other structures can be located; • the types of buildings that are permitted and how they may be used; and, • the lot sizes and dimensions, parking requirements, building heights and densities (the number of people, jobs and building floor area per hectare), and setbacks from the street <p>An official plan sets out your municipality's general policies for future land use. Zoning bylaws put the plan into effect and provide for its day-to-day administration. They contain specific requirements that are legally enforceable. Construction or new development that doesn't comply with a zoning bylaw is not allowed, and the municipality will refuse to issue a building permit.</p>



Contents

Executive Summary	i
Acronyms, Units and Glossary	v
1 Introduction	1
2 TCEC and Study Areas	2
3 Methods	4
3.1 Data Collection and Review	5
3.2 Field Studies	7
3.3 Characterization of Existing Conditions	7
4 Description of Existing Conditions	9
4.1 Planned Land Uses	9
4.1.1 Planned Land Uses: On-Site Study Area	9
4.1.2 Planned Land Uses: Off-Site Study Area	21
4.2 Current Land Uses	38
4.2.1 Current Land Uses: On-Site Study Area	38
4.2.2 Current Land Uses: Off-Site Study Area	41
4.3 Summary of Existing Conditions	59
5 References	61

Tables

Table 3-1. Evaluation Criteria, Indicators and Data Sources for Land Use	4
Table 3-2. Provincial Definitions of Sensitive Land Use	6
Table 4-1. Planned Sensitive Land Uses within the Off-Site Study Area, County Official Plan	25
Table 4-2. Planned Sensitive Land Uses within the Off-Site Study Area, Township Official Plan	32
Table 4-3. Permitted Sensitive Land Uses within the Off-Site Study Area, Township Zoning By-law	36
Table 4-4. Residential Uses within the Off-Site Study Area	42
Table 4-5. Agricultural Land Uses/Operations	46
Table 4-6. Off-Site Outdoor Recreational Resources	49
Table 4-7. Off-Site Indoor Recreational Resources	50
Table 4-8. Parkland Hierarchy	52
Table 4-9. Off-Site Recreational Resource Usage Information	53
Table 4-10. Schools and Daycares in the Off-Site Study Area	55
Table 4-11. Places of Worship within the Off-Site Study Area	55
Table 4-12. Healthcare Facilities in the Off-Site Study Area	56
Table 4-13. Long-Term Care Facilities in the Off-Site Study Area	57
Table 4-14. Cemeteries within the Off-Site Study Area	57

Figures

Figure 2-1. General On-Site and Off-Site Study Areas for the EA.....	2
Figure 2-2. Land-Use Specific On-Site and Off-Site Study Areas	3
Figure 4-1. Excerpt from Lambton County Official Plan Map ‘1’ – Growth Strategy.....	10
Figure 4-2. Excerpt from Lambton County Official Plan Map ‘2’ – Natural Heritage System	12
Figure 4-3. Excerpt from the Township of Warwick Official Plan Schedule ‘A’	14
Figure 4-4. Excerpt from the Township of Warwick Official Plan Schedule ‘C’	16
Figure 4-5. Excerpt from the Township of Warwick Zoning By-law Schedule ‘A’	18
Figure 4-6. Excerpt from the Township of Warwick Zoning By-law Schedule ‘B’	19
Figure 4-7. Excerpt from Lambton County Official Plan Map ‘1’ – Growth Strategy.....	22
Figure 4-8. Excerpt from Lambton County Official Plan Map ‘2’ – Natural Heritage System	24
Figure 4-9. Excerpt from the Township of Warwick Official Plan Schedule ‘A’	26
Figure 4-10. Excerpt from the Township of Warwick Official Plan – ‘Part 1 to Schedule ‘A’ (Watford)’	28
Figure 4-11. Excerpt from the Township of Warwick Official Plan – Schedule ‘C’ Natural Heritage	30
Figure 4-12. Excerpt from the Township of Warwick Official Plan – Part 1 to Schedule ‘C’ Natural Heritage (Watford).....	31
Figure 4-13. Excerpt from the Township of Warwick Zoning By-law Schedule ‘A’	33
Figure 4-14. Excerpt from the Township of Warwick Zoning By-law Schedule ‘B’	35
Figure 4-15. Looking east towards the TCEC Entrance on Nauvoo Road	38
Figure 4-16. Twin Creeks Nature Trail Map.....	39
Figure 4-17. Looking North Towards the Twin Creeks Nature Trail from Confederation Trail Head.....	40
Figure 4-18. Watford Dog Park	40
Figure 4-19. Residential Properties within the Off-Site Study Area	44
Figure 4-20. Township of Warwick (Watford) Development Activity.....	45
Figure 4-21. Livestock and Greenhouse Agricultural Operations within the Off-Site Study Area	48
Figure 4-22. Amenities within the Off-Site Study Area	51
Figure 4-23. Cemeteries within the Off-Site Study Area.....	58

1 Introduction

This report presents a description of the existing Land Use conditions for the WM Canada (WM) Twin Creeks Environmental Centre (TCEC) Landfill Optimization Project in support of the environmental assessment (EA). The EA is being carried out in accordance with the requirements of the *Ontario Environmental Assessment Act (OEAA)* and Terms of Reference (ToR), which was approved by the Ministry of Environment, Conservation and Parks (MECP) on December 13, 2022.

There are approximately 8 years of approved landfill airspace capacity remaining at the TCEC (i.e., capacity will be reached in approximately 2031). The proposed optimization would provide additional airspace of approximately 14 million cubic metres (m³), which could extend the site life by approximately 12 years (from 2031 to 2043), and may be achieved through alternative landfill configurations or alternative methods within the existing 301 ha TCEC site area. No changes are proposed to the size of the TCEC site area, approved service area, or annual fill rate.

The approved ToR included a preliminary description of the existing conditions within the area surrounding the TCEC, with the commitment that a more detailed description of existing environmental conditions would be prepared as part of the EA. In accordance with the approved ToR, additional investigative studies were carried out as necessary to generate a more detailed description of the existing and planned land uses to characterize existing conditions for the TCEC Landfill Optimization Project EA.

This Land Use Existing Conditions Report is one component of the EA. The EA Study Report will incorporate the information presented herein as appropriate, and this report will be included with the EA Study Report as a supporting document.

2 TCEC and Study Areas

The TCEC is located approximately 1 km north of the Village of Watford in the Township of Warwick. The facility is situated southeast of the intersection of Zion Line and Nauvoo Road and the main entrance to the facility is located approximately 300 m south of Zion Line on the east side of Nauvoo Road.

Through the EA, existing conditions and potential effects will be considered in the context of two study areas: on-site and off-site. The general study areas proposed for the purposes of the EA are shown on **Figure 2-1**. The general On-Site Study Area corresponds to the TCEC site, and the general Off-Site Study Area corresponds to the area within 1 km of the On-Site Study Area. The general Off-Site Study Area was modified for Land Use.

The study areas for Land Use, shown on **Figure 2-2**, are as follows:

- On-Site Study Area: the existing TCEC.
- Off-Site Study Area: lands within 1 km of the On-Site Study Area, as well as the entire Settlement Area of Watford, corresponding to the Off-Site Study Area identified for the Socio-Economic Environment.

Figure 2-1. General On-Site and Off-Site Study Areas for the EA

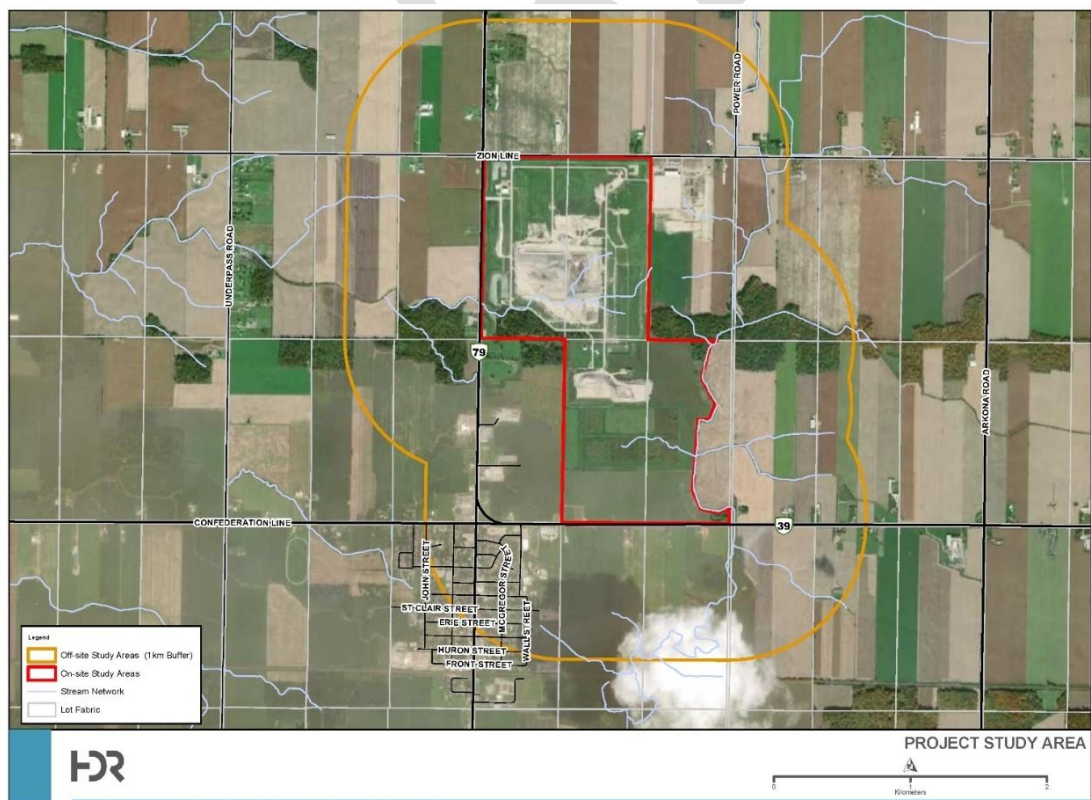


Figure 2-2. Land-Use Specific On-Site and Off-Site Study Areas



3 Methods

This Land Use Existing Conditions Report was developed based on the evaluation criteria, indicators, and data sources included in the approved ToR, which were developed in consultation with government agencies and other stakeholders. The evaluation criteria, rationale, indicators, and data sources used for Land Use as per the approved ToR are provided in **Table 3-1**.

Table 3-1. Evaluation Criteria, Indicators and Data Sources for Land Use

Evaluation Criteria	Rationale	Indicators	Data Sources
Current and Planned Future Land Use			
Land Use			
Effects on Current and Future Land Uses	The continued operation of the landfill may not be fully compatible with certain current and/or planned future land uses in the Off-Site Study Area. Waste disposal facilities can potentially have a negative impact on sensitive land uses, in the vicinity of the site.	<ul style="list-style-type: none"> • Current land use • Planned land use • Type(s) and proximity of offsite recreational resources within 1 km of a landfill footprint potentially affected • Type(s) and proximity of offsite sensitive land uses as defined by the Provincial Policy Statement and the MECP D-1 Guidelines (e.g., dwellings, churches, parks) within 1 km of a landfill footprint potentially affected • Type(s) and proximity of agricultural land use/operations (e.g., organic, cash crop, livestock) 	<ul style="list-style-type: none"> • <i>Planning Act</i> • Provincial Policy Statement • All applicable Provincial D-series guidelines, including guidelines D-1, D-1-1, D-1-2 and D-1-3 (Land Use and Compatibility), as well as D-4, D-4-1, D4-2, and D-4-2 (Land Use On or Near Landfills and Dumps) • Lambton County Official Plan • Township of Warwick Official Plan • Township of Warwick Zoning • By-law 121 of 2012 • Aerial photographic mapping utilizing the following sources: Lambton County GIS, St. Clair Region Conservation Authority, Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Agricultural Information Atlas, Google Maps, and Bing Maps • Canadian Lands Inventory mapping • Field reconnaissance • Published data on public recreational facilities/activities • Proposed facility characteristics • Landfill design and operations data • The results of other discipline assessments for this EA, where applicable

3.1 Data Collection and Review

The characterization of existing conditions is informed by the Land Use planning framework in Ontario, which is set out in Provincial legislation through the *Planning Act*. The *Act* describes how land uses may be controlled, who may control them, it identifies matters of provincial interest and allows for the issuance of policy statements relating to municipal planning. The Provincial Policy Statement (PPS) (2020) is issued by the Province under the *Planning Act* and provides specific policy direction on matters of provincial interest related to land-use planning and development, which are subsequently implemented at the County and Municipal levels of government through Official Plans and Zoning By-laws.

The On-Site and Off-Site Study Areas are located within the County of Lambton, which utilizes a two-tier governance system for land-use planning. The County of Lambton Official Plan provides a general policy framework for land use, with the Township of Warwick Official Plan providing more detailed planning policies on a local level. These planning policies and objectives are implemented through the Township of Warwick Zoning By-law No. 121 of 2012, which provides specific regulations on how land may be used within the municipality. The County of Lambton Official Plan, Township of Warwick Official Plan, and the Township of Warwick Zoning By-law No. 121 of 2012 are the end products of the planning process under the *Planning Act*. All land-use planning decisions in Ontario must be consistent with the PPS.

In accordance with the approved ToR, this report highlights planned and existing sensitive land uses within the On- and Off-Site Study Areas, as defined in the PPS, the Provincial 'D-1 Land Use and Compatibility', and 'D-4 Land Use On or Near Landfills and Dumps' guidelines, issued under the legislative authority of the *Environmental Protection Act*, *OEAA*, *Planning Act*, and other related legislation. The provincial definitions of sensitive land use are provided in **Table 3-2**.

Table 3-2. Provincial Definitions of Sensitive Land Use

Source	Definition
Provincial Policy Statement (2020)	Sensitive land uses: means buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more adverse effects from contaminant discharges generated by a nearby major facility. Sensitive land uses may be a part of the natural or built environment. Examples may include, but are not limited to: residences, day care centres, and educational and health facilities.
D-1-3 Land Use Compatibility Definitions	<p>Sensitive Land Use A building, 'amenity area' or outdoor space where routine or normal activities occurring at reasonably expected times would experience 1 or more 'adverse effect(s)' from contaminant discharges generated by a nearby 'facility'. The 'sensitive land use' may be a part of the natural or built environment. Depending upon the particular 'facility' involved, a sensitive land use and associated activities may include one or a combination of:</p> <ul style="list-style-type: none"> i. residences or facilities where people sleep (e.g., single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.). These uses are considered to be sensitive 24 hours/day. ii. a permanent structure for non-facility related use, particularly of an institutional nature (e.g., schools, churches, community centres, day care centres). iii. certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive (e.g., trailer park, picnic area, etc.). iv. certain agricultural operations (e.g., cattle raising, mink farming, cash crops and orchards). v. bird/wildlife habitats or sanctuaries
D-4 Land Use On or Near Landfills and Dumps	<p>Sensitive land uses for landfills currently in operation Any existing or committed land use which includes:</p> <ul style="list-style-type: none"> a. a permanent structure used in animal husbandry; or b. agricultural land used for pasturing livestock; or c. a permanent structure where: <ul style="list-style-type: none"> i. a person sleeps, or ii. a person is present on a full time basis; but not including food or motor vehicle service facilities adjacent to a highway, utility operations, scrap yards, heavy industrial uses, gravel pits, quarries, mining or forestry activities; or d. cemeteries

Source: PPS (2020), D-1-3 Land Use Compatibility Definitions, D-4 Land Use On or Near Landfills and Dumps

The following tasks have been undertaken to fully characterize existing conditions within the On-Site and Off-Site Study Areas:

1. Collect Background Information on the Land-Use Planning Context

Relevant background documents were reviewed to inform the understanding of the land-use planning context, including the County of Lambton Official Plan, the Township of Warwick Official Plan, and the Township of Warwick Zoning By-law 121 of 2012, and their respective schedules.

2. Undertake a Desktop Review of Aerial Photographic Mapping

A range of data sources, including but not limited to Lambton County GIS online mapping, St. Clair Region Conservation Authority online mapping, the OMAFRA Agricultural Information Atlas, Google Maps, and Bing Maps, was utilized to identify existing sensitive land uses, recreational resources, and agricultural

operations within the Off-Site Study Area, and note where 'planned' land uses differ from existing land uses.

3. Request Data on Recreational Facilities

Data on the usage of public recreational facilities within the Off-Site Study Area was requested from the Township, but such information was not readily available. Usage data was collected from the Township of Warwick Parks, Recreation, Tourism and Culture Master Plan (2021) and incorporated into this report.

4. Field Visit

A field visit to the On-Site and Off-Site Study Areas was conducted on Thursday, March 3, 2023 to provide a thorough understanding of existing land-use conditions. A 'windshield tour' of the Off-Site Study Area was conducted to confirm and identify existing land uses and generate a photo-inventory of sensitive land uses.

5. Produce a Detailed Characterization of Land-Use Conditions

The findings from the background document review, desktop mapping review, data requests, and field investigations was synthesized into a detailed characterization of conditions within the On-Site and Off-Site Study Areas, identifying specific receptors that are considered 'sensitive land uses' under the established PPS and D-1 Guidelines. Locations within the Off-Site Study Area that may accommodate sensitive land uses in the future based on the existing planning framework were also identified to recognize where the proposed landfill expansion may have a negative impact on future development.

3.2 Field Studies

A field visit to the On-Site and Off-Site Study Areas was conducted on Thursday, March 2, 2023 from 10 AM to 1 PM. The On-Site Study Area was examined, including both the landfill area at the north end and Confederation Park at the south end of the property, and existing conditions were photographed. Following the On-Site Study Area visit, a 'windshield tour' of the Off-Site Study Area was undertaken to observe and photograph existing conditions.

All photographs of the Off-Site Study Area were taken from public roads without entry to private property.

3.3 Characterization of Existing Conditions

The existing conditions for Land Use were characterized as follows:

1. Information collected from the sources identified in **Section 3.1** were reviewed and summarized to identify existing and planned sensitive land uses within the Off-Site Study Area;

2. A field study was undertaken to ensure a thorough understanding of existing land-use conditions within the On-Site and Off-Site Study Areas and photograph existing land uses (**Section 3.2**); and
3. Information from all sources was synthesized into this report and categorized into planned and existing land uses.

DRAFT

4 Description of Existing Conditions

The following section describes the existing and planned land uses within the On- and Off-Site Study Areas, with a focus on sensitive land uses (as defined by the Provincial Policy Statement and the MECP D-1 and D-4 Guidelines).

As noted in the ToR, the continued operation and proposed landfill expansion may not be fully compatible with certain current and/or planned future land uses in the Off-Site Study Area. Waste disposal facilities can potentially have a negative impact on sensitive land uses in the vicinity of the site, such as residential dwellings, churches, and parks.

4.1 Planned Land Uses

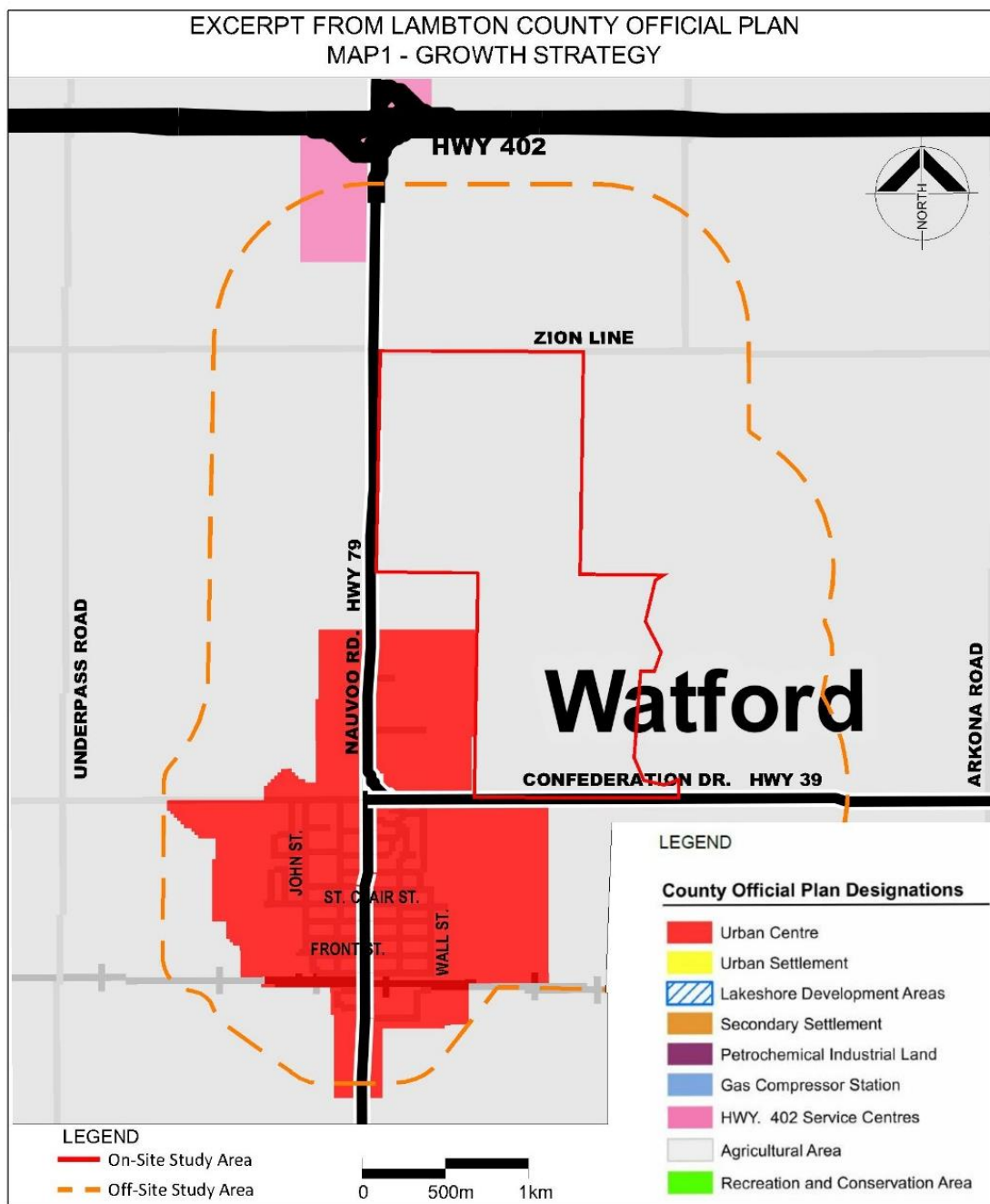
4.1.1 Planned Land Uses: On-Site Study Area

4.1.1.1 Lambton County Official Plan

The County of Lambton Official Plan *“is intended to provide a general framework for land use, economic, natural heritage, social, and cultural decision-making within the County”* and establishes a framework to assist local municipalities in the preparation of their Official Plans (s.s. 1.2, s.s. 1.3).

The On-Site Study Area is designated as ‘Agricultural Area’ on Map ‘1’ – Growth Strategy of the County of Lambton Official Plan. See **Figure 4-1**. All lands outside of Centres and Settlements, the Recreation and Conservation Area, or specific employment area designations are classified as ‘Agricultural Area’ (s.s. 3.2.5). The ‘Agricultural Area’ *“is a prime agricultural area characterized primarily by agriculture, natural areas and clusters of existing development of insufficient size and variety of uses to warrant designation as settlement areas”* (s.s. 3.2.5). The primary permitted land use within this designation *“will be agricultural uses of all sizes, types, and intensities”* including but not limited to the growing of crops; raising of livestock; and raising of other animals for food, fur, or fibre; (s.s. 4.1.6, 4.1.7). Agriculture-related uses that are not secondary to a farm operation are permitted under certain circumstances (s.s. 4.1.8). Recreational, cultural, and open space uses are discouraged in the ‘Agricultural Area’ but may be permitted through site-specific local Official Plan Amendments subject to certain criteria (s.s. 4.1.16).

Figure 4-1. Excerpt from Lambton County Official Plan Map '1' – Growth Strategy

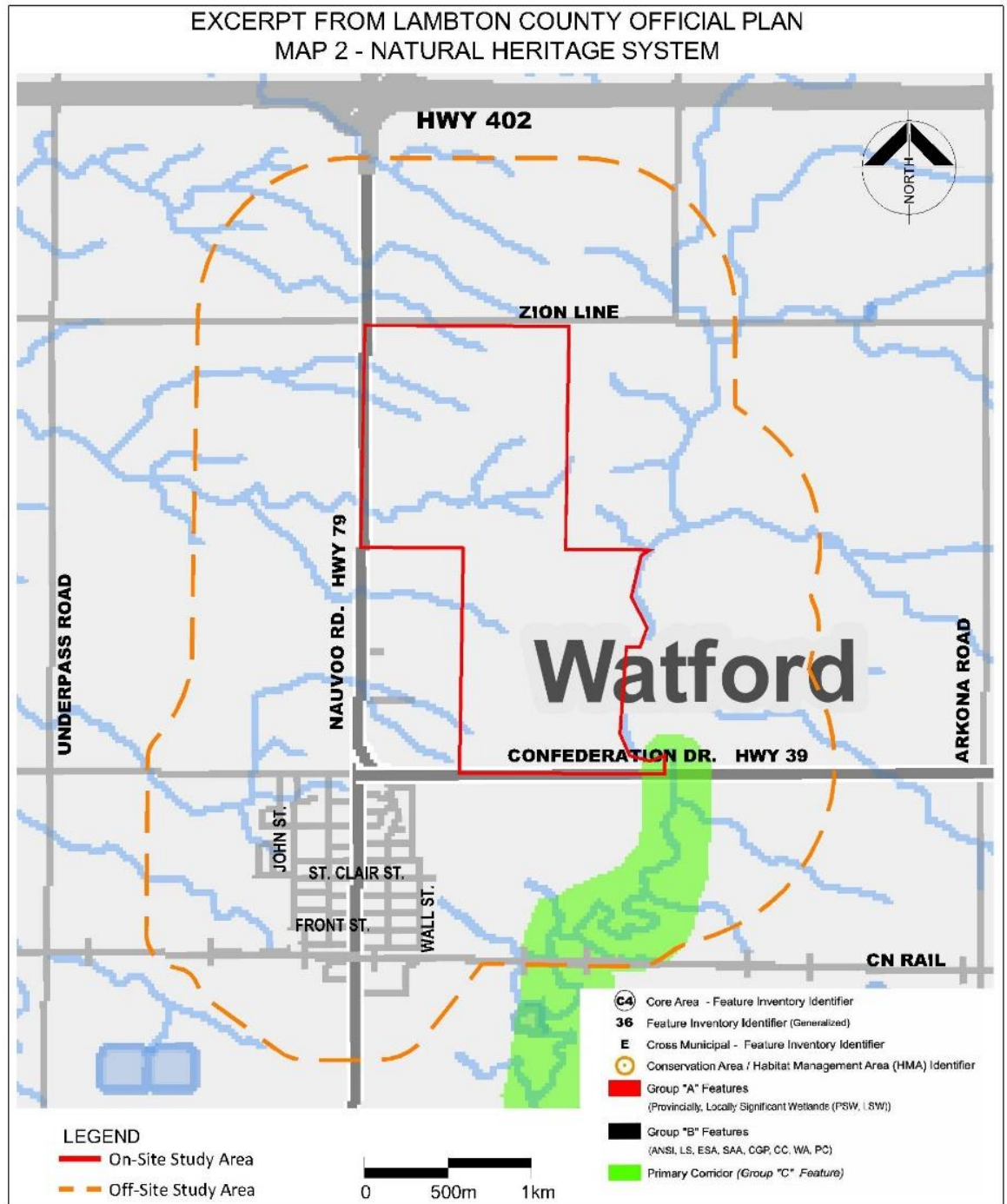


The County of Lambton Official Plan indicates that private commercial waste management facilities (such as the existing landfill) “are to be located on lands designated and zoned for such purposes. An amendment to this Plan and the local official plan is required prior to the establishment of new waste management facilities or the expansion of existing facilities” (s.s. 7.11.5). The County of Lambton Official Plan policies do not differentiate between vertical and horizontal landfill expansions. Any expansion proposals must be consistent with the County of Lambton Official Plan and comply with the provisions of the *Environmental Protection Act* and relevant

Provincial legislation (s.s. 7.11.6). Before any *Planning Act* approvals for a proposed expansion are adopted or granted, approval from the Province must be obtained in accordance with Section 46 of the *Environmental Protection Act* (s.s. 7.11.8). Further, “*Local Official Plans will identify all known closed, abandoned and active waste disposal sites and provide policies for development in proximity to the sites*” (s.s. 7.11.9).

The southeastern corner of the On-Site Study Area intersects with a ‘Primary Corridor (Group ‘C’ Feature)’ conceptually identified on Map ‘2’ – Natural Heritage System (**Figure 4-2**). Group ‘C’ features “*tend to be conceptual or features for which a comprehensive set of policies have not been developed by this Plan*” (s. 8). ‘Primary Corridor’ features represent existing connections between natural heritage areas, and tend to follow major watercourses (s.s. 8.1.3). Local municipalities are responsible for identifying and protecting Primary Corridors in their official plans and zoning by-laws, as Map 2 only schematically depicts Natural Heritage System feature boundaries (s.s. 8.1.3, 8.1.5). The County and local municipalities may require an Environmental Impact Study to accompany development applications within or adjacent to natural heritage features, and “*land use policies and decisions must consider potential negative environmental impacts and opportunities for maintaining and integrating linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas*” (s.s. 8.1.9, 8.1.15).

Figure 4-2. Excerpt from Lambton County Official Plan Map '2' – Natural Heritage System



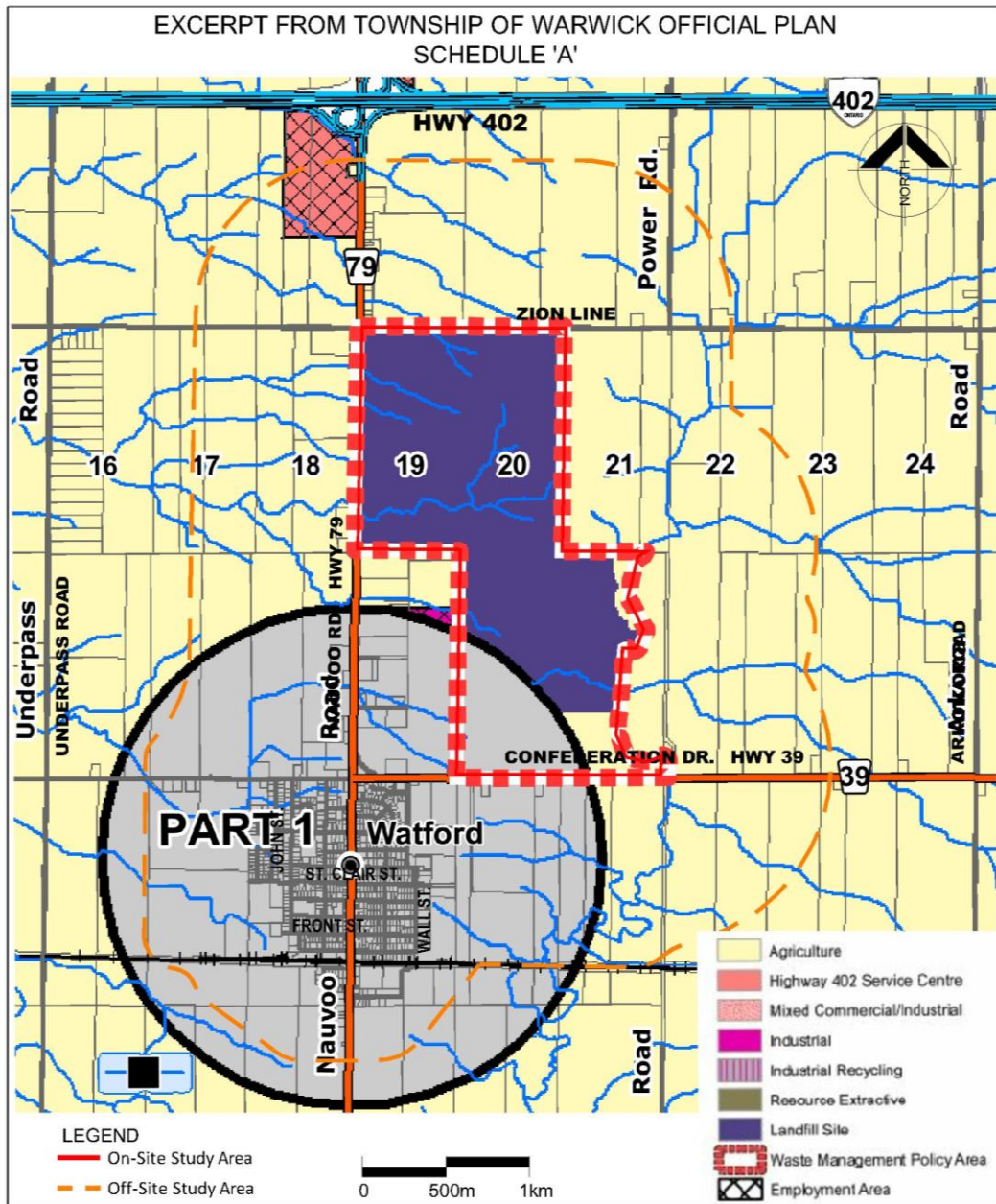
4.1.1.2 Township of Warwick Official Plan

The Township of Warwick Official Plan provides a planning policy framework for decision-making by the Township and its committees; serves as a guide for the public and business community regarding growth and development of the Township; and provides a local context for the application of Provincial and County planning policies (Part A, s. 1).

Schedule 'A' of the Township of Warwick Official Plan shows a 'Waste Management Policy Area' designation wrapping around the On-Site Study Area. Within the Policy Area, most of the On-Site Study Area is designated as 'Landfill Site' with an 'Agriculture' designation on the southernmost portion of the property with frontage on Confederation Line (**Figure 4-3**). It appears that the terms 'Waste Management Policy Area' and 'Landfill Site' are used interchangeably within the text of the Township of Warwick Official Plan. The Township of Warwick Official Plan does not include a section listing policies that apply to the 'Waste Management Policy Area' (other than a general section on Waste Management Systems) but Part B, Section 13 lists policies applying to the 'Landfill Site' as both the area identified in purple on Schedule 'A', and areas designated 'Agriculture' and 'Natural Heritage' within the 'Waste Management Policy Area'.

Waste Management Systems *"include sites and facilities to accommodate solid waste from one or more municipalities and includes landfill sites, recycling facilities, transfer stations, processing sites and hazardous waste depots"* (Part C, s.s. 3.6.1). Any new development or change of use on or within 500 m of any active or closed waste disposal site (including the Landfill Site) will be subject to consultation with the Province before a *Planning Act* approval is adopted or granted (Part B, s.s. 13.4, Part C, s.s. 3.6.2). An amendment to the County of Lambton Official Plan and Township of Warwick Official Plan are required prior to the established of new waste management facilities or the expansion of existing facilities (Part B, s.s. 13.12).

Figure 4-3. Excerpt from the Township of Warwick Official Plan Schedule 'A'



The 'Landfill Site' is specifically identified as “*the area described on Exhibit 4-1 in the “Warwick Landfill Expansion Environmental Assessment” as approved on January 15, 2007 by the Minister of the Environment*” (Part B, s.s. 13.2). Permitted uses within the 'Landfill Site' are listed as follows:

- a) *disposal in the landfilling area, depositing for handling, and receipt of nonhazardous solid waste. The disposal of non-hazardous solid waste is limited to the landfilling area that is approved under the provisions of the Environmental Protection Act and under a Certificate of Approval for a Waste Disposal Site under the Environmental Protection Act,*
- b) *disposal only, within the landfilling area, of contaminated soil monofil from the existing landfill;*
- c) *processing of waste materials – asphalt, concrete, wood, tires;*
- d) *a composting facility, including municipal composting and private commercial compost facilities, utilizing leaf, tree and yard wastes and agricultural crop residue;*
- e) *a recycling depot;*
- f) *a transfer area;*
- g) *independent energy-from-waste and energy-from-gas enterprises are permitted, subject to an amendment to the Zoning by-law” (Part B, s.s. 13.1).*

Ancillary and accessory uses are also permitted within the 'Landfill Site', including but not limited to an administrative office building, weigh scales, storage buildings, forestry, accessory parking for the adjacent cemetery, an education and interpretative centre, and trails and walkways (Part B, s.s. 13.3).

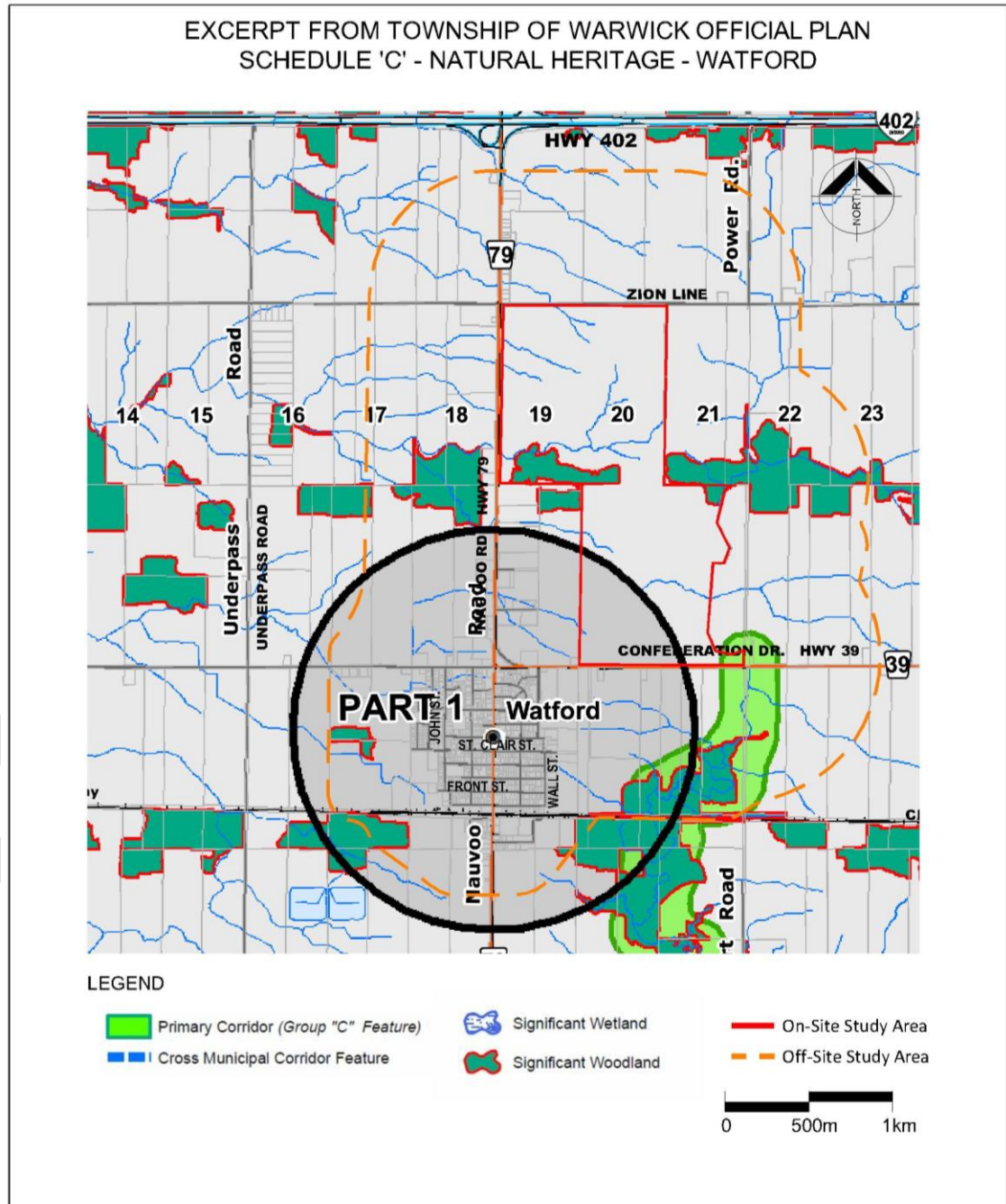
Within the most southerly 500 m of the designated 'Landfill Site', the only permitted use is the poplar forest used in conjunction with the approved leachate treatment facility (Part B, s.s. 13.4).

A limited range of agricultural uses are permitted within the designated 'Agricultural' area within the 'Waste Management Policy Area'. Notwithstanding the 'Agriculture' policies in Part B, Sections 1.1. and 1.2 of the Township of Warwick Official Plan, agricultural uses within the 'Waste Management Policy Area' are limited to the growing of crops including nursery and horticultural crops; agro-forestry; conservation uses, commercial greenhouse for floriculture, and greenhouse for food production (Part B, s.s. 13.6). Dwellings are not permitted in this area.

Schedule 'C' identifies small areas designated as 'Significant Woodland' in the middle of the On-Site Study Area, and the southeast corner of the property intersects with a 'Primary Corridor (Group 'C' Feature)' (Figure 4-4). 'Significant Woodlands' are classified as Group 'B' features in the Township of Warwick Official Plan and development may be permitted “*if it can be demonstrated through an Environmental Impact Study that no negative impacts on the features or their associated ecological functions will result*” (Part B, s.s. 10.1.1). The Township of Warwick Official Plan provides general controls on development within Group 'C' features, “*with the aim of*

improving the overall health of the natural heritage system including the improvement of linkages within the corridors” (Part B, s.s. 10.1.1). The Township of Warwick Official Plan further specifies that the Township’s Natural Heritage policies “shall only apply to the areas designated as ‘Natural Heritage System and Natural Hazard Areas’ within the ‘Landfill Site’ designation (Part B, s.s. 13.7).

Figure 4-4. Excerpt from the Township of Warwick Official Plan Schedule ‘C’



4.1.1.3 Township of Warwick Zoning By-law 121 of 2012

The Township of Warwick Zoning By-law 121 of 2012 regulates the use of land and the character, location, and use of buildings and structures within the Township.

The On-Site Study Area is zoned as 'Industrial Waste Disposal' ('M3-1'), with small portions of the property zoned 'Natural Heritage – Significant Woodlot' ('EP-WD') and 'Natural Heritage – Hazard' (EP-H') and the southernmost portion zoned 'Agricultural 2-3' ('A2-3') on Schedules 'A' and 'B' of the Township of Warwick Zoning By-law 121 of 2012. See Figure 4-5 and Figure 4-6. A former waste disposal site is located within the boundary of the On-Site Study Area, identified with an asterisk.

DRAFT

Figure 4-5. Excerpt from the Township of Warwick Zoning By-law Schedule 'A'

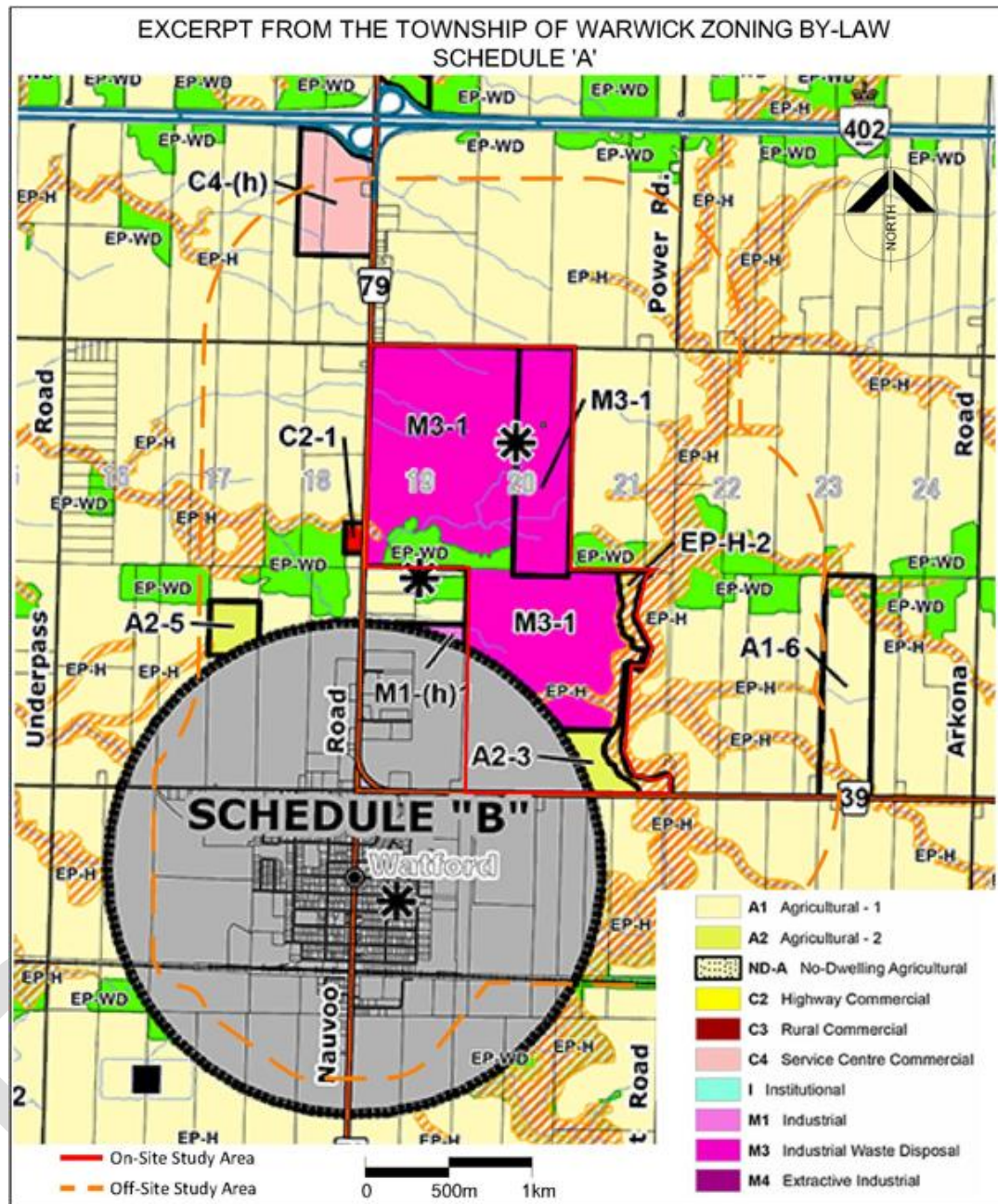
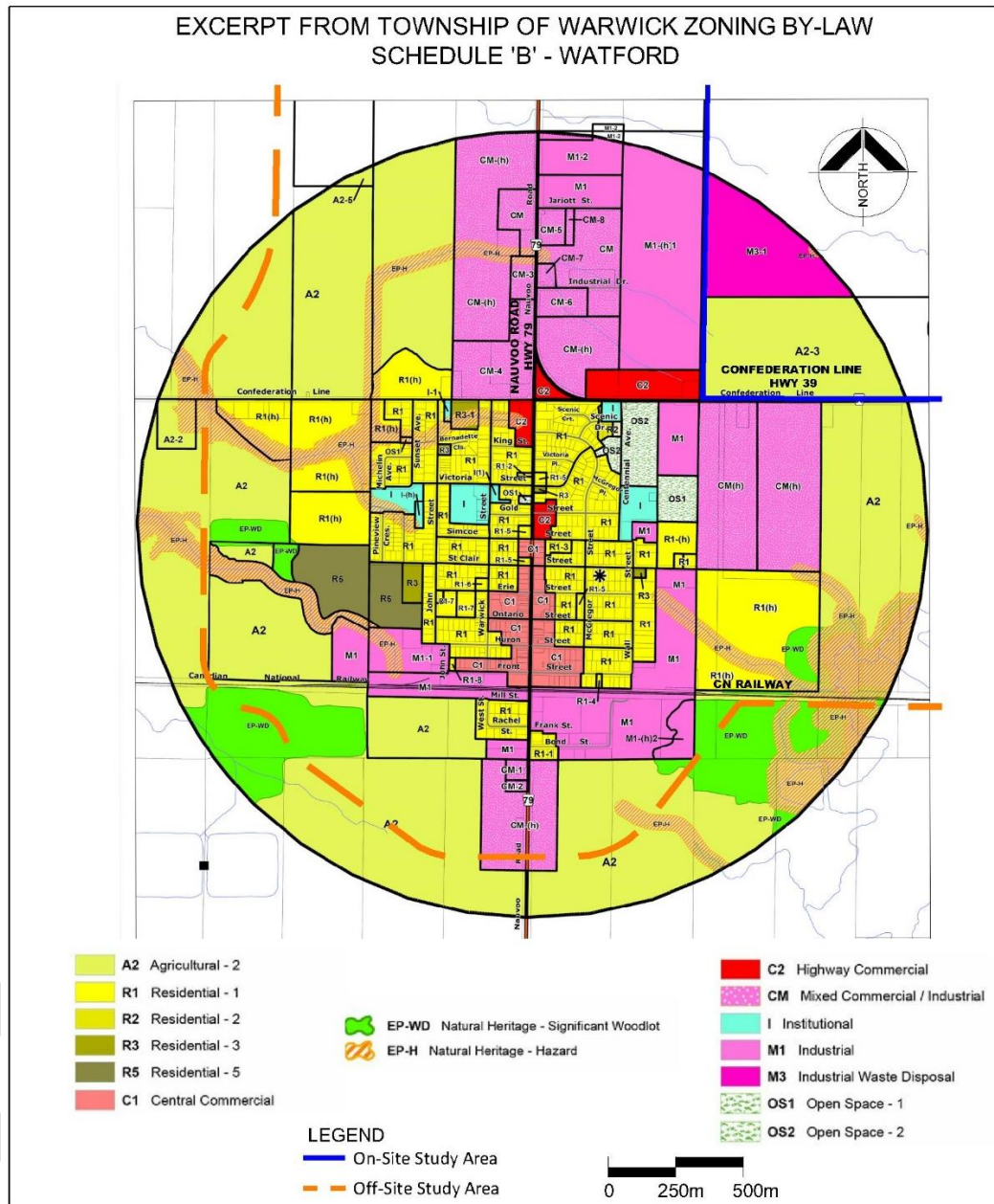


Figure 4-6. Excerpt from the Township of Warwick Zoning By-law Schedule 'B'



The area zoned 'M3-1' is referred to as the 'Landfill Site' in the ZBA, and the 'Landfilling Area' specifically refers to "the area described on Exhibit 4-1 in the "Warwick Landfill Expansion Environmental Assessment" as approved on January 15, 2007 by the Minister of the Environment" (s.s. 18.3.1). Permitted uses within the 'Landfill Site' zone are listed as follows:

- (a) disposal in the landfilling area, depositing for handling and receipt of non-hazardous solid waste. The disposal of non-hazardous solid waste is limited to the landfilling area that is approved under the provisions of the Environmental Protection Act

and under a Certificate of Approval for a Waste Disposal Site under the Environmental Protection Act.

(b) disposal only within the landfilling area of contaminated soil monofil from the existing landfill;

(c) processing of waste materials – asphalt, concrete, wood and tires;

(d) a composting facility utilizing leaf, tree and yard wastes and agricultural crop residue;

(e) a recycling depot;

(f) a transfer area;

(g) Ancillary and Accessory Uses and activities within the “Landfill Site” such as, but not limited to:

(i) administrative office building;

(ii) weigh scales and scale house;

(iii) equipment maintenance facilities;

(iv) truck parking area;

(v) storage buildings;

(vi) borrow pit operation for landfill cover material;

(vii) excess soil stockpiles;

(viii) leachate collection, treatment and storage facilities,

(ix) landfill gas collection, recovery and treatment facilities;

(x) stormwater management facilities;

(xi) sedimentation pond facilities;

(xii) air monitoring facilities;

(xiii) forestry;

(xiv) accessory parking for adjacent cemetery;

(xv) education and interpretive centre (s.s. 18.3.1).

Notwithstanding the list of permitted uses above, within the most southerly 500 m of the area zoned ‘M3(1)’ the only permitted use is a poplar forest in conjunction with the approved leachate treatment facility (s.s. 18.3.1).

Permitted uses in the ‘EP-WD’ zone are limited to agricultural, passive recreation, and conservation uses (all exclusive of buildings and structures), as well as existing single-detached dwellings, new single-detached dwellings on existing lots with an area of 2 ha or less, and buildings, structures, and uses accessory to a single-detached dwelling on the same lot (s.s. 25.1).

The 'EP-H' zone primarily permits agricultural uses and passive recreation (s.s. 26.1).

The 'A2-3' zone permits the growing of crops, agro-forestry, conservation uses, commercial greenhouses, and accessory buildings and structures on a lot with a minimum area of 4.0 ha (s.s. 6.4.3 a).

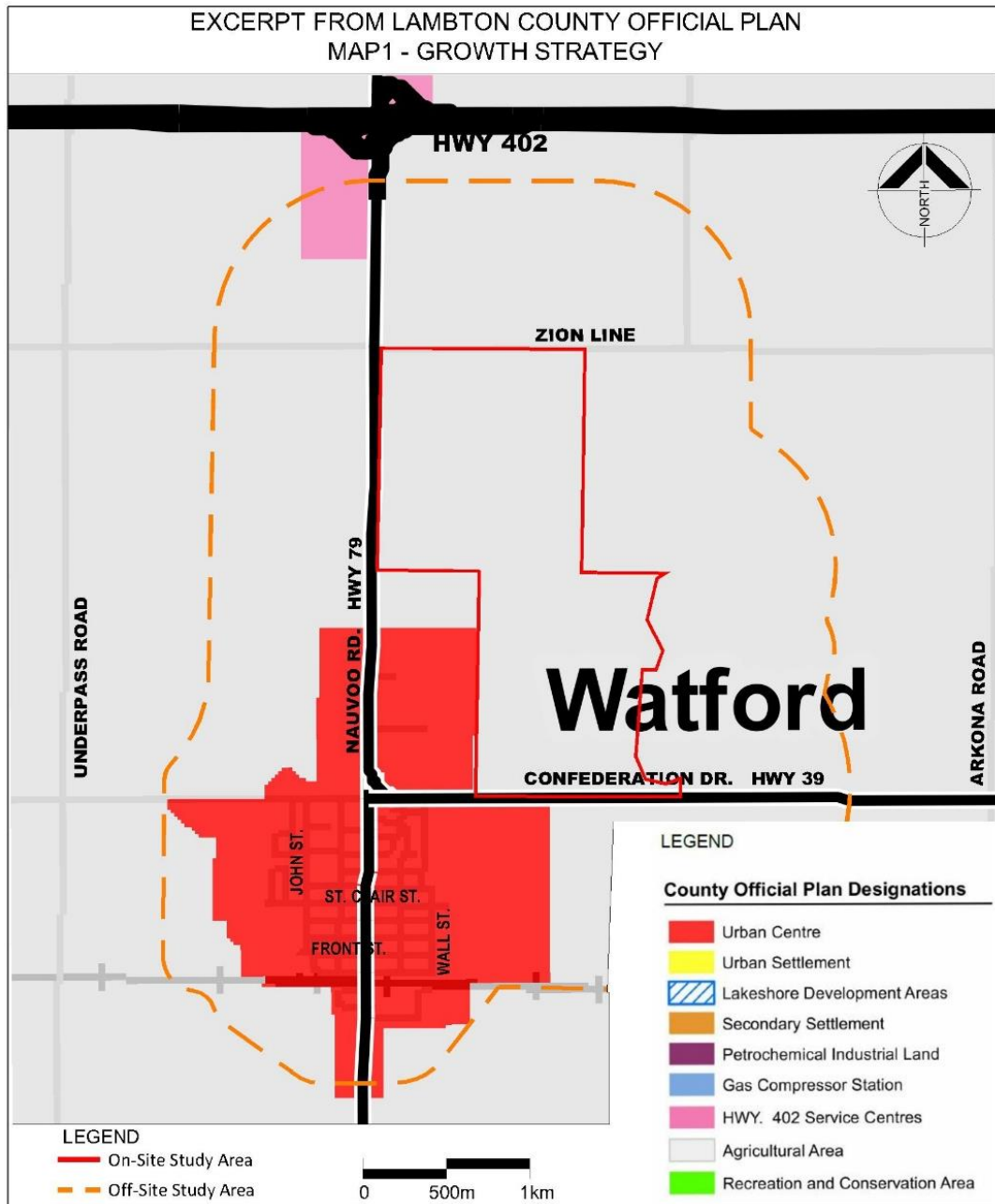
4.1.2 Planned Land Uses: Off-Site Study Area

This section provides an overview of all planned land uses within the Off-Site Study Area, highlighting "*sensitive land uses*" as defined by the PPS, D-1, and D-4 Guidelines.

4.1.2.1 Lambton County Official Plan

The lands within the Off-Site Study Area are predominantly designated as 'Agricultural Area' on 'Map 1 – Growth Strategy' of the County of Lambton Official Plan, with the entire 'Urban Centre' of Watford located within the Off-Site Study Area to the southwest. A 'Hwy 402 Service Centre' designation is located at the northwest corner of the Off-Site Study Area, south of Highway 402 and west of County Road 79 (Figure 4-7).

Figure 4-7. Excerpt from Lambton County Official Plan Map '1' – Growth Strategy



As noted above, all lands outside of Centres and Settlements, the Recreation and Conservation Area, or specific employment area designations are classified as 'Agricultural Area' (s.s. 3.2.5). The 'Agricultural Area', "is a prime agricultural area characterized primarily by agriculture, natural areas and clusters of existing development of insufficient size and variety of uses to warrant designation as settlement areas" (s.s. 3.2.5). The primary permitted land use within this designation "will be agricultural uses of all sizes, types, and intensities" including but not limited to the growing of crops; raising of livestock; and raising of other animals for food, fur, or fibre; (s.s. 4.1.6, 4.1.7). Agriculture-related uses that are not secondary to a farm

operation are permitted under certain circumstances (s.s. 4.1.8). Recreational, cultural, and open space uses are discouraged in the 'Agricultural Area' but may be permitted though site-specific local Official Plan Amendments subject to certain criteria (s.s. 4.1.16).

'Urban Centres' contain a wide variety of residential, institutional, commercial, and industrial land uses, with specific land use designations and policies for these areas provided in local official plans (s.s. 3.2.2, s.s. 3.3.1).

The 'Hwy 402 Service Centre' designation is intended to provide opportunities for "*land uses that are functionally dependent upon proximity to a controlled access highway, such as tourist information centres, truck stops, transport terminals, customs bonding houses, and vehicle refueling facilities*" (s.s. 3.8.2).

Map '2' – Natural Heritage System identifies a 'Primary Corridor (Group 'C' Feature)' within the southeast corner of the Off-Site Study Area (**Figure 4-8**). Group 'C' features "*tend to be conceptual or features for which a comprehensive set of policies have not been developed by this Plan*" (s. 8). 'Primary Corridor' features represent existing connections between natural heritage areas and tend to follow major watercourses (s.s. 8.1.3). Local municipalities are responsible for identifying and protecting Primary Corridors in their official plans and zoning by-laws, as Map 2 only schematically depicts Natural Heritage System feature boundaries (s.s. 8.1.3, 8.1.5). The County and local municipalities may require an Environmental Impact Study to accompany development applications within or adjacent to natural heritage features, and "*land use policies and decisions must consider potential negative environmental impacts and opportunities for maintaining and integrating linkages and related functions among groundwater features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas*" (s.s. 8.1.9, 8.1.15).

Table 4-1 lists the sensitive land uses permitted within the County Official Plan designations that overlap with the Off-Site Study Area.

Figure 4-8. Excerpt from Lambton County Official Plan Map '2' – Natural Heritage System

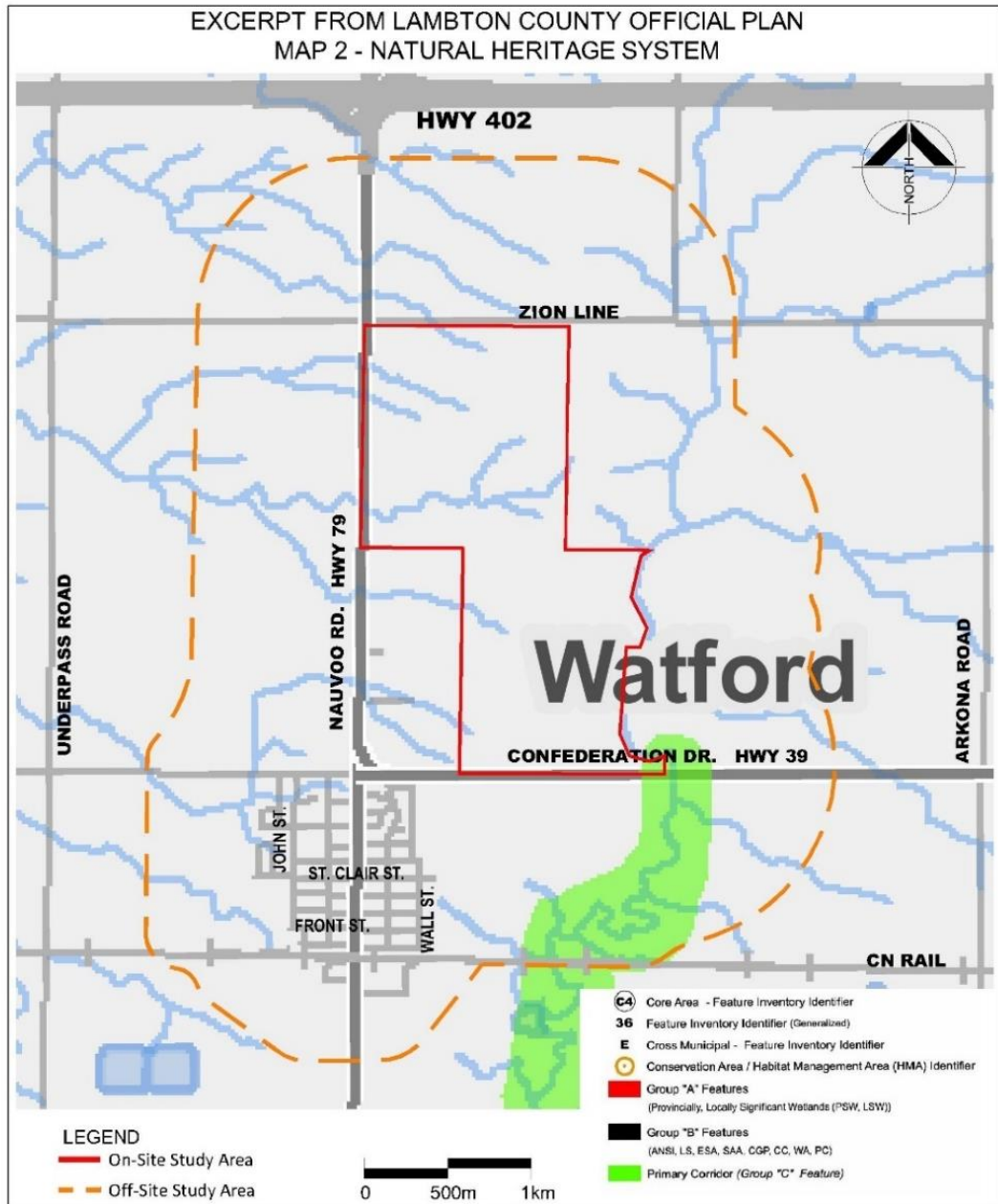


Table 4-1. Planned Sensitive Land Uses within the Off-Site Study Area, County Official Plan

Land Use Designation	Sensitive Land Uses Permitted ^a	Approximate Distance from On-Site Study Area ^b	Direction Relative to the On-Site Study Area
Agricultural Area	<ul style="list-style-type: none"> Permits agricultural uses of all sizes, types, and intensities, including the growing of crops and raising of livestock Recreational, cultural, and open space uses are discouraged, but may be permitted through site-specific Official Plan Amendments provided that certain criteria are met Severances to permit the creation of residential lots are only permitted for existing surplus farm dwellings 	0 m (directly abutting)	north, east, south, and west
Urban Centres	<ul style="list-style-type: none"> Urban Centres contain a wide variety of residential, institutional, commercial, and industrial land uses 	0 m (directly abutting)	southwest

Source: County of Lambton Official Plan

^a This table only lists sensitive land uses that are permitted in the respective designations; this is not a complete list of permitted uses.

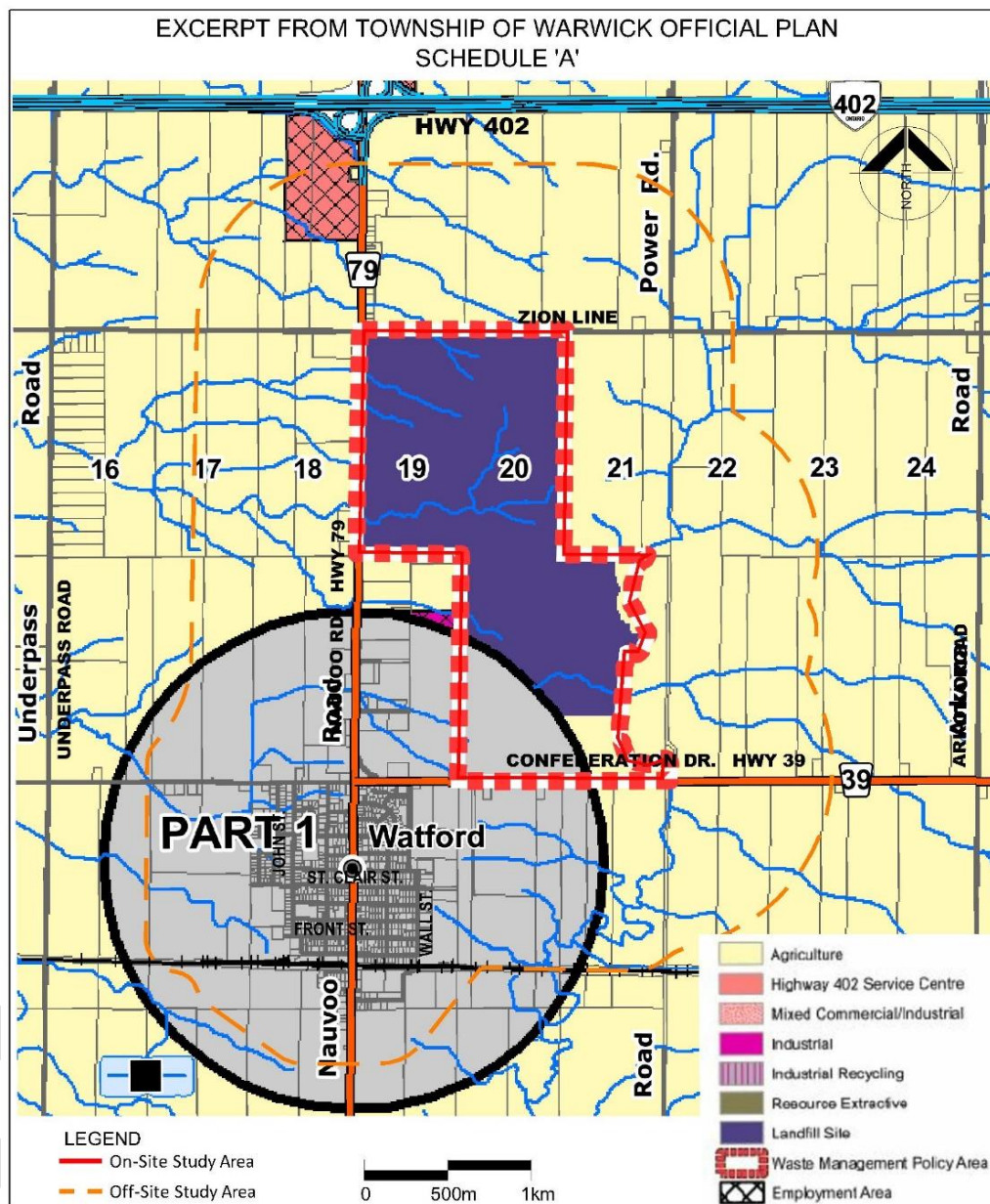
^b Distances measured from the closest designation boundary to the closest property line of the On-Site Study Area

4.1.2.2 Township of Warwick Official Plan

The Township of Warwick Official Plan provides a policy framework for decision-making by the Township, guides the growth and development of the Township, and provides a local context for the application of Provincial and County planning policies (Part A, s. 1).

The lands within the north, east, and west portions of the Off-Site Study Area are predominately designated as 'Agriculture' on Schedule 'A' of the Township of Warwick Official Plan (Figure 4-9). A 'Highway 402 Service Centre' with an 'Employment Area' overlay is located to the northwest.

Figure 4-9. Excerpt from the Township of Warwick Official Plan Schedule 'A'



The main permitted uses of land within the 'Agriculture' designation (referred to as the 'Agricultural Area' in the text of the Township of Warwick Official Plan) are agricultural uses, including but not limited to the growing of crops; raising of livestock and other animals for food, fur, or fibre; aquaculture, apiaries; agro-forestry; and maple syrup production (s.s. 1.1). Other permitted uses include on-farm diversification uses; farm-related commercial and industrial uses; existing golf courses; existing cemeteries; fish and game farms; forestry, sawmills and wood pallet manufacturing; petroleum resources exploration and extraction facilities; conservation uses; and limited residential uses (s.s. 1.2). Parks and recreation uses are permitted under certain

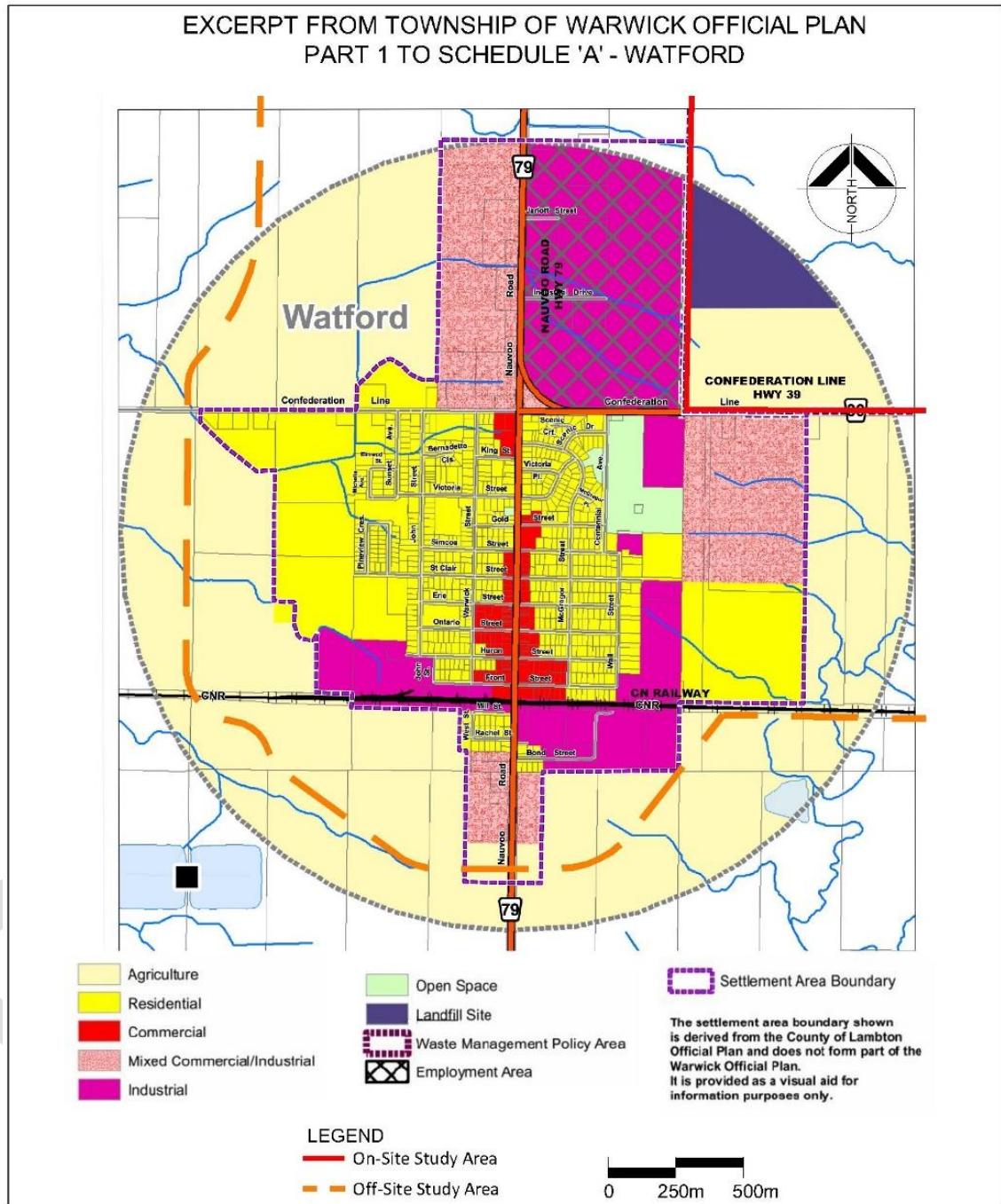
circumstances, including that there are no reasonable alternative locations available (s.s. 1.2). Recreational, cultural, and open space uses are discouraged in the Agricultural Area but may be permitted through site-specific Official Plan Amendments, subject to certain criteria (s.s. 1.3). Small-scale agri-tourism (including land uses such as farm markets, bed and breakfasts, and farm mazes) are permitted within the 'Agriculture' designation, provided that they are secondary to the principal farm operation (s.s. 1.19).

Permitted residential uses within the 'Agriculture' designation are limited to new single-detached dwellings accessory to agriculture and existing single-detached non-farm dwellings (s.s. 1.11). New single-detached non-farm dwellings constructed on existing vacant lots are permitted subject to certain conditions, including conformity with MDS formulae (s.s. 1.11).

The 'Highway 402 Service Centre' designation permits "*large, space extensive uses that require large parcels of lands for outside storage and selling space, for building coverage, and for off-street parking*" such as automobile service stations, hotels, industrial and agricultural equipment sales and service, private commercial recreation facilities, and institutions (s.s. 4.2.1). New residential uses are prohibited (s.s. 5.4).

The entire settlement area of Watford is located within the southwest portion of the Off-Site Study Area, surrounded by 'Agriculture' lands (Figure 4-10).

Figure 4-10. Excerpt from the Township of Warwick Official Plan – ‘Part 1 to Schedule ‘A’ (Watford)’



A wide range of land-use designations are identified within the settlement area on Part 1 to Schedule 'A' (Watford), including 'Residential', 'Commercial', 'Mixed Commercial/Industrial', 'Industrial', and 'Open Space'.

The 'Residential' designation is intended to accommodate residential dwelling units (primarily low-density housing types, but medium- and high-density dwellings are also permitted, as well as group homes) (s.s. 3.1.2). Other compatible land uses servicing the needs of local residents are permitted within the 'Residential' designation, including public and institutional uses (e.g., schools, libraries, municipal buildings, places of worship, and daycares), neighbourhood parks and recreation uses, home occupations, and convenience commercial uses (s.s. 3.1.3).

The 'Commercial' area in Watford extends from Confederation Line to the Canadian National Railway crossing, and is intended to accommodate "*businesses engaged in the buying, selling, supplying, leasing and exchanging of goods and services*" such as retail uses, medical and dental clinics, convenience stores, daycare centres, eating establishments, personal service uses, specialty shops, financial institutions, libraries, post offices, municipal buildings, and professional offices (s.s. 4.1.1). Mixed-use development is also encouraged (s.s. 4.1.1).

The primary permitted uses within the 'Industrial' designation are non-noxious industrial uses such as general manufacturing, construction, truck terminals, bio-solids storage, research and development, warehousing and wholesaling and light assembly within enclosed buildings (s.s. 5.1.1). Additional industrial uses, including but not limited to agricultural waste collection and recycling, centralized composting, and construction and demolition processing are permitted within the 'Industrial' area located at the northeast quadrant of Nauvoo Road and Confederation Line (s.s. 5.1.1). Parks and public open spaces uses are also permitted as accessory and complementary uses (s.s. 5.1.2). New residential uses are prohibited within all areas with an 'Employment Area' overlay (s.s. 5.4.1).

The 'Mixed Commercial/Industrial Area' designation permits highway commercial uses, factory outlets, and farm-related commercial uses, as well as industrial uses which are inappropriate within an urban area or those uses which are farm-related (s.s. 6.1, 6.2).

The 'Open Space' designation provides opportunities for active and passive recreational uses, recreational and community facilities, conservation uses, nature trails, marinas, cemeteries and wildlife management (s.s. 9.1.10). It should be noted that public open space uses are permitted in all designations (s.s. 9.1.1).

Several 'Significant Woodlots' scattered through the agricultural area are identified on Schedule 'C' Natural Heritage and Part 1 to Schedule 'C' Natural Heritage (Watford). See Figure 4-11 and Figure 4-12. The Township of Warwick Official Plan discourages development in wooded parts of the 'Agricultural Area', including all significant woodlots (s.s. 1.15).

Figure 4-11. Excerpt from the Township of Warwick Official Plan – Schedule ‘C’ Natural Heritage

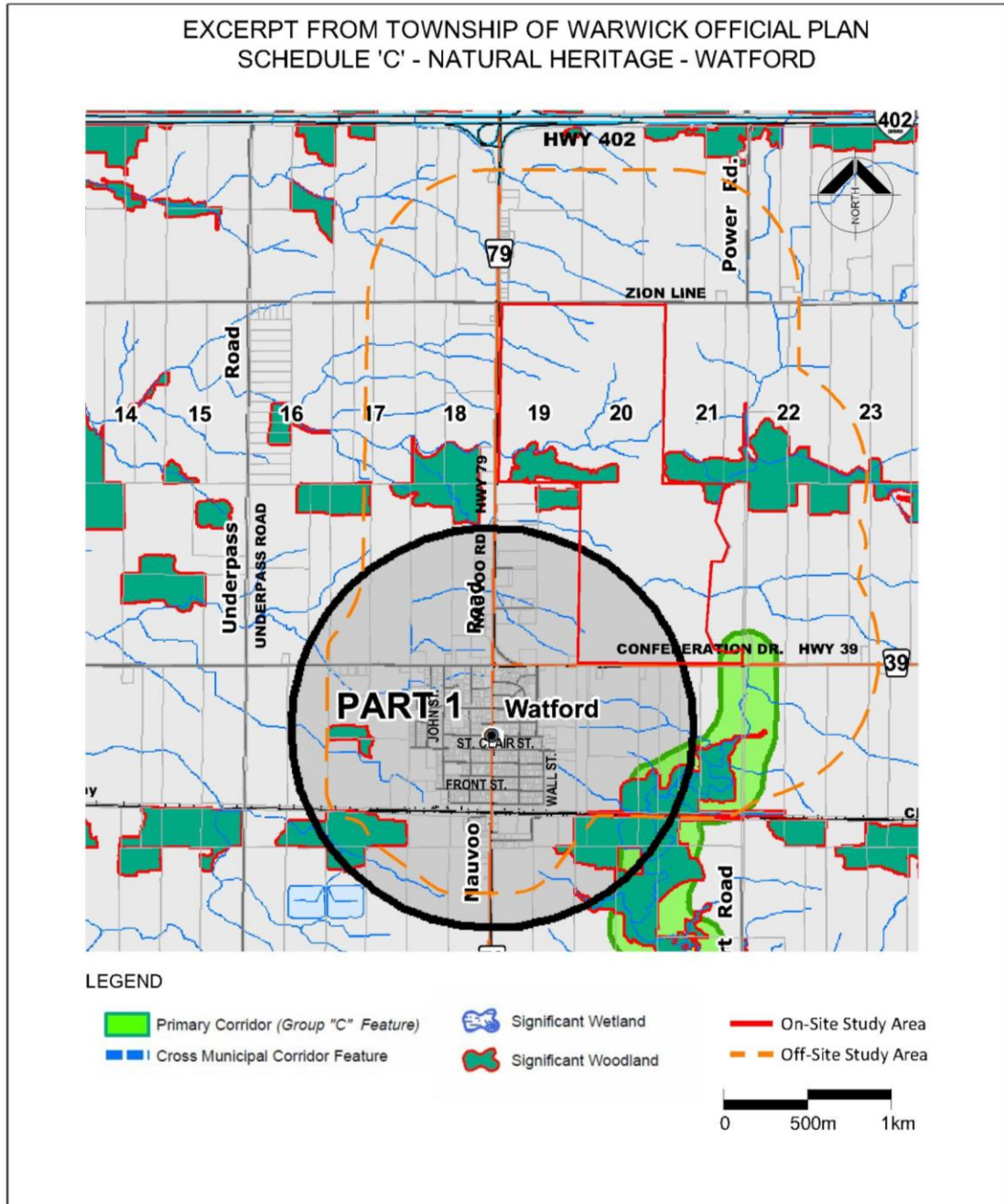


Figure 4-12. Excerpt from the Township of Warwick Official Plan – Part 1 to Schedule ‘C’ Natural Heritage (Watford)

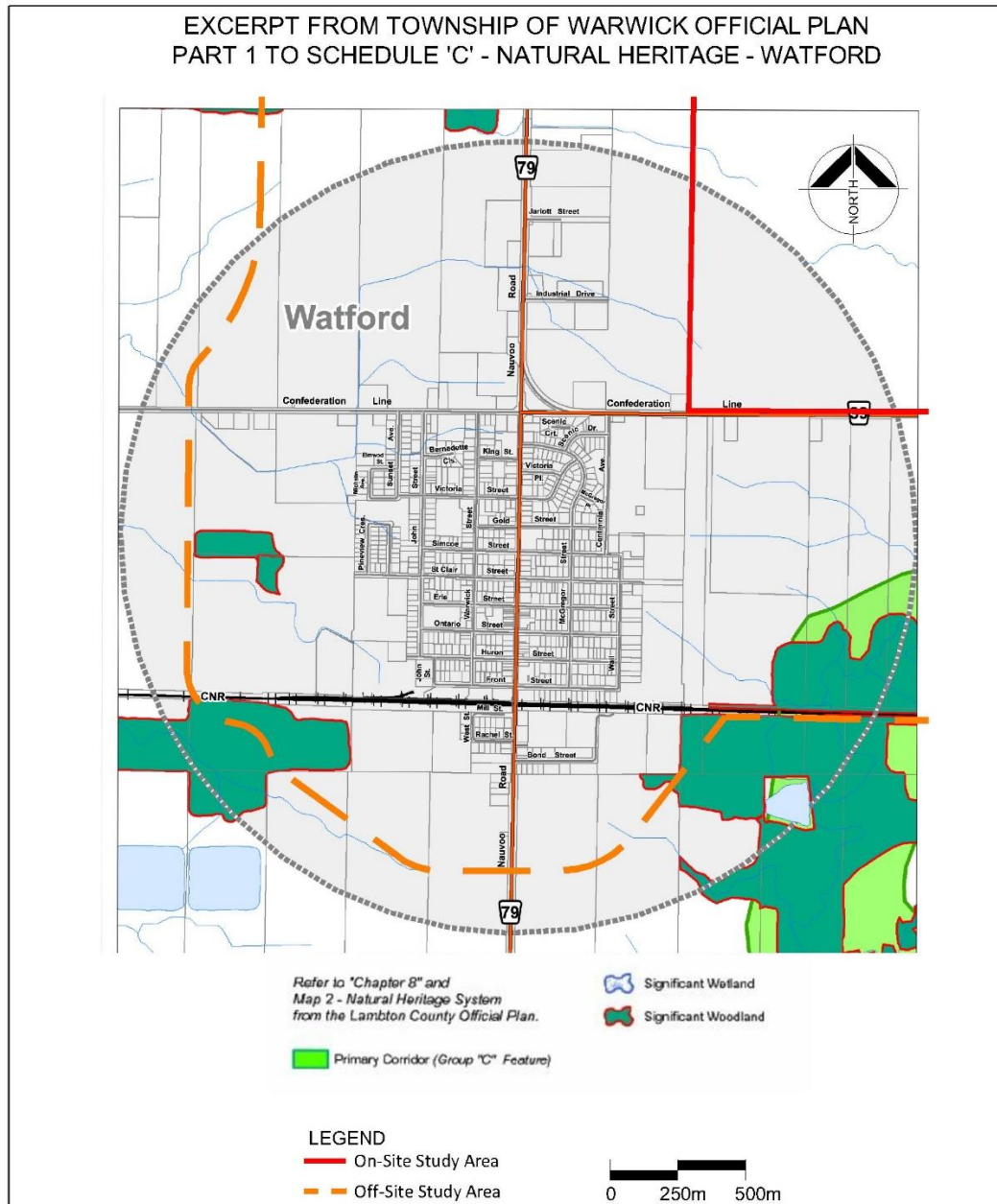


Table 4-2 lists the sensitive land uses permitted within the Township Official Plan designations that overlap with the Off-Site Study Area.

Table 4-2. Planned Sensitive Land Uses within the Off-Site Study Area, Township Official Plan

Land Use Designation	Sensitive Land Uses Permitted ^a	Approximate Distance from On-Site Study Area ^b	Direction Relative to the On-Site Study Area
Agriculture	<ul style="list-style-type: none"> This designation permits agricultural uses, including but not limited to the growing of crops, raising of livestock, and associated on-farm buildings including accessory farm dwellings Limited residential uses are permitted Parks and recreation uses will be permitted under certain conditions 	0 m (directly abutting)	north, east, south, and west
Residential	<ul style="list-style-type: none"> This designation permits residential dwelling units and other compatible land uses serving the needs of local residents, including public and institutional uses (such as places of worship, schools, and daycares) and parks and recreation uses 	315 m	southwest
Commercial	<ul style="list-style-type: none"> This designation permits medical and dental clinics, daycare centres, and mixed-use development, among other uses 	641 m	southwest
Open Space	<ul style="list-style-type: none"> This designation permits active and passive recreational uses, recreational and community facilities and other related uses 	167 m	southwest

Source: Township of Warwick Official Plan

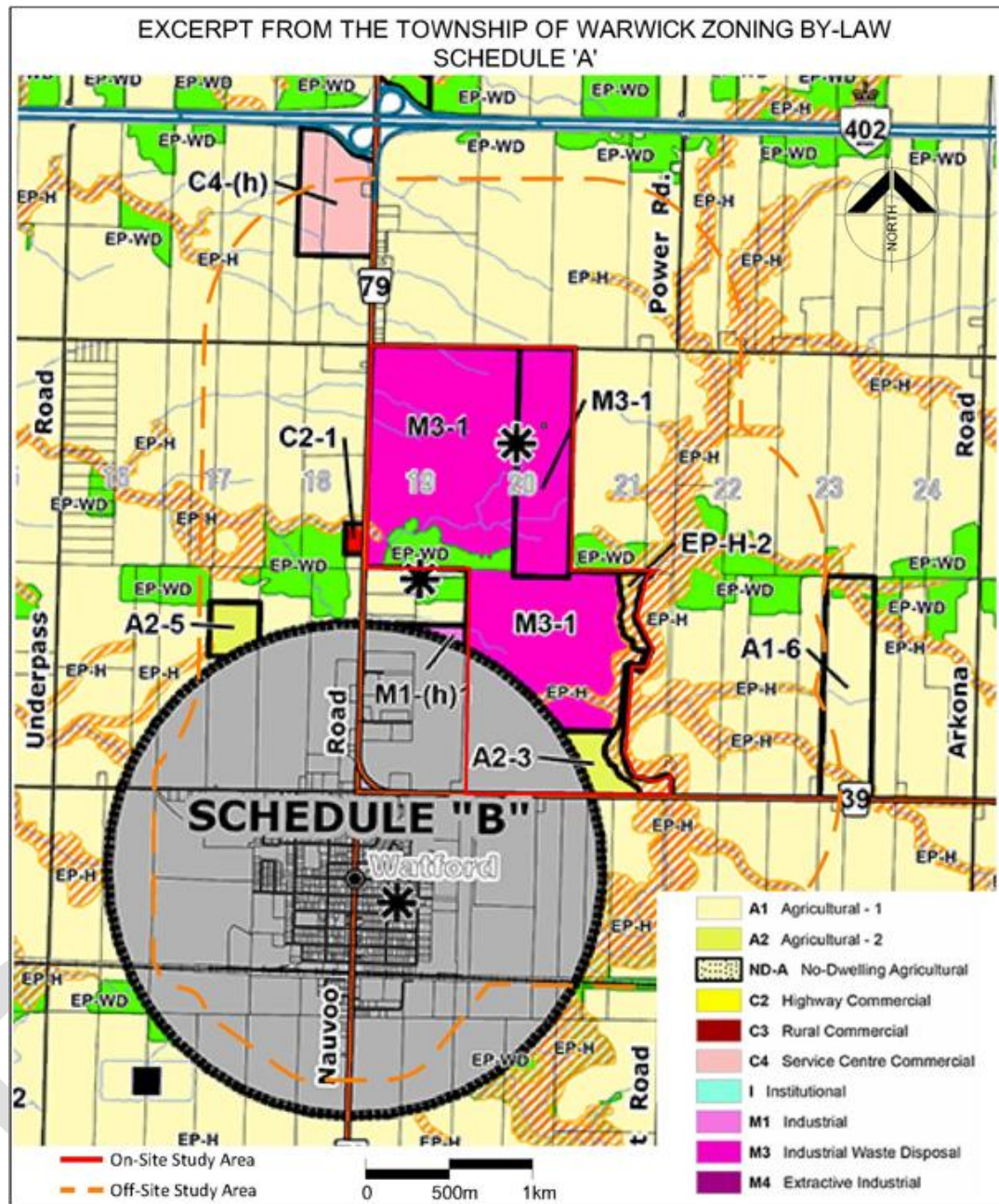
^a This table only lists sensitive land uses that are permitted in the respective designations; this is not a complete list of permitted uses.

^b Distances measured from the closest designation boundary to the closest property line of the On-Site Study Area

4.1.2.3 Township of Warwick Zoning By-law No. 121 of 2012

The lands within the north, east, and west portions of the Off-Site Study Area are predominantly zoned 'Agriculture 1' ('A1') on Schedule 'A' of the Township of Warwick Zoning By-law No. 121 of 2012. There is also a 'Service Centre Commercial' ('C4-(h)') at the intersection of Highway 402 and County Road 79, a property zoned 'Service Commercial 2-1' ('C2-1') to the west of the On-Site Study Area, as well as scattered 'Natural Heritage – Hazard' ('EP-H') and 'Natural Heritage – Significant Woodlot' ('EP-WD') zoning associated with streams and woodlands in the area. See Figure 4-13.

Figure 4-13. Excerpt from the Township of Warwick Zoning By-law Schedule 'A'



The 'A1' zone permits agriculture (including one farm dwelling), a single detached dwelling, and a number of other uses including but not limited to agricultural home industry, bed and breakfast establishment, commercial greenhouse, conservation, kennel, and nursery (s.s. 5.1).

The parent 'C4' zone permits motor vehicle repair and service establishments, drive-in restaurants, hotel, motel, office, gasoline retail facility, and truck stop (among other uses) (s.s. 14.1). The 'h' holding zone on the property restricts uses on the site to those legally existing on the date the by-law was passed and may only be removed after the

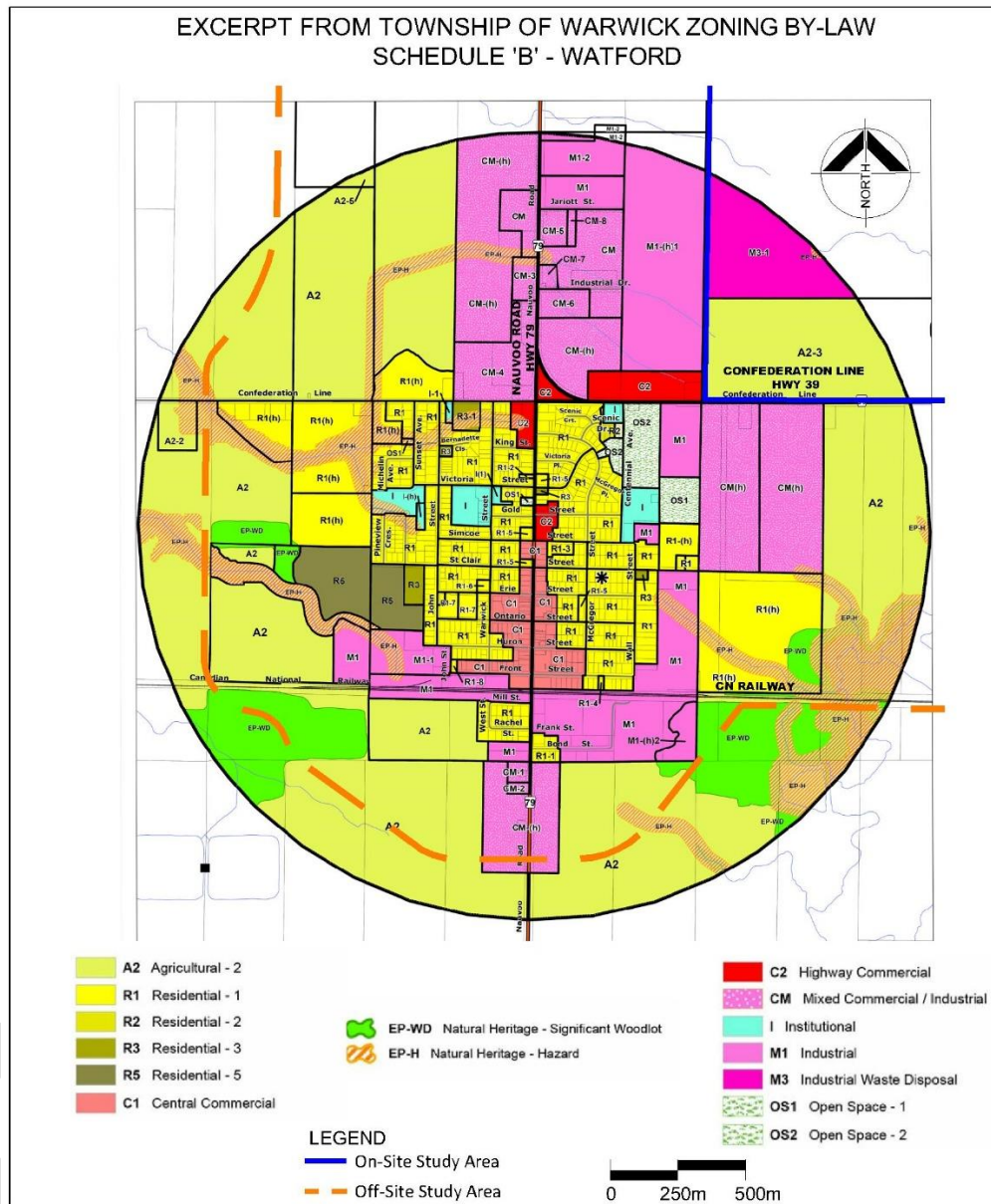
Ministry of Environment, Conservation and Parks has provided written authorization approving a private septic system and Council is satisfied that new development will comply with municipal zoning and site plan control (s.s. 14.2).

The 'C2-1' zone permits a wide range of commercial and industrial uses, including but not limited to light and general industrial uses, health clubs, motels, and places of entertainment.

As noted above, permitted uses in the 'EP-WD' zone are limited to agricultural, passive recreation, and conservation uses (all exclusive of buildings and structures), as well as existing single-detached dwellings, new single-detached dwellings on existing lots with an area of 2 ha or less, and buildings, structures, and uses accessory to a single-detached dwelling on the same lot (s.s. 25.1). The 'EP-H' zone primarily permits agricultural uses and passive recreation (s.s. 26.1).

Within the settlement area of Watford, the lands north of Confederation Line fronting are zoned a mix of 'Industrial' ('M1'), 'Commercial' ('C2'), and 'Mixed Commercial/Industrial' zones ('CM') on Schedule 'B' (Watford). Lands to the south of Confederation Line are primarily zoned 'Residential 1' ('R1'), with some properties zoned 'Residential 3' ('R3'), 'Residential 5' ('R5'), 'Institutional' ('I'), 'Central Commercial' ('C1'), 'Highway Commercial' ('C2'), 'Mixed Commercial/Industrial' ('CM'), 'Industrial' ('M1'), and 'Open Space 1' ('OS1'), 'Open Space 2' ('OS2'). There are also 'EP-H' zones associated with watercourses extending through the town, and the agricultural lands surrounding Watford are zoned 'Agricultural 2' ('A2'). See Figure 4-14.

Figure 4-14. Excerpt from the Township of Warwick Zoning By-law Schedule 'B'



The 'R1' zone permits single, semi-detached, and duplex dwellings (s.s. 7.1). The 'R3' zone permits medium-density dwelling forms, including converted, triplex, street townhouse, townhouse, and multiple dwellings (s.s. 9.1). Group homes, home occupations, day nurseries, and bed and breakfast establishments are also permitted in the 'R1' and 'R3' zones. The 'R5' zone permits single-detached dwellings and modular homes, along with open space and parks (s.s. 10A.1).

The 'C1' zone permits a wide range of commercial and institutional uses, as well as dwelling units located above and/or behind a permitted commercial use and attached to the commercial building, among other uses (s.s. 11.1). The 'C2' zone permits a wide range of service commercial uses, including but not limited to sales and service

establishments and motor vehicle-related uses, as well as churches, day nurseries, existing dwelling units, hotels, and motels (s.s. 12.1).

The 'I' zone permits cemeteries, churches, day nurseries, institutional uses, nursing or rest homes, and schools (s.s. 21.1).

The 'CM' zone permits general and light industrial uses, warehouses, agricultural and building supply establishments, and similar uses (s.s. 15.1). The 'M' zone permits general and light industrial uses, contractors' yard, commercial storage, motor vehicle-related uses, and warehouses, among other uses (s.s. 16.1).

The 'OS1' zone permits conservation, forestry, passive recreation, and public park uses (s.s. 22.1). The 'OS2' zone permits active recreation, campgrounds, community centres, fairgrounds, forestry, golf courses, golf driving tees or ranges, and public and private parks (s.s. 23.1).

The 'A2' zone permits agriculture (including one farm dwelling), a single detached dwelling, and a number of other uses including but not limited to agricultural home industry, bed and breakfast establishment, commercial greenhouse, conservation, kennel, and nursery (s.s. 6.1). However, the 'A2' zone limits livestock to a maximum of 4 animal units (s.s. 6.1).

Table 4-3 lists the sensitive land uses permitted within the zones that overlap with the Off-Site Study Area.

Table 4-3. Permitted Sensitive Land Uses within the Off-Site Study Area, Township Zoning By-law

Zone	Sensitive Land Uses Permitted ^a	Approximate Distance from On-Site Study Area ^b	Direction Relative to the On-Site Study Area
Agriculture 1 ('A1')	<ul style="list-style-type: none"> • Agriculture, including one farm dwelling • Single-detached dwelling • Bed and Breakfast Establishment (maximum of 3 guest rooms) 	0 m (directly abutting)	north, east, south, and west
Agriculture 2 ('A2')	<ul style="list-style-type: none"> • Agriculture, including Livestock up to a maximum of 4 Animal Units, and one Farm Dwelling • Single-detached dwelling • Bed and Breakfast Establishment (maximum of 3 guest rooms) 	10 m	west, southwest, south
Central Commercial ('C1')	<ul style="list-style-type: none"> • Bed and Breakfast Establishment • Church • Day Nursery • Hotel • Institutional Use • Park • School • Dwelling units located above and/or behind a permitted commercial use and attached to the commercial building 	792 m	southwest

Table 4-3. Permitted Sensitive Land Uses within the Off-Site Study Area, Township Zoning By-law

Zone	Sensitive Land Uses Permitted ^a	Approximate Distance from On-Site Study Area ^b	Direction Relative to the On-Site Study Area
Highway Commercial ('C2')	<ul style="list-style-type: none"> • Church • Clinic • Day Nursery • Existing Dwelling Units • Hotel • Motel 	0 m (directly abutting)	west, southwest
Highway Commercial ('C2-1')	<ul style="list-style-type: none"> • Hotel • Motel 	16 m	west
Service Centre Commercial ('C4')	<ul style="list-style-type: none"> • Hotel • Motel 	546 m	northwest
Institutional ('I')	<ul style="list-style-type: none"> • Cemetery • Church • Day Nursery • Institutional Uses • Nursing Home or Rest Home • School 	369 m	southwest
'Open Space 1' ('OS1')	<ul style="list-style-type: none"> • Passive Recreation • Public Park 	293 m	southwest
'Open Space 2' ('OS2')	<ul style="list-style-type: none"> • Active Recreation • Campground • Community Centre • Public Park • Private Park 	155 m	southwest
Residential 1 ('R1')	<ul style="list-style-type: none"> • Single-detached, semi-detached, and duplex dwellings; group homes • Day nursery • Bed and breakfast establishments 	370 m	southwest
Residential 2 ('R2')	<ul style="list-style-type: none"> • Single-detached, semi-detached, and duplex dwellings, group homes, converted dwellings • Day nursery • Bed and breakfast establishments 	339 m	southwest
Residential 2-1 ('R2-1')	<ul style="list-style-type: none"> • Single-detached, semi-detached, and duplex dwellings, group homes, converted dwellings • Day nursery • Bed and breakfast establishments • Triplex and quadplex dwellings 	308 m	southwest
Residential 3 ('R3')	<ul style="list-style-type: none"> • Converted, triplex, street townhouse, townhouse, and multiple dwelling; group homes • Bed and breakfast establishments 	675 m	southwest

Table 4-3. Permitted Sensitive Land Uses within the Off-Site Study Area, Township Zoning By-law

Zone	Sensitive Land Uses Permitted ^a	Approximate Distance from On-Site Study Area ^b	Direction Relative to the On-Site Study Area
Residential 5 ('R5')	<ul style="list-style-type: none"> • Single detached dwelling • Modular home • Park 	1,302 m	southwest

Source: Township of Warwick Zoning By-law No. 121 of 2012

^a This table only lists sensitive land uses that are permitted in the respective zones; this is not a complete list of permitted uses.

^b Distances measured from the closest zone boundary to the closest property line of the On-Site Study Area

4.2 Current Land Uses

4.2.1 Current Land Uses: On-Site Study Area

The TCEC is the predominant existing land use within the On-Site Study Area, with the licensed landfill site spanning 101.8 ha. See **Figure 4-15** for a photograph of the entrance on Nauvoo Road. The active landfilling area is located on the northern portion of the site, with a leachate transfer station and excess soil stockpile located to the south of the woodlot. A poplar plantation (designed to treat leachate) is located further to the south of the existing soil stockpile. The southernmost portion of the On-Site Study Area appears to be used for the growing of crops.

Figure 4-15. Looking east towards the TCEC Entrance on Nauvoo Road



A number of private recreation features managed by WM are also provided on the subject lands, including the Watford Dog Park along Confederation Line, Nauvoo Park (to the north of the Watford Cemetery on Nauvoo Road) and the Twin Creeks Nature Trail, a 2.4 km walking path which connects the two features. See **Figure 4-16**, **Figure 4-17**, and **Figure 4-18**.

Figure 4-16. Twin Creeks Nature Trail Map



Figure 4-17. Looking North Towards the Twin Creeks Nature Trail from Confederation Trail Head



Figure 4-18. Watford Dog Park



4.2.2 Current Land Uses: Off-Site Study Area

The Off-Site Study Area includes the community of Watford and the surrounding agricultural area. Existing land uses within the north, east, and west portions of the Off-Site Study Area are predominantly agricultural in nature, including cash crop farming, livestock barns, and scattered single-detached dwellings associated with agriculture operations. The entire settlement area of Watford (which includes residential, commercial, parks and open space, institutional, and commercial industrial land uses) and the immediately surrounding agricultural area are located within the southwest portion of the Off-Site Study Area. The Warwick Industrial Park (See **Figure 4-20**), which includes existing and planned industrial uses, is located immediately adjacent to the south-west of the TCEC.

The following section identifies existing land uses that are defined as “*sensitive land uses*” according to the established PPS, D-1, and D-4 Guidelines (see **Table 3-2**). It is noted that although the Off-Site Study Area includes lands within 1km of the On-Site Study Area, as well as the entire Settlement Area of Watford, the Provincial ‘D-4’ Guidelines for Land Uses on or Near Landfills and Dumps identifies that “*the Ministry considers the most significant contaminant discharges and visual problems to be normally within 500 metres of the perimeter of a fill area,*” although the actual influence areas may vary by individual landfills (s.s. 5.3).

4.2.2.1 Type(s) and Proximity of Residential Land Uses in the Off-Site Study Area

The PPS, D-1-3 Land Use Compatibility Guidelines, and the D-4 Guidelines all consider residential uses (or places where “*a person sleeps*”) to be sensitive land uses in proximity to major facilities or landfills. Residential land uses within the Off-Site Study Area are concentrated within the settlement area of Watford, with 28 additional single-detached residential dwellings located within the Agricultural Area. See **Table 4-4 and Figure 4-19**. Single-detached dwellings are the predominant form of residential housing within Watford, with a few townhouse and low-rise apartment complexes located throughout the town. Single-detached dwellings within the Agricultural Area were generally established as farm dwellings and are part of larger farm parcels, but some have been severed and are now held as separate properties.

In addition to the existing residential land uses noted above, there are planned residential land uses, within recently draft-approved or final-approved plans, which are also considered to be sensitive land uses in proximity to major facilities or landfills. The plans include: Ontario Street Subdivision (Final Approved Plan – File #38T-20002), consisting of nineteen (19) lots for single-detached dwellings; Watford Quality Care (Final Approved Plan – Plan 655), consisting of thirty-three (33) lots for single-detached dwellings; and, Castell Homes Subdivision (Draft Plan Approved – File #38T-21001) proposing fifty (50) lots for single and semi-detached dwellings. See **Figure 4-20**. Figure 4-19

Table 4-4. Residential Uses within the Off-Site Study Area

Residential Land Use	Address	Approximate Distance from the On-Site Study Area (Measured from the Dwelling)	Direction Relative to the On-Site Study Area
Urban Residential Area			
Watford Settlement Area – Residential Area	The Watford Settlement Area includes hundreds of residential addresses	From 30 m (7985 Confederation Line, at the closest point to the On-Site Study Area) to 1,592 m (5209 Nauvoo Road, at the furthest point from the On-Site Study Area)	southwest
Residential Dwellings in the Agricultural Area			
Dwellings within the Agricultural Area Dwellings within the Agricultural Area, Continued	8060 Zion Line	59 m	north
	8145 Confederation Line	60 m	south
	8057 Confederation Line	61 m	south
	8106 Confederation Line	66 m	south
	8190 Confederation Line	75 m	east
	5859 Nauvoo Road	297 m	northwest
	8252 Confederation Line	393 m	east
	5876 Nauvoo Road	397 m	north
	8149 Zion Line	415 m	east
	8152 Zion Line	435 m	northeast
	7803 Confederation Line	464 m	west
	5884 Nauvoo Road	495 m	north
	8163 Zion Line	500 m	east
	7802 Confederation Line	504 m	northwest
	5894 Nauvoo Road	523 m	north
	5898 Nauvoo Road	545 m	north
	8296 Confederation Line	574 m	east
	5906 Nauvoo Road	610 m	north
	5922 Nauvoo Road	711 m	north
	8307 Confederation Line	770 m	southeast
5934 Nauvoo Road	801 m	north	
8306 Confederation Line	810 m	east	
8120 Zion Line	822 m	northeast	

Table 4-4. Residential Uses within the Off-Site Study Area

Residential Land Use	Address	Approximate Distance from the On-Site Study Area (Measured from the Dwelling)	Direction Relative to the On-Site Study Area
	8322 Confederation Line	851 m	east
	8337 Confederation Line	933 m	east
	8234 Zion Line	940 m	east
	7766 Confederation Line	1,270 m	west
	7682 Confederation Line	1,801 m	west

DRAFT

Figure 4-19. Residential Properties within the Off-Site Study Area

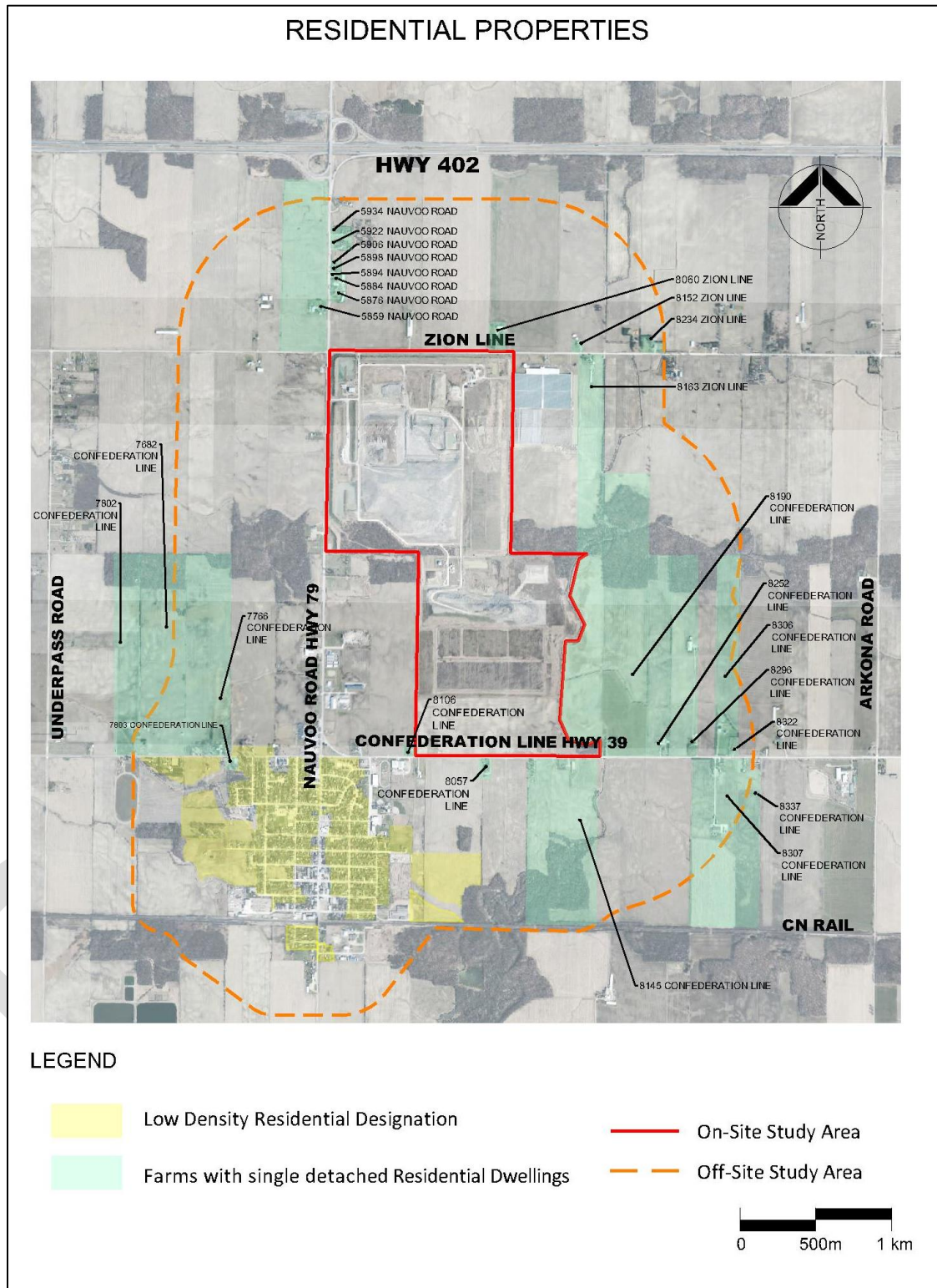
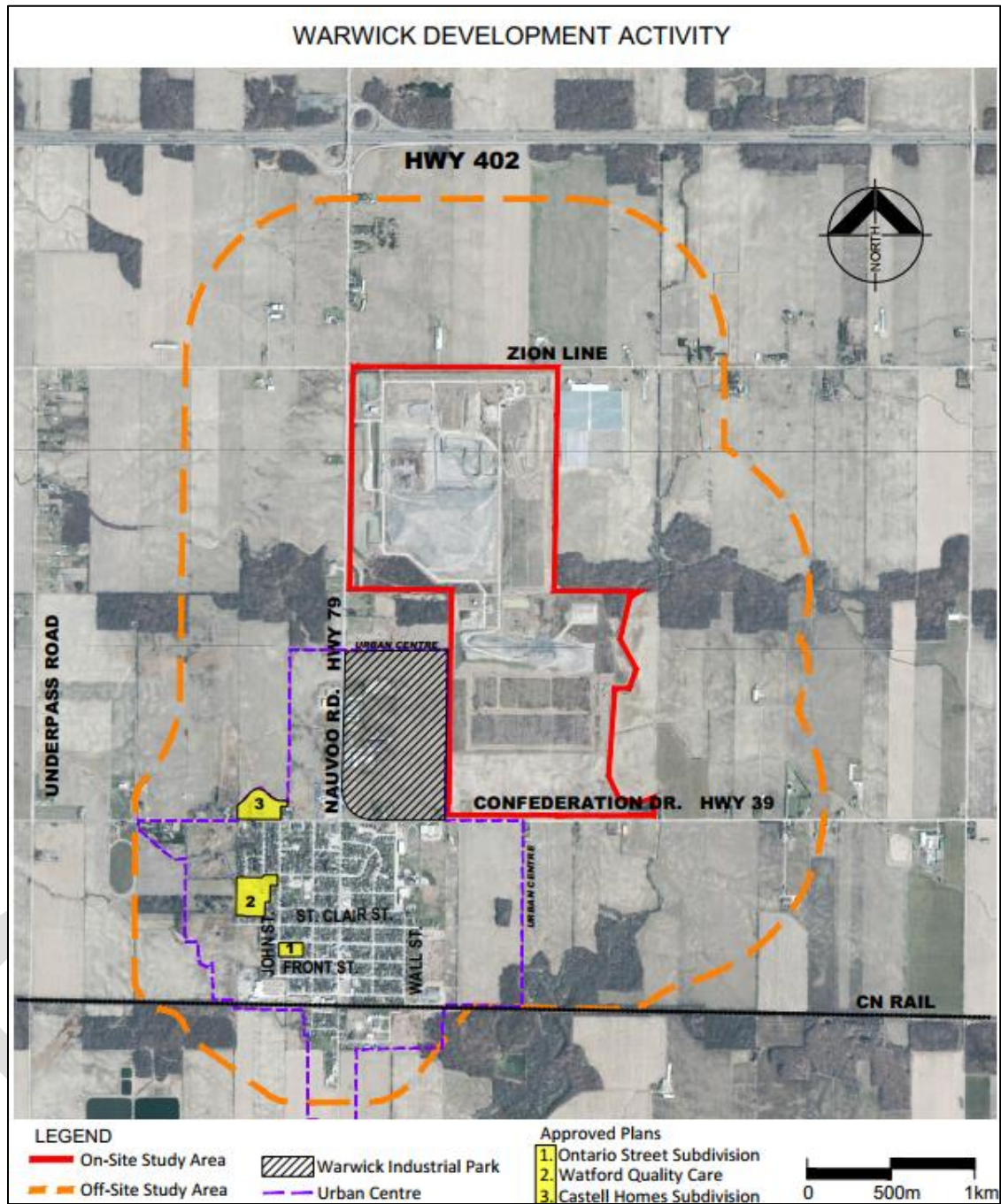


Figure 4-20. Township of Warwick (Watford) Development Activity



4.2.2.2 Type(s) and Proximity of Agricultural Land Uses/Operations

The D-1-3 Land Use Compatibility Guidelines identify that “*certain agricultural operations (e.g., cattle raising, mink farming, cash crops and orchards)*” may be considered sensitive land uses, and the D-4 Guidelines identify that livestock pastures and “*permanent structures used in animal husbandry*” are considered sensitive land uses for landfills currently in operation. Agricultural uses (both cash crops and livestock operations) are the predominant land uses within the Off-Site Study Area (apart from the Watford Settlement Area, as noted above). Most “*undeveloped*” land within the Off-Site Study Area is used for agricultural cash crop farming, and MBPC has identified 13 livestock operations within this area (see **Table 4-5**, below). There is also one greenhouse operation within the Off-Site Study Area, located directly to the east of the On-Site Study Area.

Table 4-5. Agricultural Land Uses/Operations

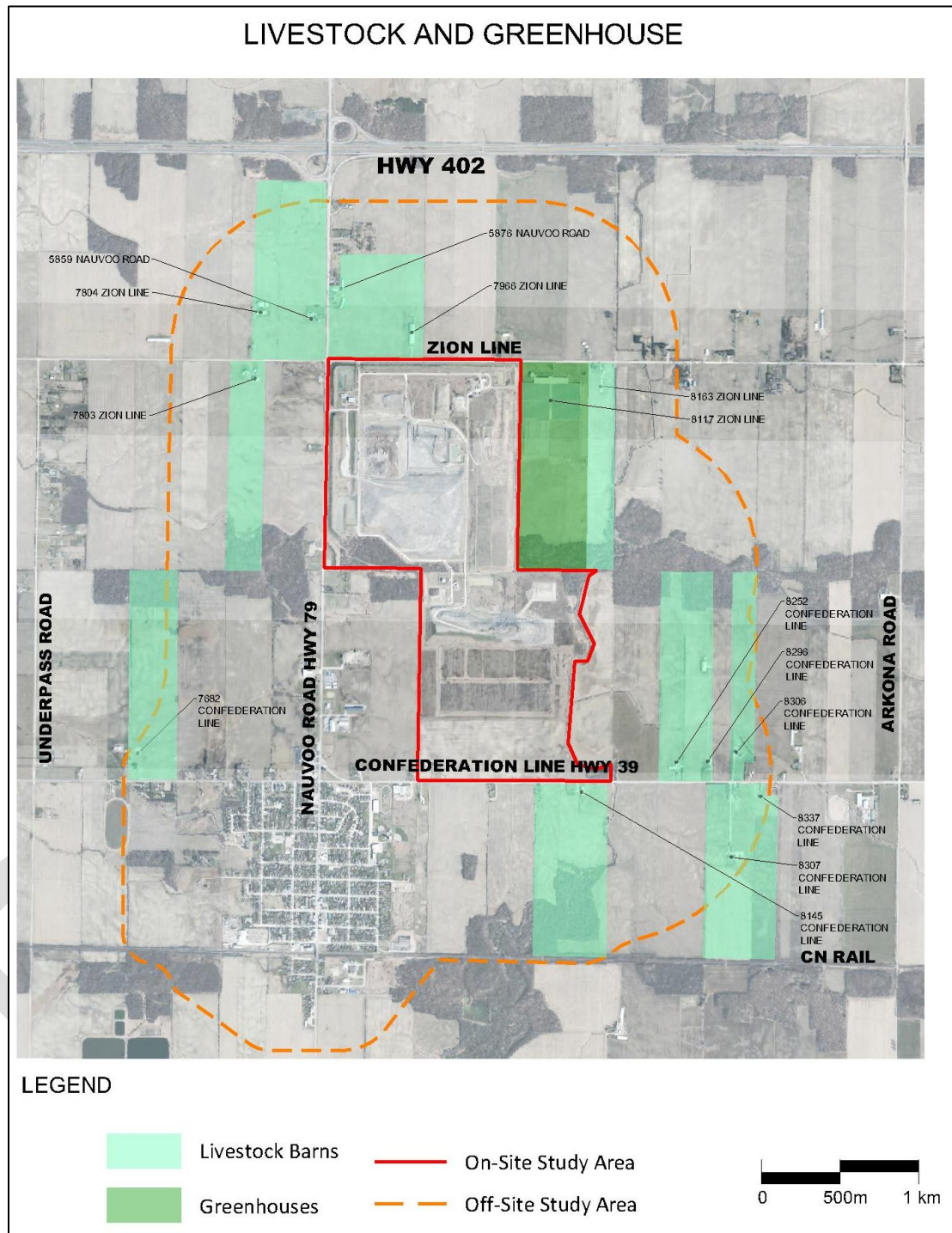
Agricultural Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Livestock				
Livestock operation, likely cattle	<ul style="list-style-type: none"> One barn with an area of approximately 1,160 m² and an external yard Cattle were visible in the external yard at the time of our site visit No information on file with the County 	8145 Confederation Line	40 m	southeast
Hog Barn	<ul style="list-style-type: none"> One barn with an area of approximately 4,017 m² 	7966 Zion Line	120 m	north
Livestock operation, unknown type	<ul style="list-style-type: none"> One barn with an area of approximately 700 m², an outbuilding, and two pasture areas No information on file with the County 	5859 Nauvoo Road	312 m	northwest
Livestock operation, unknown type	<ul style="list-style-type: none"> One barn with an area of approximately 495 m² (5,324 sq ft), with uncovered liquid manure storage visible to the north of the barn in aerial photographs No information on file with the County 	8252 Confederation Line	344 m	east
Livestock operation, likely poultry	<ul style="list-style-type: none"> Two two-storey barns, one with an area of approximately 771 m² and one with an area of approximately 855 m² No information on file with the County 	5876 Nauvoo Road	345 m	north
Livestock operation, unknown type	<ul style="list-style-type: none"> One barn with an area of approximately 722 m² No information on file with the County 	7803 Zion Line	512 m	west
Hog Barn	<ul style="list-style-type: none"> One barn with an area of 1,254 m² 	7802 Zion Line	525 m	northwest

Table 4-5. Agricultural Land Uses/Operations

Agricultural Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Livestock operation, unknown type	<ul style="list-style-type: none"> One barn with an area of approximately 903 m² (9726 sq ft). Ventilation fans are visible on the sides of the building The property is also the headquarters for an excavation business, it is unclear whether the barn is used for livestock or for the excavation operation. No information on file with the County 	8163 Zion Line	529 m	northeast
Hog Barn	<ul style="list-style-type: none"> One barn with an area of approximately 1,820 m² (19,600 sq ft) 	8296 Confederation Line	738 m	southeast
Livestock operation, unknown type	<ul style="list-style-type: none"> Older barn with an area of approximately 193 m² (2,079 sq ft) No information on file with the County 	8306 Confederation Line	815 m	southeast
Hog Barn	<ul style="list-style-type: none"> One barn with an area of 1,470 m² (15,824 sq ft) 	8307 Confederation Line	874 m	southeast
Livestock operation, unknown type	<ul style="list-style-type: none"> Older barn with an area of approximately 145 m² and an extensive outdoor grazing area No information on file with the County 	8337 Confederation Line	933 m	southeast
Livestock operation, unknown type	<ul style="list-style-type: none"> One barn with an area of approximately 212 m² (2,283 sq ft) No information on file with the County 	7682 Confederation Line	1,665 m	southwest
Greenhouses				
Twin Creeks Greenhouse Inc.	<ul style="list-style-type: none"> Greenhouse powered by excess methane gas from the Twin Creeks landfill Pepper plants grown here Greenhouse has an approximate area of 189,290 m² 	8117 Zion Line, Watford	0 m	east
Cash Crop				
Cash Crop Farm Operations	<ul style="list-style-type: none"> The vast majority of “undeveloped” lands within the Off-Site Study Area are farmed for cash crops. The site visit took place outside the growing season, but cash crop farming activity within the Off-Site Study Area is visible through aerial photography and Google Streetview. 	Cash crop areas visible in Figure 4-21 .	0 m	north, east, south, and west

^a Distances for livestock barns and greenhouses measured from the structure to the closest property line of the On-Site Study Area. Distances for the cash crop farm operations measured from the property line to the On-Site Study Area

Figure 4-21. Livestock and Greenhouse Agricultural Operations within the Off-Site Study Area



4.2.2.3 Type(s) and Proximity of Off-Site Recreational Resources

The definition of “sensitive land use” in the D-1-3 Land Use Compatibility Guidelines includes “*certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive,*” as well as permanent structures such as community centres. There are four public parks and one community centre located within the Off-Site Study Area (listed in **Table 4-6** and **Table 4-7**, respectively and shown in **Figure 4-22**).

Table 4-6. Off-Site Outdoor Recreational Resources

Recreational Resource	Facilities	Area	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Parks					
Bluebird Parkette	<ul style="list-style-type: none"> Outdoor seating area 	0.03 ha	501 Ontario Street, Watford	1,022 m	southwest
Centennial Park	<ul style="list-style-type: none"> Two lit ball diamonds Two playground structures Splash pad Paved running track BMX park Two lit multi-sport courts (tennis and pickleball) One lit multi-use court for basketball and ball hockey Ancillary building with concession, bar, and covered seating Pavilion 	6.4 ha	97 Centennial Avenue	170 m	southwest
Sunken Gardens	<ul style="list-style-type: none"> Pavilion Passive outdoor space 	0.1 ha	5365 Nauvoo Road, Watford	750 m	southwest
Watford Memorial Park	<ul style="list-style-type: none"> Passive outdoor public space Pathway connection between residential neighbourhoods and the Watford Community Arena and Centennial Park 	0.6 ha	61 Centennial Avenue	355 m	southwest

Source: Township of Warwick Parks, Recreation, Tourism & Culture Master Plan (2021)

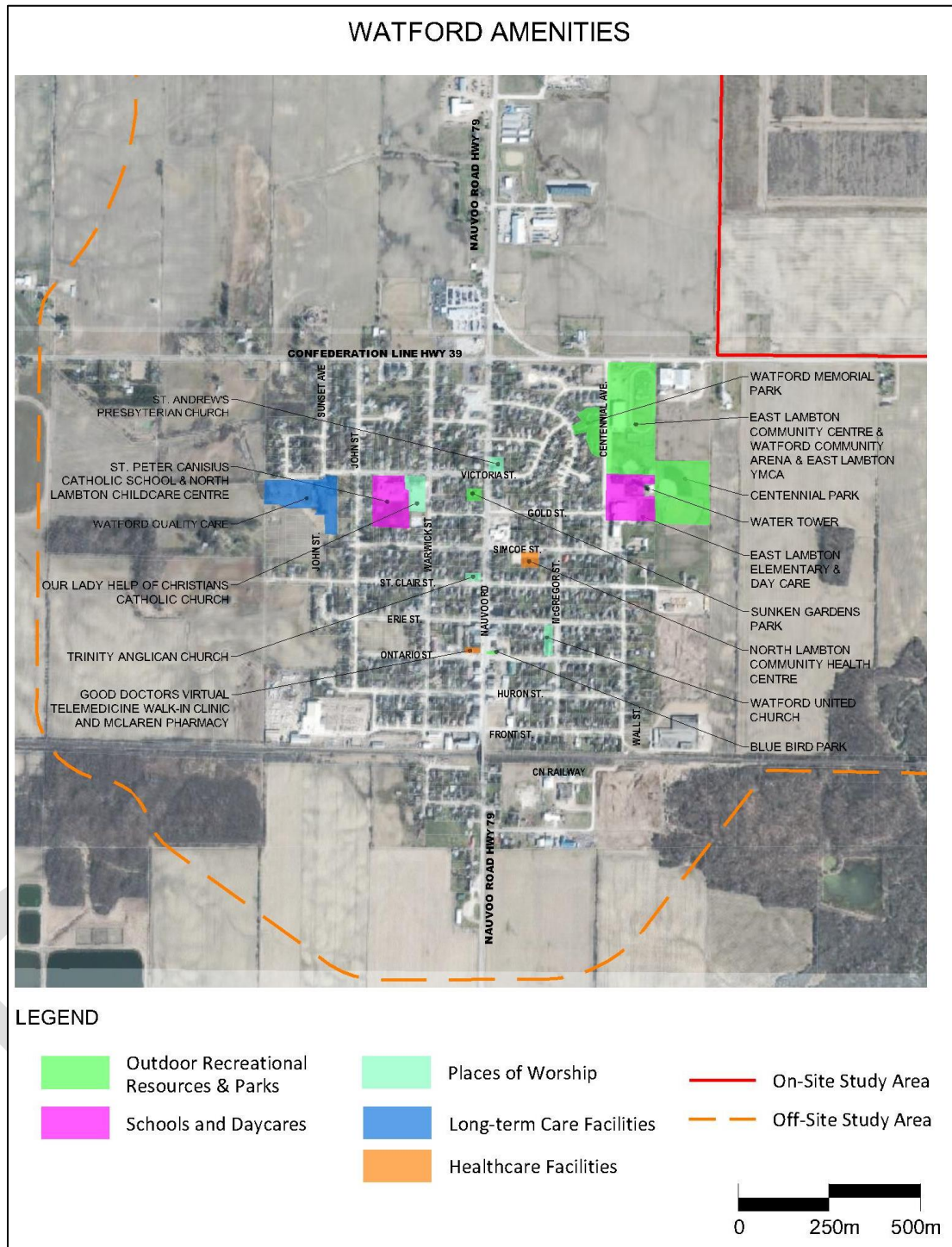
^a Distances measured from the closest property line of the park to the closest property line of the On-Site Study Area

Table 4-7. Off-Site Indoor Recreational Resources

Recreational Resource	Facilities	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Community Centres				
East Lambton Community Centre & Watford Community Arena & East Lambton YMCA	<ul style="list-style-type: none"> • Single ice pad (indoor) • Community hall • Multi-purpose gymnasium • Fitness Area • Walking Track • Multi-Purpose Rooms • East Lambton YMCA 	61 Centennial Avenue, Watford	282 m	southwest

^a Distances measured from the community centre to the closest property line of the On-Site Study Area

Figure 4-22. Amenities within the Off-Site Study Area



The Township of Warwick Parks, Recreation, Tourism & Culture Master Plan (‘Parks Plan’) (2021) outlines a recommended parkland hierarchy for the Township, which will be used to guide the development and redevelopment of parks according to the type, size, service level, and features and amenities that they provide (Parks Plan, s.s. 3.1) (see **Table 4-8**, below). The Parks Plan does not specifically identify how the existing parks fit into the proposed hierarchy. Based on the recommended parks classification hierarchy established in the Master Plan, Centennial Park would be considered a Community Park, and Bluebird Parkette, the Sunken Gardens, and Watford Memorial Park would be considered Parkettes.

Community Parks are designed for a range of parks, recreation, tourism, and culture opportunities for all residents and the broader population, with facilities including lit sports fields, splash pads, hard surface courts, playgrounds; and support amenities such as washrooms, pavilions, concessions, and on-site parking. Centennial Park includes all of these listed features. The park is also co-located with the East Lambton Community Complex and is located along a County Road (two recommended features for Community Parks listed in **Table 4-8**).

Parkettes tend to be designed for passive recreation opportunities, with amenities including a walking path, seating, shade, landscaping, public art, elements of historical or cultural significance, and other features for civic uses and gatherings. Bluebird Parkette is a small seating area with landscaping located in Watford’s commercial area; the Sunken Gardens are a small passive greenspace with attractive landscaping, seating, and public art; and the Watford Memorial Park is a passive greenspace that contains the town’s cenotaph, a walking pathway, memorial trees, and a seating area. All three parks match the description for “*parkettes*” listed in the Master Plan.

Table 4-8. Parkland Hierarchy

Parkland Type	Description (from the Township of Warwick Parks, Recreation, Tourism & Culture Master Plan)
Community Park	Community Parks are designed for a range of parks, recreation, tourism and culture opportunities for all residents and the broader population. <ul style="list-style-type: none"> • Facilities may include lit sports fields, splash pads, hard surface courts, playgrounds, space for special events and festivals (e.g., band shell) and specialized facilities • Support amenities may include such as washrooms, pavilions, concessions, on-site parking, utilities (e.g., water and electricity), trail head, public art, and other comfort features. • Varies in size depending on the nature and extent of the facilities being provided and the purpose of the park. • Ideally co-located with a community recreation facility along major roads that is accessible by car and active transportation. • May include areas for passive recreation and naturalized space.

Table 4-8. Parkland Hierarchy

Parkland Type	Description (from the Township of Warwick Parks, Recreation, Tourism & Culture Master Plan)
Neighbourhood Park	<p>Neighborhood Parks are designed for recreation activities for residents within walking distance.</p> <ul style="list-style-type: none"> • Facilities may include unlit sports fields for casual play, hard surface courts, trail connections and playgrounds. • Support amenities may include local-level amenities geared to serve the surrounding neighbourhood such as shade and seating. • Shall be visibly located within neighbourhoods and accessible by active transportation. • Shall generally be no less than 0.8 hectares in size. • May include areas for passive recreation and naturalized space.
Parkette	<p>Parkettes are designed for spontaneous gatherings and public rest areas.</p> <ul style="list-style-type: none"> • Support amenities may include a walking pathway, seating, shade, landscaping, public art, elements of historical or cultural significance, and other features for civic uses and gatherings. • Shall generally be located in gateways or within the urban core, accessible by car or active transportation

Source: Township of Warwick Parks, Recreation, Tourism and Culture Master Plan (2021)

The Parks Plan also provides information on pre-pandemic facility usage rates, summarized in **Table 4-9** below. At the time that the Parks Plan was finalized, the Watford Community Arena was being renovated and expanded to include a multi-purpose gymnasium, fitness space, and walking track, so usage information for those facilities was not listed in the report. Updated recreational facility usage data was requested from the Township in March 2023, however this information was not readily available at the time of writing.

Table 4-9. Off-Site Recreational Resource Usage Information

Recreational Resource	Address	Usage Information
Indoor Recreational Resources		
Watford Community Arena (single ice pad)	61 Centennial Avenue, Watford	Arena in use for 89% of its core prime time period for a typical week in the 2018-2019 ice season; strong weekend and morning use. Additional ice pads not required over the 10-year planning period due to modest population growth forecasts.
Community Hall (within the Watford Arena)	61 Centennial Avenue, Watford	Low to moderate levels of use between 2017 and 2019, generally at least one booking per week with increased levels of usage in winter months.
Outdoor Recreational Resources		
Ball Diamonds (2) at Centennial Park	97 Centennial Avenue, Watford	Between 2017 and 2019, each diamond was booked between three and five nights a week (equivalent to 9 to 20 hours per week). This is considered a “strong use” of the diamonds.

Table 4-9. Off-Site Recreational Resource Usage Information

Recreational Resource	Address	Usage Information
Walking Track at Centennial Park	97 Centennial Avenue, Watford	Staff report that the track is a well-use amenity by residents; elementary school students also use the track and the open field for sports.
BMX Track at Centennial Park	97 Centennial Avenue, Watford	Staff reports suggest that the BMX park is underutilized.
Tennis/Pickleball Courts (2) at Centennial Park	97 Centennial Avenue, Watford	The Parks Plan notes that pickleball is surging in popularity.

Source: Township of Warwick Parks, Recreation, Tourism and Culture Master Plan (2021)

4.2.2.4 Type(s) and Proximity of Other Off-Site Sensitive Land Uses

The Province considers a number of non-agricultural, non-residential, and non-recreational land uses to be “*sensitive*”, including daycare centres, educational and health facilities (PPS); institutions such as schools, churches, community centres (discussed in Section 3.1, above), and daycares (D-1-3); permanent structures where a person is present on a full-time basis (but not including food or motor vehicle service facilities adjacent to a highway, utility operations, scrap yards, heavy industrial uses, gravel pits, quarries, mining or forestry activities) and cemeteries (D-4). These types of sensitive land uses are concentrated within the Watford Settlement Area and are discussed in greater detail below.

There are two elementary schools located in Watford: East Lambton Elementary School and St. Peter Canisius Catholic School, both of which accommodate students from kindergarten to Grade 8 (see **Table 4-10**, below). The two daycares in Watford are co-located with the elementary schools: the East Lambton Best Start Daycare is located within the East Lambton school building, and the North Lambton Childcare Centre is located within the Catholic school. East Lambton Elementary School is located on the east side of the settlement area, approximately 477 m from the On-Site Study Area and directly south of the East Lambton Community Complex and Centennial Park. St. Peter Canisius Catholic School is located on the west side of the settlement area, a block away from the main commercial corridor along Nauvoo Road.

Table 4-10. Schools and Daycares in the Off-Site Study Area

Non-Residential Sensitive Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Schools & Daycares				
East Lambton Elementary School & East Lambton Best Start Daycare	<ul style="list-style-type: none"> The school has 14 classrooms, plus a science room, library, gymnasium, and administrative offices for full-day Kindergarten to Grade 8 students. The daycare is located within the school building 	139 Centennial Avenue, Watford	473 m	Southwest
St. Peter Canisius Catholic School & North Lambton Childcare Centre	<ul style="list-style-type: none"> The school accommodates students from Kindergarten to Grade 8 The childcare centre is located within the same building and offers care to children 3 months to 12 years of age 	424 Victoria Street, Watford	933 m	Southwest

^a Distances measured from the school building to the closest property line of the On-Site Study Area

There are four places of worship within the Off-Site Study Area, all located within Watford along the Nauvoo Road Commercial Corridor (or a block to the east or west) (see **Table 4-11**, below).

Table 4-11. Places of Worship within the Off-Site Study Area

Non-Residential Sensitive Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Places of Worship				
Watford United Church	<ul style="list-style-type: none"> Affiliated with the United Church of Canada, Watford Food Bank operates out of the building Minimal online presence 	555 Ontario Street	877 m	southwest
Trinity Anglican Church	<ul style="list-style-type: none"> Affiliated with the Anglican Church of Canada Minimal online presence 	5331 Nauvoo Road	885 m	southwest
Our Lady Help of Christians Catholic Church	<ul style="list-style-type: none"> Affiliated with the Roman Catholic Church Minimal online presence 	432 Victoria Street	865 m	southwest
St. Andrew's Presbyterian Church	<ul style="list-style-type: none"> Minimal online presence 	5378 Nauvoo Road	646 m	southwest

Table 4-11. Places of Worship within the Off-Site Study Area

Non-Residential Sensitive Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
------------------------------------	-------------	---------	---	--

^a Distances measured from the building to the closest property line of the On-Site Study Area

There are two healthcare facilities providing services to the public in the Off-Site Study Area, both located in Watford: the North Lambton Community Health Centre (located approximately 733 m southwest of the On-Site Study Area) and a pharmacy and virtual telemedicine clinic (located approximately 1,050 m southwest of the On-Site Study Area) (see **Table 4-12**). It is also noted that Lambton Emergency Medical Services Station No. 6 is located at 7935 Confederation Line, approximately 238 m to the southwest of the On-Site Study Area.

Table 4-12. Healthcare Facilities in the Off-Site Study Area

Non-Residential Sensitive Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Healthcare Facilities				
North Lambton Community Health Centre	<ul style="list-style-type: none"> The North Lambton Community Health Centre provides primary health care, health promotion, and community development services, with a focus on seniors, Indigenous peoples, farming families, low-income individuals/families, youth at risk, people living with moderate mental illness, and families with young children 	536 Simcoe Street	733 m	southwest
Good Doctors Virtual Telemedicine Walk-In Clinic and McLaren Pharmacy	<ul style="list-style-type: none"> The Good Doctors Medical clinic has a nurse on-site to perform physical assessments and connect patients to a secured video conference with a licensed Ontario physician The Pharmacy serves Watford and the surrounding area 	5299 Nauvoo Road	1,050 m	southwest

^a Distances measured from the building to the closest property line of the On-Site Study Area

Watford Quality Care is the only long-term care facility located within the Off-Site Study Area. The 62-bed facility located at the western edge of Watford, approximately 1,009 m to the southwest of the On-Site Study Area (see **Table 4-13**).

Table 4-13. Long-Term Care Facilities in the Off-Site Study Area

Non-Residential Sensitive Land Use	Description	Address	Approximate Distance from On-Site Study Area ^a	Direction Relative to the On-Site Study Area
Long-Term Care Facilities				
Watford Quality Care	<ul style="list-style-type: none"> A 62-bed long-term care facility 	344 Victoria Street	1,099 m	southwest

^a Distances measured from the building to the closest property line of the On-Site Study Area

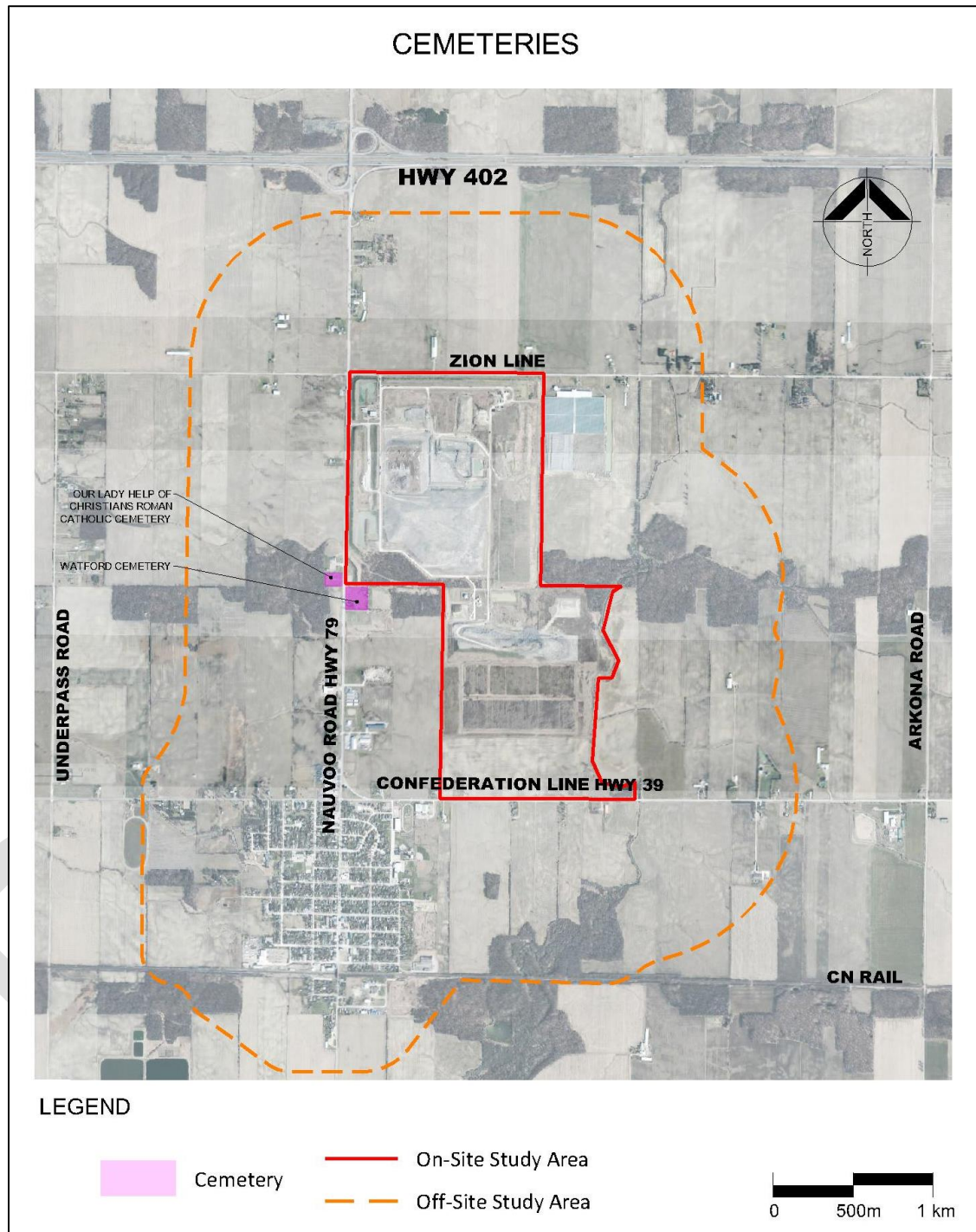
There are two cemeteries within the Off-Site Study Area, both located to the west of the On-Site Study Area along Nauvoo Road (see **Table 4-14** and **Figure 4-23**). The Watford Cemetery is owned and operated by the Township of Warwick, and the Parks Plan notes that dog-walking is a permitted activity within municipal cemeteries. The Our Lady Help of Christians Roman Catholic Cemetery is operated by the Roman Catholic parish in Watford and is located across the road from the On-Site Study Area.

Table 4-14. Cemeteries within the Off-Site Study Area

Non-Residential Sensitive Land Use	Description	Address	Approximate Distance from On-Site Study Area	Direction Relative to the On-Site Study Area
Cemeteries				
Our Lady Help of Christians Roman Catholic Cemetery	<ul style="list-style-type: none"> Cemetery operated by the Our Lady Help of Christians Parish in Watford 	5621 Nauvoo Road, Watford	30 m	west
Watford Cemetery	<ul style="list-style-type: none"> Cemetery owned and operated by the Township of Warwick. Dog-walking is a permitted activity in municipal cemeteries 	5606 Nauvoo Road, Watford	0 m (directly abutting)	west

^a Distances measured from the closest property line of the cemetery to the closest property line of the On-Site Study Area

Figure 4-23. Cemeteries within the Off-Site Study Area



4.3 Summary of Existing Conditions

The existing and planned land uses within the On-Site and Off-Site Study Areas can be summarized as follows:

- The TCEC is the predominant existing land use within the On-Site Study Area, with the licensed landfill site spanning approximately 101.8 ha on the northern portion of the site. A leachate transfer station, excess soil stockpile, poplar plantation (to treat leachate), and agricultural field are located to the south of the active landfill area. Several private recreational features managed by WM are also located within the On-Site Study Area, including the Watford Dog Park (at the south end of the site along Confederation Line), Nauvoo Park (a passive recreation park located to the north of the Watford Cemetery, on the west side of the site), and the Twin Creeks Nature Trail, which connects the two features.
- Amendments to the Lambton County Official Plan, the Township of Warwick Official Plan, and the Township of Warwick Zoning By-law 121 of 2012 will be required prior to the expansion of the existing TCEC facility.
- Most lands within the Off-Site Study Area are designated, zoned, and utilized for agricultural operations, with residential dwellings associated with farming operations scattered throughout the agricultural area. Certain agricultural operations, including cash crop farming, cattle raising, livestock pastures, and livestock barns, are “*sensitive land uses*” in the Provincial D-1-3 and D-4 Guidelines.
- More specifically, a number of livestock (i.e., poultry, cattle) and hog barn uses were observed between 40 m and 1,665 m from the on-site study area, predominantly along Confederation Line and Zion Line. A total of 13 livestock operations were identified within the Off-Site Study Area. There is also one greenhouse operation within the Off-Site Study Area, located directly to the east of the On-Site Study Area. Further, the vast majority of “*undeveloped*” lands within the Off-Site Study Area are farmed for cash crops.
- Cemeteries are also considered “*sensitive land uses for landfills currently in operation*” under the D-4 Guidelines. There are two cemeteries located directly to the west of the On-Site Study Area.
- Within the Off-Site Study Area, potentially-sensitive existing land uses are concentrated within the Watford Settlement Area to the southwest of the TCEC facility, including the following: residential dwellings (predominantly single-detached dwellings), four public parks, one community centre, two elementary schools, two daycares, four places of worship, two healthcare facilities, and one long-term care facility.
- Within the Off-Site Study Area, there are planned residential (i.e., Ontario Street Subdivision, Watford Quality Care Subdivision, and Castell Homes Subdivision)

and industrial (i.e., Warwick Industrial Park) land uses that may be approved and/or built by the time the TCEC project begins construction.

- With respect to off-site, potentially-sensitive outdoor and indoor recreational resources, Bluebird Parkette (1,022 m), Centennial Park (170 m), Sunken Gardens (750 m), Watford Memorial Park (355 m), and East Lambton Community Centre & YMCA & Watford Community Arena (282 m) were observed southwest of the On-Site Study Area.
- The Provincial, County, and local planning framework directs future residential, commercial, institutional, and industrial development towards serviced settlement areas such as Watford (County of Lambton Official Plan, s.s. 3.2.2, 3.3.1). Lands within the Watford Settlement Area are designated and zoned accordingly. Industrial and Mixed Commercial/Industrial uses are concentrated towards the north, south, and west edges of the settlement area and are separated from the more sensitive land use designations and zones at the centre of the settlement area.

5 References

County of Lambton

2020 County of Lambton Official Plan

Province of Ontario

1990 *Planning Act*, R.S.O. 1990, c. P. 13

1994 D-4 Land Use On or Near Landfills and Dumps

1995 D-1 Land Use and Compatibility

2020 2020 Provincial Policy Statement (2020) Under the *Planning Act*

Township of Warwick

2012 Township of Warwick Zoning By-law 121 of 2012

2021a Township of Warwick Official Plan

2021b Parks, Recreation, Tourism and Culture Master Plan

DRAFT

DRAFT