

Appendix C

Natural Environment



Invenergy

Natural Environment Report

St. Clair Energy Centre, Township of St. Clair, Ontario

July 2023 – 22-5016

Table of Contents

1.0	Introduction and Background	1
1.1	Background.....	1
1.2	The Proponent.....	2
1.3	Project Overview.....	2
1.3.1	Existing Facility.....	2
1.3.2	Proposed Upgrade Overview.....	4
1.4	Purpose of the Report.....	4
2.0	Methodology	5
2.1	Background Review.....	5
2.1.1	Endangered Species Act.....	7
2.2	Site Reconnaissance.....	7
2.2.1	Ecological Land Classification.....	7
2.2.2	SAR Habitat Assessment.....	8
2.2.3	Aquatic Assessment.....	8
2.2.4	Incidental Observations.....	8
3.0	Results	9
3.1	Background Review.....	9
3.1.1	County of Lambton Official Plan.....	9
3.1.2	Township of St. Clair Official Plan.....	11
3.1.3	St. Clair Region Conservation Authority.....	11
3.1.4	Landforms, Soils, and Geology.....	11
3.1.5	Significant Woodlands.....	12
3.1.6	Significant Wetlands.....	12
3.1.7	Significant Valleylands.....	12
3.1.8	Areas of Natural and Scientific Interests (ANSI).....	12

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



3.1.9 Significant Wildlife Habitat..... 12

3.1.10 Species at Risk..... 15

3.2 Site Reconnaissance..... 16

3.2.1 Ecological Land Classification 16

3.2.2 SAR Habitat Assessment 20

3.2.3 Aquatic Assessment 20

3.2.4 Incidental Wildlife 21

3.2.5 Significant Woodlands 21

3.2.6 Significant Wetlands 22

3.2.7 Significant Wildlife Habitat..... 22

3.2.8 Species at Risk..... 24

4.0 References 36

Figures

Figure 1: Study Area and Property Boundary..... 3

Figure 2: Designated Natural Heritage Features 10

Figure 3: Survey Locations and Ecological Land Classification 17

Figure 4: Candidate Significant Wildlife Habitat..... 23

Figure 5: Candidate Species at Risk Habitat 25

Tables

Table 1: Policies, Legislation, and Background Resources Searched 5

Table 2: Species of Conservation Concern with the Potential to Occur within the Vicinity of the Natural Environment Study Area..... 14

Table 3: Species at Risk with the potential to occur within the vicinity of the Natural Environment Study Area 15



Table 4: Ecological Land Classification Communities within the Natural Environment Study Area 18

Table 5: Gibb Drain Assessment Results 21

Table 6: Incidental Wildlife Observations 21

Appendices

- A Background Mapping
- B Site Photographs



1.0 Introduction and Background

1.1 Background

After more than a decade of strong supply, Ontario is entering a period of emerging electricity system needs, driven by increasing demand, the retirement of the Pickering nuclear plant, the refurbishment of other nuclear generating units, as well as expiring contracts for existing facilities. Recognizing the necessity to address these needs in a timely, cost-effective and flexible manner, the Independent Electricity System Operator (IESO) has engaged with stakeholders in the development of a Resource Adequacy Framework.

To address these needs, the IESO is seeking to competitively secure 4,000 megawatts (MW) of capacity through a series of complementary expedited procurement processes, which includes the Same Technology Upgrades Solicitation. The 2022 Annual Acquisition Report and the Resource Eligibility Interim Report describe these mechanisms and needs in more detail.

It is expected that upgrades and efficiency improvements to existing contracted facilities, contemplated as part of the Same Technology Upgrades Solicitation, will provide for the timeliest and most cost-effective capacity increases to the electricity system. The streamlined process aims to incent additional output from existing dispatchable resources that can deliver a continuous amount of electricity for at least eight consecutive hours, and is expected to be in service between 2025 and May 1, 2026.

In the fall of 2022, existing suppliers such as the St. Clair Energy Centre, were invited to make submissions to the IESO to increase the capacity of their facility by means of a permitted upgrade. An eligible permitted upgrade is generally defined by the IESO as the following:

- An incremental increase to the generation capacity of the facility including both the existing contract capacity and any existing uncontracted capacity;
- Uses substantially the same technology and fuel type as the existing facility that does not involve the installation of new generating equipment except where such new generating equipment is a replacement or upgrade of existing generating equipment;

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016**



- Is at the same connection point(s) as the existing facility;
- Will be dispatchable with load-following capability for a minimum of eight hours; and,
- Is expected to have an in-service date between 2025 and May 1, 2026.

1.2 The Proponent

Invenergy is the world's largest privately held developer, owner, and operator of sustainable energy solutions. Headquartered in Chicago, with Canadian offices in Toronto and Montreal, Invenergy is proud to have significant Canadian investment through our long-standing partnership with Quebec's pension fund, Caisse de Dépôt et Placement du Québec (CDPQ). Since 2005, Invenergy has commissioned over 1 gigawatt of power projects in Ontario and Quebec. These projects include wind, solar, and natural gas facilities and have generated significant financial investments in the local communities where they are located.

Globally, Invenergy invests C\$348 million annually in the home communities where its projects are located via the creation of high-quality jobs, lease payments, and local taxes. The company has successfully developed more than 200 projects worldwide, totaling over 30,000 MW, including wind, solar, transmission infrastructure, natural gas power generation, and advanced energy storage projects.

1.3 Project Overview

1.3.1 Existing Facility

The St. Clair Energy Centre (Facility) is a 584-megawatt combined-cycle natural gas turbine generation facility. The Energy Centre is located in St. Clair Township, in the province of Ontario, Canada and began operations in 2009. The Facility is located at 790 Petrolia Line, Corunna. **Figure 1** shows the Study Area and property boundary.

Power generated from the Facility is transported to the provincial electrical transmission network through an onsite transformer station, where it is eventually delivered and utilized by consumers.

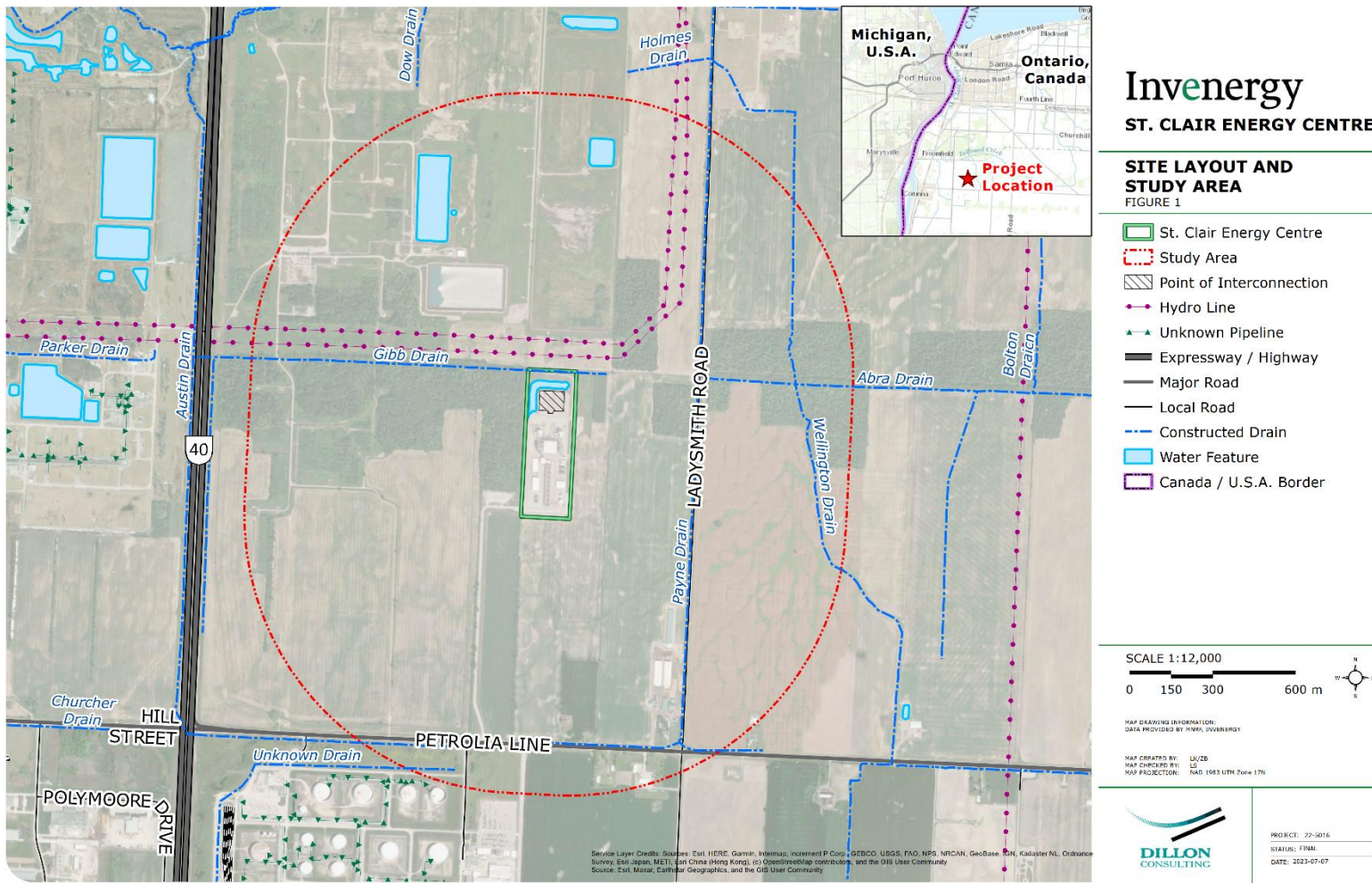


Figure 1: Study Area and Property Boundary

1.3.2 Proposed Upgrade Overview

Invenergy is proposing to upgrade the facility to generate an additional 70-80 megawatts (MW) of electricity and assist the province of Ontario's emerging electricity system needs. The proposed upgrade will involve the installation of upgraded equipment associated with the gas turbine generators and its auxiliary equipment. The upgraded equipment will enable the firing temperature of the two gas turbine generators to be increased, thereby increasing the base load generation capability. Additionally, increased exhaust thermal energy will enable additional steam generation capability and thus increase output in the two steam turbine generators.

The initial scope of the project included an upgrade followed by an 'expansion' to the existing facility. The proposed Expansion was for the purpose of an additional generating capacity of 100-120 MW, involving an increase in the facility's footprint. However, due to the changes to the Project timeline the decision was made to proceed with the upgrade only and address the expansion through a standalone ERR if and when necessary.

1.4 Purpose of the Report

The purpose of this Natural Environment Report is to support the 2023 Proposed Upgrade of the St. Clair Energy Centre Environmental Review Report (ERR) by providing a comprehensive review of the existing conditions and background of the lands surrounding the St. Clair Energy Centre. The 2023 ERR describes potential impacts and mitigation measures.

Methods used for the existing conditions analysis are outlined in **Section 2.0**.

2.0

Methodology

2.1

Background Review

The natural environment within and adjacent to the St Clair Energy Centre Facility was assessed through field investigations and a review of existing secondary source information. Field investigative techniques were conducted using accepted protocols as a mechanism to assess and inventory the terrestrial and aquatic features within and adjacent to the Facility. Studies were conducted within 250 m surrounding the Facility (Natural Environment Study Area). Secondary source information was used to identify known environmental constraints, map natural heritage features such as watercourses, woodlands, and potential wildlife occurrences, as well as to supplement and/or support the field investigation.

Table 1 lists the relevant policies and legislation applicable to the protection of natural heritage features within the County of Lambton, the Township of St. Clair, and more specifically, the Natural Environment Study Area; as well as supporting guidance documents and resources consulted respective to each policy. This table also includes additional background information sources used to help identify and define natural heritage features within the province of Ontario, and Eco-region 7E specifically.

Table 1: Policies, Legislation, and Background Resources Searched

Source	Record Reviewed/Requested
Government of Canada	
Environment Canada	<ul style="list-style-type: none"> Species at Risk Registry: Accessed to determine the at-risk status of wildlife species under Schedule 1 of the Species at Risk Act, 2002 (SARA).
Fisheries and Oceans Canada (DFO)	<ul style="list-style-type: none"> Aquatic Species at Risk Map: Accessed to determine aquatic at-risk occurrences.
Government of Ontario	
Provincial Policy Statement (2020)	<ul style="list-style-type: none"> Policies within Section 2.1 related to natural heritage features Policies within Section 2.2 related to water.
Ministry of the Environment, Conservation and Parks (MECP)	<ul style="list-style-type: none"> Endangered Species Act, 2007 (ESA) Species at Risk in Ontario (SARO) List (<i>O.Reg. 230/08</i>) Client's Guide to Preliminary Screening for Species at Risk (2019).

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



Source	Record Reviewed/Requested
Ministry of Natural Resources and Forestry (MNRF)	<ul style="list-style-type: none"> Natural Heritage Information Centre (NHIC) database (Squares: 17LH8549, 17LH8550, 17LH8551, 17LH8649, 17LH8650, and 17LH8651; MNRF, 2022) MNRF Make a Map: Natural Heritage Areas (MNRF, 2022) Natural Heritage Reference Manual, Second Edition (OMNR, 2010) MNRF Significant Wildlife Habitat Technical Guide (OMNR, 2000) Significant Wildlife Habitat Eco-region 7E Criterion Schedules (OMNRF, 2015).
Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)	<ul style="list-style-type: none"> Agricultural Information Atlas (OMAFRA, 2022); reviewed area drains.
Municipal Government(s)	
County of Lambton	<ul style="list-style-type: none"> Official Plan (2020).
Township of St. Clair	<ul style="list-style-type: none"> Official Plan (2005).
Additional Sources	
Wildlife Atlases and Distribution Data	<ul style="list-style-type: none"> Ontario Breeding Bird Atlas (OBBA; Cadman <i>et al.</i>, 2008). Second Atlas (2001-2005) – data for squares 17LH84 and 17LH85 – grid based on 10 km² system. Christmas Bird Count (CBC; Birds Canada, 2022). Closest count circle Wallaceburg (ONWL) – Historical Records from 1986 – 2021. Rare Vascular Plants of Ontario (Fourth Edition; Oldham and Brinker, 2009). Distribution data for rare vascular plants. Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature, 2022). List of reptile and amphibian species occurrences for squares 17LH84 and 17LH85. Ontario Butterfly Atlas (OBA; Toronto Entomologists Association, 2022). List of butterfly species occurrences for squares 17LH84 and 17LH85. Atlas of the Mammals of Ontario (Dobbyn, 1994). Distribution data for mammals. Bumble Bees of North America (Williams <i>et al.</i>, 2014). Distribution data for bumble bees. Guide to the Natural Areas of Lambton County (Catterson, 2009).
St. Clair Region Conservation Authority (SCRCA)	<ul style="list-style-type: none"> Online mapping (SCRCA, 2022) St. Clair Region Watershed Report Card, 2018.
Bedrock Geology of Ontario, Southern Sheet	<ul style="list-style-type: none"> Reviewed bedrock geology of Ontario (Ontario Geological Survey, 1991).
Physiography of Southern Ontario	<ul style="list-style-type: none"> Reviewed the physiography of Ontario (Chapman and Putnam, 1984).
Soil Survey of Lambton County	<ul style="list-style-type: none"> Reviewed the soil classification of Lambton County (Matthews <i>et al.</i>, 1957).
Environmental Screening Report	<ul style="list-style-type: none"> St. Clair Energy Centre Environmental Screening Report Township of St. Clair, Ontario (Golder Associates Ltd., 2006).

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



2.1.1 Endangered Species Act

In June 2008, the ESA came into effect in Ontario. The purpose of the ESA is to identify Species at Risk (SAR) based on the best available scientific information; to protect SAR and their habitats, to promote the recovery of SAR; and to promote stewardship activities to assist in the protection and recovery of SAR in Ontario. There are several applicable regulations under the ESA. These regulations serve to identify which species and habitat receive protection and provide direction on the current implementation of the ESA by the MECP.

In addition, preliminary screening for SAR was carried out using select sources from **Table 1**, the results of which are discussed in **Section 3.1.10**.

2.2 Site Reconnaissance

A site reconnaissance occurred on November 18, 2022 (-3 °C, no precipitation, light winds, and 100% cloud cover) to document existing conditions within the Natural Environment Study Area to assess potential for the Project Location to support habitat for SAR or Species of Conservation Concern (SCC identified during the desktop review. Access was only granted within the current Project Location and not within the larger Natural Environment Study Area. The site reconnaissance visit consisted of Ecological Land Classification (ELC), SAR habitat assessment, and an aquatic assessment. Incidental wildlife observations made during the surveys were also documented.

2.2.1 Ecological Land Classification

During the summer vegetation survey, vegetation was characterized using the ELC System for Southern Ontario protocol (Lee *et al.*, 1998) with 2008 updates (Lee, 2008) in order to classify and map ecological communities to the vegetation type level, where appropriate. The ecological community boundaries were determined through the review of aerial photography and then further refined through on-site vegetation surveys. Vegetation assessments were completed in order to identify the dominant species in each vegetation community type, based on visual estimates of species abundance and biomass. Species nomenclature is based on the species lists for Ontario maintained by the NHIC which uses international standards for taxonomy and nomenclature.

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016**



The ELC protocol recommends that a vegetation community be a minimum of 0.5 ha in size before it is defined. Based on the composition of vegetation communities within the Natural Environment Study Area, patches of vegetation less than 0.5 ha or disturbed/planted vegetation were described, provided they clearly fit within an ELC vegetation type.

Results of the ELC survey is discussed in **Section 3.2.1**.

2.2.2 SAR Habitat Assessment

Based on the results of the preliminary SAR screening, the Project Location was assessed for presence of SAR, with a focus on assessing the potential for the Project Location to support SAR habitat given the timing in which the site investigation was completed.

Results of the SAR assessment is discussed in **Section 3.2.2**.

2.2.3 Aquatic Assessment

An aquatic assessment was conducted at one location along the Gibb Drain within the Natural Environment Study Area.

Information collected during the assessment included (where applicable): channel form, presence/absence of flow, substrate type, channel dimensions (e.g., width and depth), and riparian vegetation. This data was use, in part, to determine the overall health and sensitivity of the drain.

Results of the aquatic assessments are discussed in **Section 3.2.3**.

2.2.4 Incidental Observations

Incidental wildlife observations and indicators of wildlife use (e.g., scat, burrows, tracks, etc.) were also recorded during the site reconnaissance.

Incidental wildlife observations are discussed in **Section 3.2.4**.

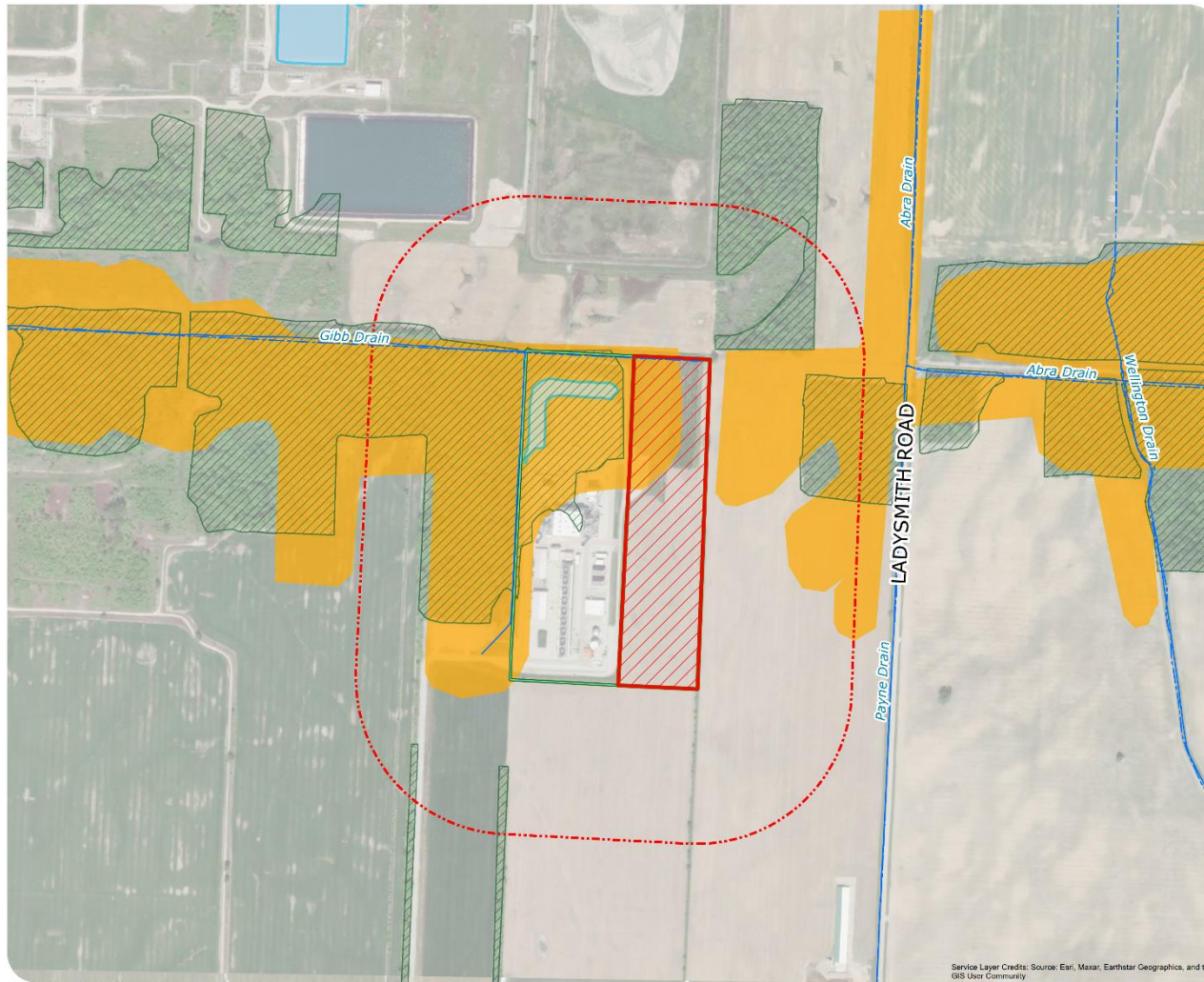
3.0 Results

3.1 Background Review

3.1.1 County of Lambton Official Plan

The County's (OP) is a policy document, adopted in accordance with the provisions of the *Planning Act*. It is intended to provide a general framework for land use, economic, natural heritage, social, and cultural decision-making within the County (County of Lambton, 2020).

The County's OP designates the Project Location as Petrochemical Industrial Land (Map 1 – Growth Strategy; **Appendix A** and **Figure 2**). Conservation Areas, Group "A", "B", and "C" Features are not identified within the Natural Environment Study Area (Map 2 – Natural Heritage System; **Appendix A** and **Figure 2**).



Invenergy

ST. CLAIR ENERGY CENTRE
ENVIRONMENTAL REVIEW REPORT

DESIGNATED NATURAL HERITAGE FEATURES
FIGURE 2

- Upgrade of Existing St. Clair Energy Centre
- St Clair Energy Centre - Future Proposed Expansion
- Natural Environment Study Area
- MNR / OMAFRA**
- Constructed Drain
- Watercourse
- Stormwater Management Pond
- Wooded Area
- St. Clair Township**
- Hazard and Environmental Protection (Schedule A, Official Plan)

SCALE 1:6,000
0 75 150 300 m

MAP DRAWING INFORMATION:
DATE PROVIDED BY INVE: INVENERGY

MAP CREATED BY: UK
MAP CHECKED BY: BN
MAP PROJECTION: NAD 1983 UTM Zone 17N



PROJECT: 22-5016
STATUS: FINAL
DATE: 2022-11-30

FILE LOCATION: K:\2022\225016\Project\Clients\ERA\Fig_2_Natural_Features.mxd

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 2: Designated Natural Heritage Features



3.1.2 Township of St. Clair Official Plan

The Township's OP is established primarily to guide the physical development of the Township while having regard to relevant social, economic, and environmental matters (Township of St. Clair, 2005).

The Township's OP designates the Project Location as Industrial Type 3 with Hazard & Environmental Protection on adjacent lands (Schedule A; **Appendix A** and **Figure 2**).

3.1.3 St. Clair Region Conservation Authority

In accordance with Section 28 of the *Conservation Authorities Act* (1990), SCRCA is authorized to implement and enforce the Regulation of Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses (*O.Reg. 171/06*). Section 2(1) of this Regulation lists areas within SCRCA's jurisdiction where development is prohibited without proper permissions from SCRCA. Such areas include, but are not limited to, those adjacent or close to the shoreline of inland lakes, river or stream valleys, hazardous lands, and wetlands.

In participating in the review of applications under the *Environmental Assessment Act(s)*, SCRCA observes that applicants and approval authorities are aware of Section 28 Regulation requirements under the *Conservation Authorities Act*, where applicable. Further, SCRCA assists in the coordination of these applications (where applicable) to avoid ambiguity, conflict, and unnecessary delay or duplication in the process.

St. Clair Region Conservation Authority Regulated Area is mapped within the Project Location in association with the Gibb Drain.

3.1.4 Landforms, Soils, and Geology

The Natural Environment Study Area lies over Upper Devonian, consisting of shale (Ontario Geological Survey, 1991). The physiography of the area is described as Bevelled Till Plain (Chapman and Putnam, 1984). A review of the Soil Survey of Lambton County (Matthews *et al.*, 1957) indicates that soils within the Natural Environment Study Area have been described as Brookston Clay. Brookston Clay is poorly drained with a topography being level to slightly sloping. Agricultural tile drainage is mapped within the Project Location (OMAFRA, 2022).

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



3.1.5 Significant Woodlands

A review of readily available background mapping shows Woodlands to the north, east, and west of the Project Location within the Natural Environment Study Area. Although not designated on County of Lambton and Township of St. Clair OP Schedules, these woodlands meet significance criteria for Significant Woodland based on size (OMNR, 2010). The Woodland located within the western part of the Natural Environment Study Area is approximately 22.6 ha in size.

Significant Woodlands are discussed further in **Section 3.2.5**.

3.1.6 Significant Wetlands

No wetlands were identified within the Natural Environment Study Area based on a review of the sources included in **Table 1**.

Significant Wetlands are discussed further in **Section 3.2.6**.

3.1.7 Significant Valleylands

No valleylands were identified within the Natural Environment Study Area based on a review of the sources included in **Table 1**.

3.1.8 Areas of Natural and Scientific Interests (ANSI)

No ANSI's were identified within the Natural Environment Study Area based on a review of the sources included in **Table 1**.

3.1.9 Significant Wildlife Habitat

Wildlife habitat is defined as an area where plants, animals and other organisms live, including areas where species concentrate at a vulnerable point in their life cycle, and areas that are important to migratory and non-migratory species (OMNR, 2000). To assist planning authorities, the MNRF developed the Significant Wildlife Habitat (SWH) Technical Guide (OMNR, 2000) which provides information on the identification, description, and prioritization of SWH in Ontario. To account for the ecological diversity across the province, MNRF developed the SWH Ecoregional Criteria Schedules to support the SWH Technical Guide. These schedules are specific to each geographic area of each eco-region. The Natural Environment Study Area is located in Ecoregion 7E (Lake

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



Erie-Lake Ontario); under the Criteria Schedule for Ecoregion 7E (OMNRF, 2015), SWH has been divided into four broad categories consisting of:

Seasonal Concentration Areas of Animals

This category identifies habitat where wildlife species gather annually, at certain times of the year. This SWH category requires the presence of a given species, or several species, in specific densities based on approved survey protocol in order to meet the criteria for significance.

Rare Vegetation Communities or Specialized Habitat for Wildlife

The criterion for rare vegetation communities considers the provincial Sub-national rank (SRank) of a species or community type, and includes SRanks of S1 (extremely rare), S2 (very rare), and S3 (rare to uncommon) based on the provincial conservation rankings assigned by the NHIC. The criteria for specialized habitat for wildlife captures sizeable habitat requirements for listed species to carry out key life processes.

Habitat for Species of Conservation Concern

The Significant Wildlife Habitat Technical Guide (OMNR, 2000) defines SCC as species that are globally, nationally, provincially, regionally, or locally rare (SRank of S1 to S3), species that are listed as SC under the ESA, and species listed as Endangered or Threatened federally, but do not include species listed as Endangered or Threatened under the ESA.

Animal Movement Corridors

Animal movement corridors identify areas that wildlife move between habitats in order to carry out their life processes. Confirmed or candidate SWH are identified by the MNRF or the planning authority.

Through background review, SCC listed in **Table 2** were identified as having the potential to occur within the vicinity of the Natural Environment Study Area, and will help to determine the potential for SWH.

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016**



Table 2: Species of Conservation Concern with the Potential to Occur within the Vicinity of the Natural Environment Study Area

Scientific Name	Common Name	SARA ¹	ESA ²	SRank ³	Info Source ⁴
Birds					
<i>Hirundo rustica</i>	Barn Swallow	SC	SC	S4B	OBBA
<i>Hylocichla mustelina</i>	Wood Thrush	END	SC	S4B	OBBA
<i>Contopus virens</i>	Eastern Wood-pewee	SC	SC	S4B	OBBA
Lepidoptera					
<i>Danaus plexippus</i>	Monarch	SC	SC	S2N, S4B	OBA
Reptiles					
<i>Chelydra serpentina</i>	Snapping Turtle	SC	SC	S3	ORAA
Plants					
<i>Solidago rigida ssp. rigida</i>	Eastern Stiff-leaved Goldenrod	---	---	S3	Golder
<i>Lythrum alatum</i>	Winged Loosestrife	---	---	S3	Golder

¹Status identified under the federal Species at Risk Act: END = Endangered, SC = Special Concern; ²Status identified under the provincial Endangered Species Act: SC = Special Concern; ³SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S4 = common and apparently secure, S3 = rare to uncommon and vulnerable, S2 = very rare and imperiled, B = breeding, N = non-breeding; ⁴Information sources include: Golder = Golder Associates Ltd. (2006), OBA = Ontario Butterfly Atlas, OBBA = Ontario Breeding Bird Atlas, ORAA = Ontario Reptile and Amphibian Atlas; --- denotes no information or not applicable.

A review of background data suggests that the Natural Environment Study Area as the potential to support several SWH types, as described in the Eco-Region 7E Criterion Schedules (OMNRF, 2015), including, but not limited to, the following:

- Bat Maternity Colonies;
- Turtle Wintering Areas;
- Reptile Hibernaculum;
- Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat;
- Amphibian Breeding Habitat (Woodland);
- Amphibian Breeding Habitat (Wetlands);
- Terrestrial Crayfish; and,
- Special Concern and Rare Wildlife Species.

The potential for SWH to be present within the Natural Environment Study Area is discussed further in **Section 3.2.7**.

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



3.1.10 Species at Risk

Species at Risk are defined as those species that are listed as Threatened or Endangered under the ESA and aquatic species listed under Schedule 1 of the SARA, as well as migratory birds protected under the Migratory Birds Convention Act, 1994 and listed under Schedule 1 of the SARA. After considering suitable habitat preferences and species ranges, our preliminary screening results indicate the potential SAR listed in **Table 3** have been identified with the potential to occur within the vicinity of the Natural Environment Study Area.

Table 3: Species at Risk with the potential to occur within the vicinity of the Natural Environment Study Area

Scientific Name	Common Name	SARA ¹	ESA ²	SRank ³	Info Source ⁴
Birds					
<i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker	THR	SC	S4B	OBBA
<i>Hylocichla mustelina</i>	Wood Thrush	END	SC	S4B	OBBA
<i>Dolichonyx oryzivorus</i>	Bobolink	THR	THR	S4B	OBBA
<i>Sturnella magna</i>	Eastern Meadowlark	THR	THR	S4B	OBBA
Reptiles					
<i>Pantherophis gloydi pop. 2</i>	Eastern Foxsnake (Carolinian population)	END	END	S2	ORAA, MECP Reg. Habitat
<i>Thamnophis butleri</i>	Butler's Gartersnake	END	END	S2	ORAA
Mammals					
<i>Myotis leibii</i>	Eastern Small-footed Myotis	---	END	S2S3	MWH
<i>Myotis lucifugus</i>	Little Brown Myotis	END	END	S4	MWH
<i>Myotis septentrionalis</i>	Northern Myotis	END	END	S3	MWH
<i>Pipistrellus subflavus</i>	Tri-colored Bat	END	END	S3?	MWH
Plants					
<i>Cornus florida</i>	Eastern Flowering Dogwood	END	END	S2?	MECP Reg. Habitat
<i>Castanea dentata</i>	American Chestnut	END	END	S2	NHIC
<i>Juglans cinerea</i>	Butternut	END	END	S3?	NHIC

¹Status identified under the federal Species at Risk Act: END = Endangered, THR = Threatened; ²Status identified under the provincial Endangered Species Act: END = Endangered, THR = Threatened, SC = Special Concern; ³SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S4 = common and apparently secure, S3 = rare to uncommon and vulnerable, S2 = very rare and imperiled, SU or ? = uncertain due to insufficient information, B = breeding; ⁴Information sources include: MECP Reg. Habitat = MECP Regulated Habitat (O. Reg. 832/21), MWH = Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0, NHIC = MNRF Natural Heritage Information Centre, OBBA = Ontario Breeding Bird Atlas, ORAA = Ontario Reptile and Amphibian Atlas; --- denotes no information or not applicable.

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



The potential for SAR to be present within the Natural Environment Study Area is discussed further in **Section 3.2.8**.

3.2 Site Reconnaissance

A site reconnaissance was completed by a Dillon biologist as a mechanism to assess natural features within the Natural Environment Study Area on November 18, 2022 in accordance with the methods detailed in **Section 2.0**. The analysis of data collected from secondary source information and during the field studies was used to evaluate the significance of natural heritage features within the Natural Environment Study Area.

3.2.1 Ecological Land Classification

Ten ELC communities were identified within the Natural Environment Study Area (**Table 4**). The location, type, and boundaries of these communities are delineated on **Figure 3**. Reference photos for the plant communities observed can be found in **Appendix B**.

The Natural Environment Study Area consists of Mixed Meadow (MEM), Deciduous Thicket (THD), Deciduous Forest (FOD), Open Agriculture (OAGM), Deciduous Plantation (TAGM3), Fencerow (TAGM5), Greenlands (CGL), Transportation (CVI_1), Power Generation (CVI_4), and Open Aquatic (OAO). Communities within the Natural Environment Study Area are further described in **Table 4**. Other communities (a mix of natural and cultural) exist outside of the Natural Environment Study Area (**Figure 3**). None of the documented vegetation communities are considered rare in Ontario.

Since an expanded footprint is not currently proposed, potential impacts related to vegetation communities are not anticipated.

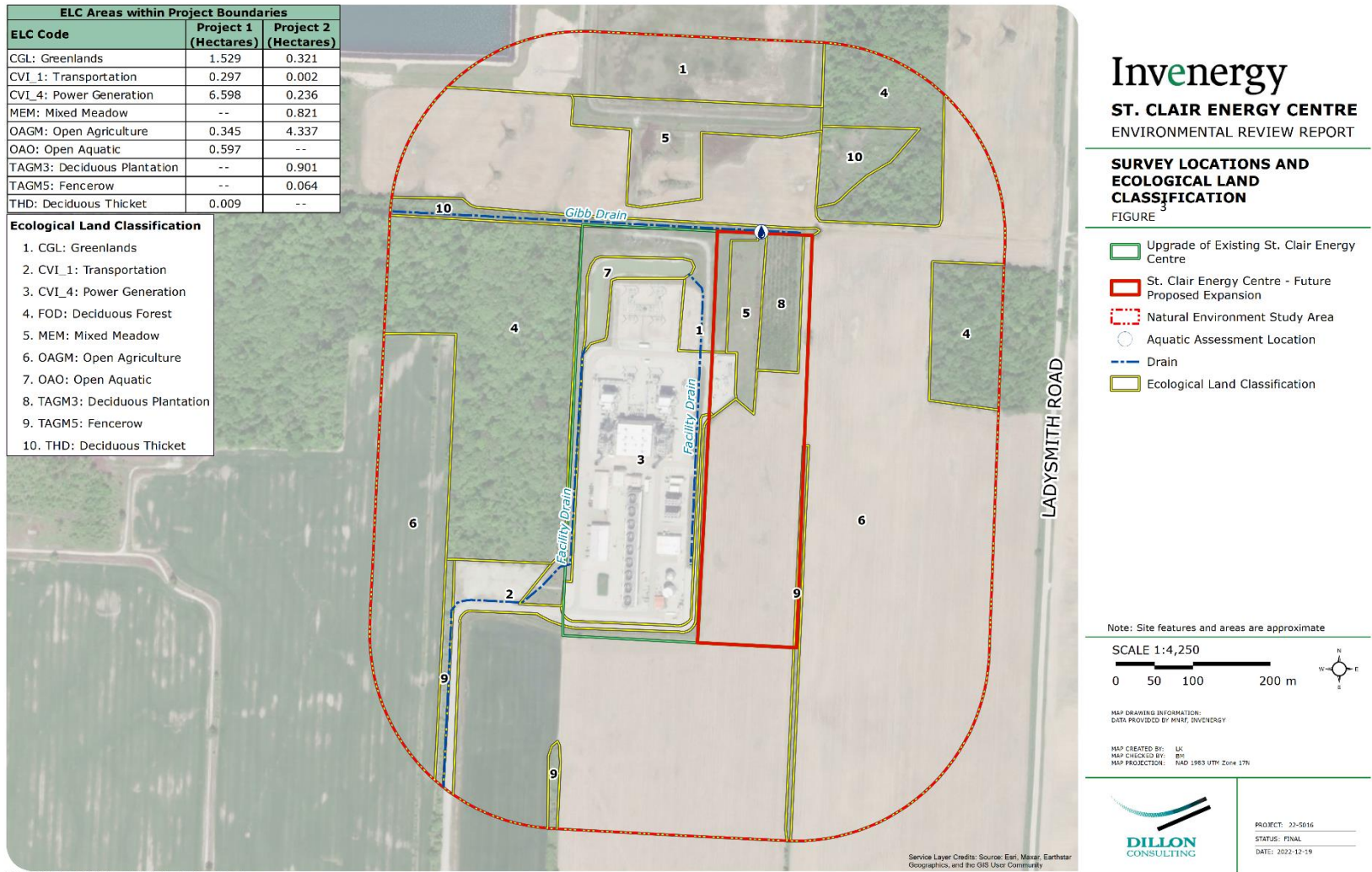


Figure 3: Survey Locations and Ecological Land Classification

Table 4: Ecological Land Classification Communities within the Natural Environment Study Area

ELC Community	Location	Dominant Species (listed in approximate order of abundance)	Photos (Appendix B)
Natural Communities			
MEM – Mixed Meadow (0.82 ha within the Project Location)	This community is located in the northern part of the Project Location.	European Common Reed (<i>Phragmites australis ssp. australis</i>), Goldenrod species (<i>Solidago sp.</i>), Wild Carrot (<i>Daucus carota</i>), and Fuller’s Teasel (<i>Dipsacus fullonum</i>).	1-2
THD – Deciduous Thicket (0.009 ha within the Project Location)	This community is located in the northern part of the Project Location.	European Common Reed.	3-4
FOD – Deciduous Forest ¹ (not located within the Project Location)	This community is located west of the Project Location.	Species composition on the east side of the Deciduous Forest: Bur Oak (<i>Quercus macrocarpa</i>) and Swamp White Oak (<i>Quercus bicolor</i> ; 30%), Shagbark Hickory (<i>Carya ovata</i> ; 15%), Bitternut Hickory (<i>Carya cordiformis</i> ; 10%), American Elm (<i>Ulmus americana</i> ; 10%), and other species (35%) including American Beech (<i>Fagus grandifolia</i>), Green Ash (<i>Fraxinus pennsylvanica</i>), White Ash (<i>Fraxinus americana</i>), White Oak (<i>Quercus alba</i>), Northern Red Oak (<i>Quercus rubra</i>), Paper Birch (<i>Betula papyrifera</i>), American Basswood (<i>Tilia americana</i>), Large-tooth Aspen (<i>Populus grandidentata</i>), Blue-beech (<i>Carpinus caroliniana</i>), Eastern Hop-hornbeam (<i>Ostrya virginiana</i>), Wild Black Cherry (<i>Prunus serotina</i>), Serviceberry species (<i>Amelanchier sp.</i>), Red Maple (<i>Acer rubrum</i>), Silver Maple (<i>Acer saccharinum</i>), Sugar Maple (<i>Acer saccharum</i>), Hawthorn species (<i>Crataegus sp.</i>), and Apple species (<i>Malus sp.</i>).	15-16
Cultural Communities			
OAGM – Open Agriculture (4.68 ha within the Project Location)	This community is located in the southeastern part of the Project Location.	The last observed crop was Corn (<i>Zea mays</i>).	4-10
TAGM3 – Deciduous Plantation (0.9 ha within the Project Location)	This community is located in the northern part of the Project Location.	Eastern Cottonwood (<i>Populus deltoides ssp. deltoides</i>).	1 and 11-12

Invenergy

Natural Environment Report - St. Clair Energy Centre, Township of St. Clair, Ontario
July 2023 – 22-5016



ELC Community	Location	Dominant Species (listed in approximate order of abundance)	Photos (Appendix B)
TAGM5 – Fencerow (0.06 ha within the Project Location)	This community is located in the eastern part of the Project Location.	Narrow row of trees, Eastern Cottonwood and Hawthorn species (<i>Crataegus sp.</i>).	6-7
CGL – Green Lands (1.85 ha within the Project Location)	This community is located in the northern part of the Project Location.	Regularly-maintained lawn with landscape trees.	13-17
CVI_1 – Transportation (0.29 ha within the Project Location)	This community is located in the central and southern parts of the Project Location.	N/A	13 and 18
CVI_4 – Power Generation (6.83 ha within the Project Location)	This community is located in the western part of the Project Location.	N/A	2, 8-10, and 13-18
OAO – Open Aquatic (0.59 ha within the Project Location)	This community is located in the northern part of the Project Location.	Lined with European Common Reed (<i>Phragmites australis ssp. australis</i>).	15-17

¹The Deciduous Forest community was subject to a woodlot management study (Craig, 2005), of which the associated species composition was subsequently summarized in Golder Associates Inc. (2006).

Invenergy

Natural Environment Report - St. Clair Energy Centre, Township of St. Clair, Ontario

July 2023 – 22-5016



3.2.2 SAR Habitat Assessment

Although the Project Location has the potential to support SAR habitat, the proposed works are not anticipated to impact potential SAR habitat.

Potential SAR habitat within the Project Location includes:

- Bobolink and Eastern Meadowlark (dependant on crops within the Mixed Meadow and Open Agriculture communities);
- Eastern Flowering Dogwood, American Chestnut, and Butternut (potential habitat within the Deciduous Plantation community);
- Eastern Foxsnake (potential habitat within the Mixed Meadow, Deciduous Thicket, Deciduous Plantation, and Fencerow communities) and Butler’s Gartersnake (potential habitat within the Mixed Meadow, Deciduous Thicket, and Deciduous Plantation communities); and,
- SAR bat species (potential habitat within the Deciduous Plantation community).

No SAR were observed during the SAR assessment. No negative impacts to SAR and/or SAR habitat are anticipated.

3.2.3 Aquatic Assessment

The Natural Environment Study Area lies within the St. Clair River tributary (St. Clair Region Watershed Report Card, 2018) and currently drains via overland flow pathways to the Gibb Drain. Small Facility Drains (basically dry ditches) are also found within the Project Location. Aquatic assessments were not conducted on the Facility Drains. According to the watershed report card, the water quality within the watershed is generally poor.

The Gibb Drain is a constructed drain located along the northern boundary of the Project Location and flows east to west (**Figure 2**). DFO classified the Gibb Drain as N/A, indicating no classification available (OMAFRA, 2022).

Based on the results of the aquatic assessment, the drain was devoid of water at the time of the assessment (**Table 5**). As such, Gibb Drain has been identified as having an intermittent/ephemeral flow and is unlikely that fish have access to this drain, except during periods of higher flow. The drain is predominately surrounded by active agriculture and woodlands. Agricultural tile drainage is found throughout most of the

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



Project Location (OMAFRA, 2022) and therefore the Project Location has minimal potential for surface ponding.

Table 5: Gibb Drain Assessment Results

Date	Mean Wetted Width (m)	Mean Wetted Depth (m)	Mean Bankfull Width (m)	Mean Bankfull Depth (m)
November 18, 2022	N/A ¹	N/A ¹	4	1

¹In the context of this assessment, a measurement that is “N/A” refers to a lack of water present in the drain at the time of assessment.

3.2.4

Incidental Wildlife

Incidental wildlife species visually-observed within the Project Location are listed in **Table 6**. Each of the observed species is considered common and apparently secure (S4) or secure (S5) in the province of Ontario. Of the seven incidental species observed, none are listed as SAR.

Table 6: Incidental Wildlife Observations

Scientific Name	Common Name	SARA ¹	ESA ²	SRank ³
Birds				
<i>Zenaida macroura</i>	Mourning Dove	---	---	S5
<i>Corvus brachyrhynchos</i>	American Crow	---	---	S5B
<i>Cyanocitta cristata</i>	Blue Jay	---	---	S5
<i>Junco hyemalis</i>	Dark-eyed Junco	---	---	S5B
<i>Passer domesticus</i>	House Sparrow	---	---	SNA
Mammals				
<i>Procyon lotor</i>	Northern Raccoon	---	---	S5
<i>Odocoileus virginianus</i>	White-tailed Deer	---	---	S5

¹Status identified under the federal Species at Risk Act; ²Status identified under the provincial Endangered Species Act; ³SRank is an indicator of commonness in the Province of Ontario. A scale between 1 and 5: S5 = widespread and secure, SNA = not applicable, B = breeding; --- denotes no information or not applicable.

3.2.5

Significant Woodlands

The site reconnaissance results are consistent with the background review. No Woodlands are present within the Project Location; however, Deciduous Forests (FOD) are present within the Natural Environment Study Area to the north, east, and west of the Project Location. Based on size, these forests meet significance criteria for Significant Woodlands (OMNR, 2010).

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016



The Deciduous Forest community to the west of the Project Location was off site and was therefore not investigated during the November 18, 2022 site visit. However, this feature was subject to a woodlot management study (Craig, 2005), of which the associated species composition was subsequently summarized in Golder Associates Inc. (2006). Species composition is detailed above in **Table 4**.

3.2.6 Significant Wetlands

The site reconnaissance results are consistent with the background review. Field studies confirmed that there are no wetlands present within the Project Location.

3.2.7 Significant Wildlife Habitat

Based on the observations made during the site reconnaissance, the results of the ELC (**Figure 3**), as well as the records reviewed in **Table 1**, the following candidate SWH were identified within the Natural Environment Study Area (**Figure 4**).

- Bat Maternity Colonies (FOD community);
- Reptile Hibernaculum (MEM, THD, FOD, TAGM3, and TAGM5 communities);
- Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat (FOD community);
- Amphibian Breeding Habitat (Woodlands; FOD community); and,
- Special Concern and Rare Wildlife Species (MEM, THD, FOD, TAGM3, TAGM5, and CVI_4 communities).

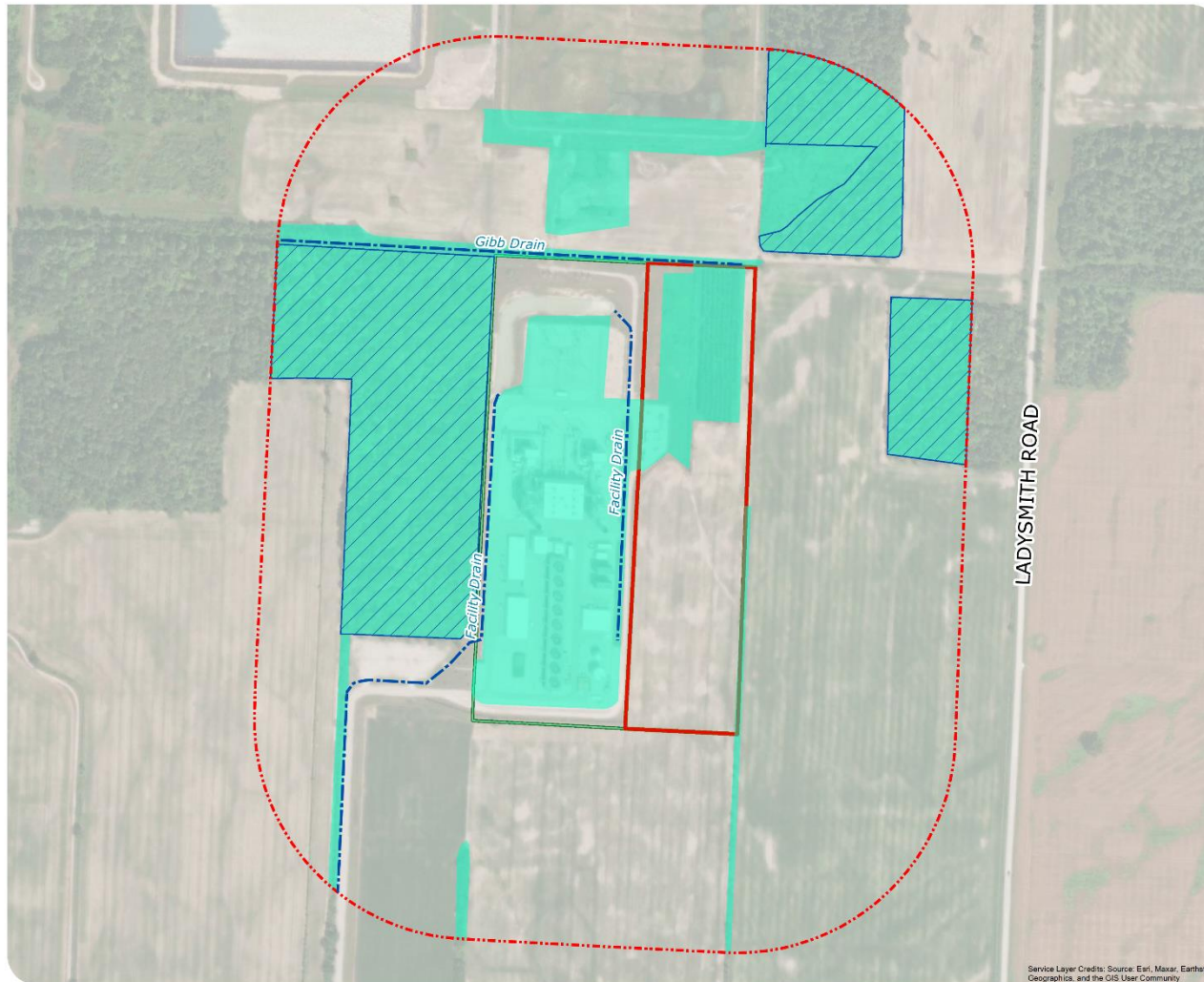
Please note that Turtle Wintering Areas have been omitted as candidate SWH from the Natural Environment Study Area, as artificial ponds such as sewage ponds or storm water ponds (i.e., OAO community) should not be considered SWH (OMNRF, 2015).

Since an expanded footprint is not currently proposed, potential impacts to wildlife and wildlife habitat are not anticipated.

Invenergy

Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016





Invenergy

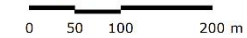
ST. CLAIR ENERGY CENTRE
ENVIRONMENTAL REVIEW REPORT

CANDIDATE SIGNIFICANT WILDLIFE HABITAT
FIGURE

- Upgrade of Existing St. Clair Energy Centre
- St Clair Energy Centre - Future Proposed Expansion
- Natural Environment Study Area
- Drain
- Candidate Significant Wildlife Habitat**
 - Bat Maternity Colonies
 - Amphibian Breeding Habitat (Woodlands)
 - Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat
 - Reptile Hibernaculum
 - Special Concern and Rare Wildlife

Note: Site features and areas are approximate

SCALE 1:4,250



MAP DRAWING INFORMATION:
DATA PROVIDED BY INVENERGY

MAP CREATED BY: LW
MAP CHECKED BY: BW
MAP PROJECTION: NAD 1983 UTM Zone 17N



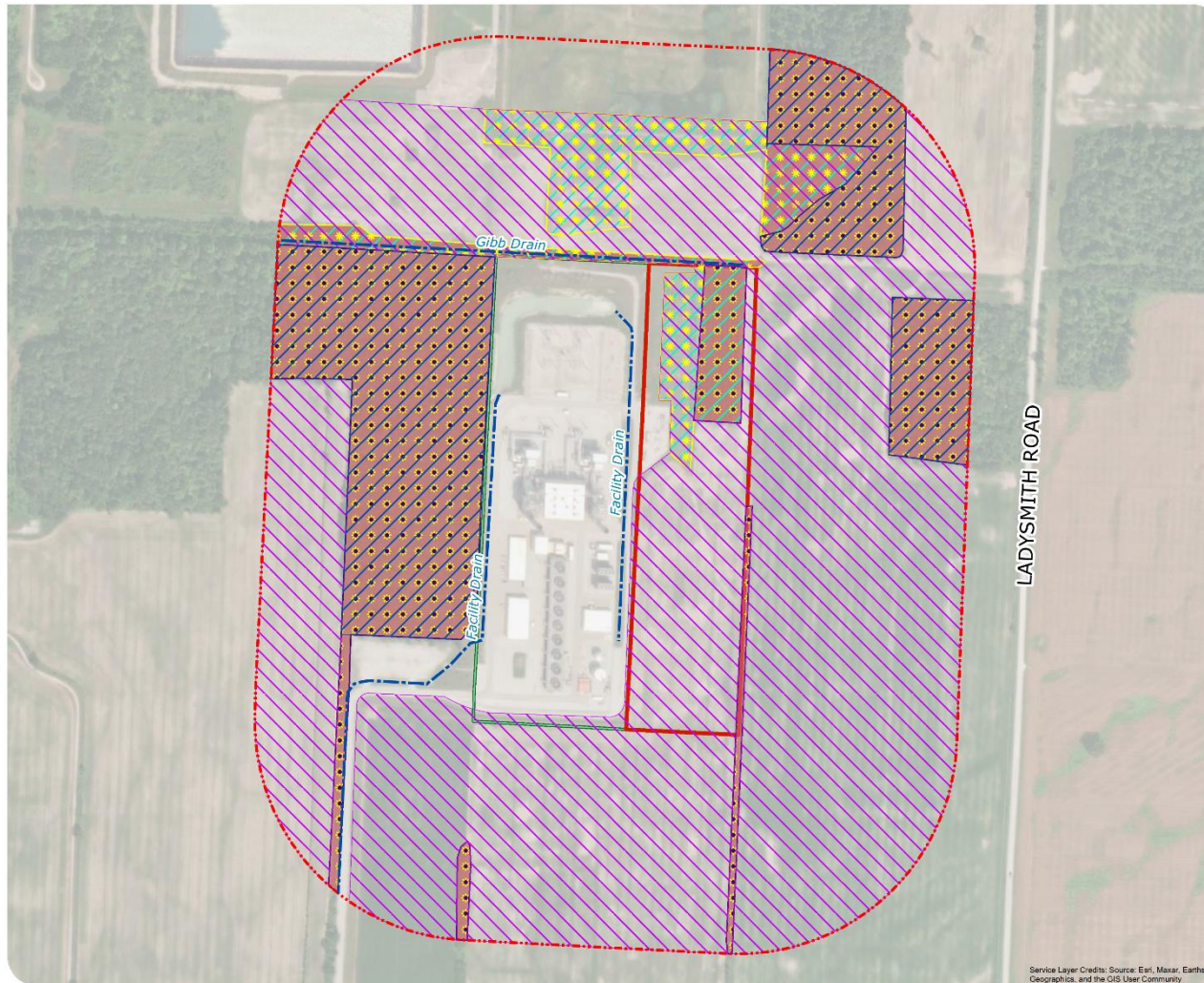
PROJECT: 22-5016
STATUS: FINAL
DATE: 2023-04-06

Figure 4: Candidate Significant Wildlife Habitat



3.2.8 Species at Risk

No SAR were observed within the Project Location during the site reconnaissance; however, several communities within the Project Location have the potential to support SAR habitat (**Figure 5**). Although the Project Location has the potential to support SAR habitat, the proposed works are not anticipated to impact potential SAR habitat.



Invenergy

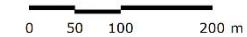
ST. CLAIR ENERGY CENTRE ENVIRONMENTAL REVIEW REPORT

CANDIDATE SPECIES AT RISK HABITAT FIGURE

- Upgrade of Existing St. Clair Energy Centre
- St Clair Energy Centre - Future Proposed Expansion
- Natural Environment Study Area
- Drain
- Candidate Species at Risk Habitat**
- Bobolink and Eastern Meadowlark
- Eastern Flowering Dogwood, American Chestnut, and Butternut
- Eastern Foxsnake
- Red-headed Woodpecker and Wood Thrush
- SAR Bat Species
- Butler's Gartersnake

Note: Site features and areas are approximate

SCALE 1:4,250



MAP DRAWING INFORMATION:
DATA PROVIDED BY INVENERGY

MAP CREATED BY: LK
MAP CHECKED BY: BW
MAP PROJECTION: NAD 1983 UTM Zone 17N



PROJECT: 22-5016
STATUS: FINAL
DATE: 2023-04-06

FILE LOCATION: K:\2022\225016\Products\Client\ER\Fig\St_Clar_Hab.mxd

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Figure 5: Candidate Species at Risk Habitat



Birds

The FOD communities within the Natural Environment Study Area may provide suitable breeding habitat for Red-headed Woodpecker and Wood Thrush. Finally, the MEM, THD, and OAGM (depending on crops from year to year) communities within the Natural Environment Study Area may provide suitable breeding habitat for Bobolink and Eastern Meadowlark. As Bobolink and Eastern Meadowlark prefer open habitats greater than 5 ha in size, the MEM and THD communities provide a low potential.

Reptiles

Eastern Foxsnake habitat is regulated under Ontario Regulation 832/21. According to the Recovery Strategy for Eastern Foxsnake in Ontario (MNR, 2010), Eastern Foxsnake prefer a variety of habitats, with a strong preference for hedgerows, marshes, naturalized pasture, open woodland areas, and habitats near water. As such, the MEM, THD, FOD, TAGM3, and TAGM5 communities within the Natural Environment Study Area have the potential to support regulated habitat for Eastern Foxsnake.

Butler's Gartersnake prefer habitats including open, moist habitats, dense grasslands/meadows, and old fields. As such, the MEM, THD, and TAGM3 communities within the Natural Environment Study Area have the potential to support habitat for Butler's Gartersnake.

Mammals

Formal bat cavity/snag surveys were not completed and confirmation of SAR bat activity/habitat is traditionally based on acoustic survey results. Nevertheless, the FOD, TAGM3, and TAGM5 communities within the Natural Environment Study Area have the potential to support roosting habitat for SAR bats.

Plants

The THD, FOD, TAGM3, and TAGM5 communities within the Natural Environment Study Area have the potential to support habitat for Eastern Flowering Dogwood, American Chestnut, and Butternut.

As mentioned in **Section 3.2.4**, no impacts to wildlife and wildlife habitat are expected.

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016**



References

- Birds Canada. 2022. The 123rd Christmas Bird Count.
- Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lapage, and A.R. Couturier. 2008. Atlas of the Breeding Birds of Ontario. Bird Studies Canada.
- Catterson, G. 2009. Guide to the Natural Areas of Lambton County, 1st Edition. Lambton Wildlife Incorporated.
- Chapman and Putnam. 1984. Physiography of Southern Ontario; Ontario Geological Survey, Map P.2715. Scale 1: 600 000.
- Conservation Authorities Act. (R.S.O. 1990, C-27).
<https://www.ontario.ca/laws/statute/90c27>. Accessed 2022.
- County of Lambton. 2020. County of Lambton Official Plan and Schedules.
- Craig, D. 2005. Woodlot Management Notes, Lots 22 and 23, Conc. 11 Moore Twp., Pristine Power. Prepared by Donald Craig, RFP, of the St. Clair Region Conservation Authority.
- Dobbyn, J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists.
- Endangered Species Act, 2007. (S.O. 2007, C-6).
<https://www.ontario.ca/laws/statute/07e06>. Accessed 2022.
- Fisheries and Oceans Canada. 2022. Aquatic Species at Risk Map. <http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>. Accessed 2022.
- Golder Associates Ltd. 2006. St. Clair Energy Centre Environmental Screening Report Township of St. Clair, Ontario.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Lee, H. 2008. Southern Ontario Ecological Land Classification – Vegetation Type List. London, Ontario.

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
 Township of St. Clair, Ontario
 July 2023 – 22-5016**



- Matthews, B.C., N.R. Richards, and R.E. Wicklund. 1957. Soil Survey of Lambton County.
- Migratory Birds Convention Act, 1994. (S.C. 1994, C-22). <http://laws-lois.justice.gc.ca/eng/acts/m-7.01/>. Accessed 2022.
- Oldham, M.J. and S.R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, Ontario.
- Ontario Butterfly Atlas. 2022. <https://www.ontarioinsects.org/atlas/>. Accessed 2022.
- Ontario Geological Survey. 1991. Bedrock geology of Ontario, southern sheet; Ontario Geological Survey, Map 2544, scale 1: 1 000 000.
- Ontario Ministry of Agriculture, Food and Rural Affairs. 2022. Agricultural Information Atlas. <http://www.gisapplication.lrc.gov.on.ca/AIA/Index.html?viewer=AIA.AIA&locale=en-US>. Accessed 2022.
- Ontario Ministry of Environment, Conservation and Parks. 2019. Client's Guide to Preliminary Screening for Species at Risk.
- Ontario Ministry of Municipal Affairs and Housing. 2020. Provincial Policy Statement.
- Ontario Ministry of Natural Resources and Forestry. 2000. Significant wildlife habitat technical guide. 151pp.
- Ontario Ministry of Natural Resources and Forestry. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement 2005. Second Edition. Toronto: Queen's Printer for Ontario.
- Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Habitat Criteria Schedules for Ecoregion 7E. 41pp.
- Ontario Ministry of Natural Resources and Forestry. 2017. Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario. Queen's Printer for Ontario, 2017. 37pp.
- Ontario Ministry of Natural Resources and Forestry. 2022. Make a Map: Natural Heritage Areas.

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016**



- http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US. Accessed 2022.
- Ontario Reptile and Amphibian Atlas. 2022.
<https://www.ontarioinsects.org/herp/index.html>. Accessed 2022.
- Species at Risk Act, 2002. (S.C. 2002, C. 29). <https://laws.justice.gc.ca/eng/acts/S-15.3/>. Accessed 2022.
- St. Clair Region Conservation Authority. 2018. St. Clair Region Watershed Report Card.
- Township of St. Clair. 2005. Official Plan and Schedules.
- Williams, P.H., R.W. Thorp, L.L. Richardson, and S.R. Colla. 2014. Bumble Bees of North America. Princeton University Press.

Invenergy

**Natural Environment Report - St. Clair Energy Centre,
Township of St. Clair, Ontario
July 2023 – 22-5016**



Appendix A

Background Mapping



County of Lambton OFFICIAL PLAN MAP 1 - Growth Strategy

Reference

Growth Strategy DESIGNATION BOUNDARIES are SCHEMATIC

Disclaimer: These digital mapping products have been produced on the County of Lambton's Geographic Information System. Data provided herein is derived from sources with varying levels of accuracy and currency. This is not a survey product. The County of Lambton disclaims all responsibility for the accuracy or completeness of information contained herein. The County of Lambton assumes no responsibility for errors arising from use of these digital mapping products.

The Lambton County Official Plan information contained herein is current as of the last recorded amendment noted under "County Official Plan Amendments".

Projection: UTM NAD 83 Zone 17

COUNTY OF LAMBTON
Planning and Development Services,

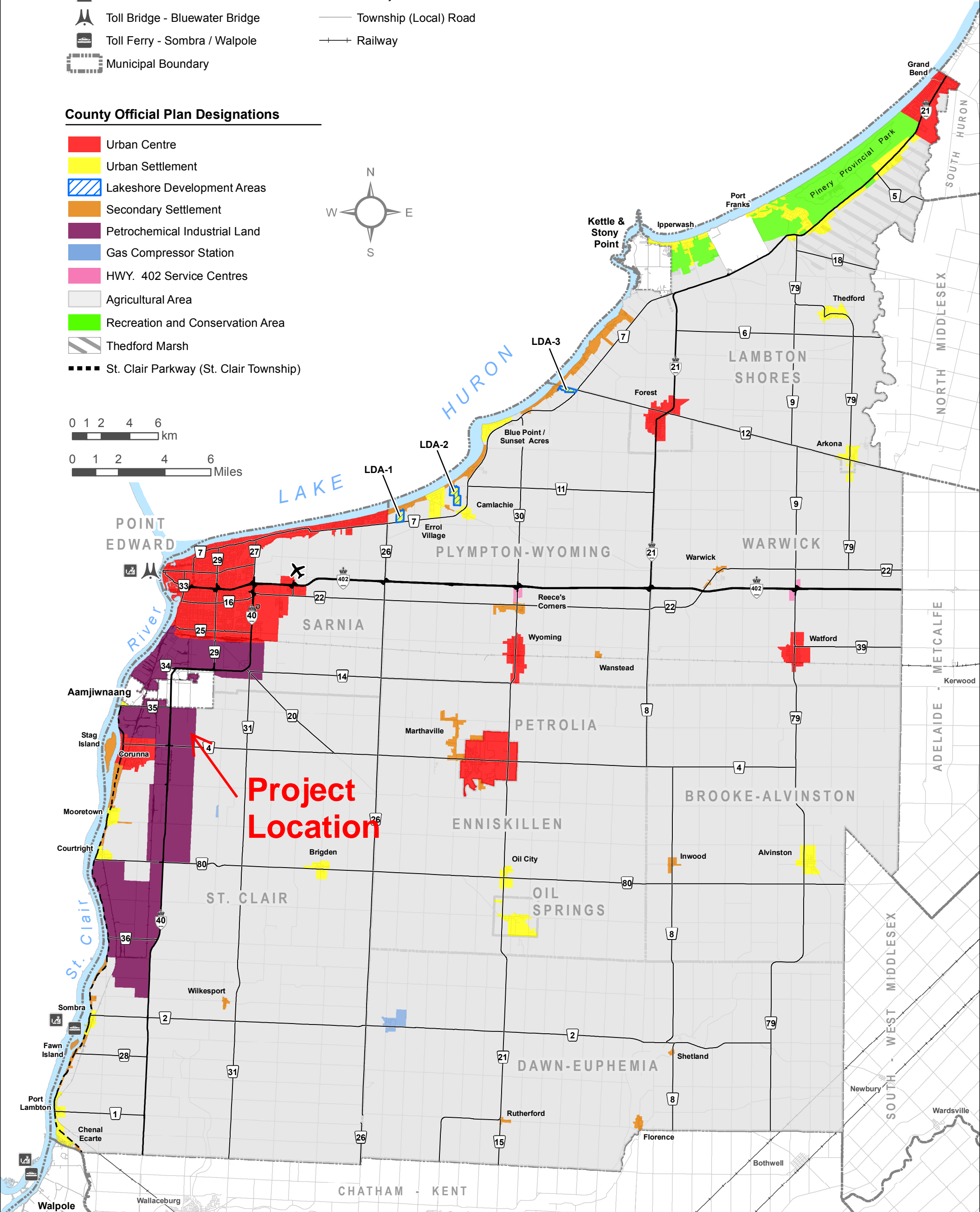
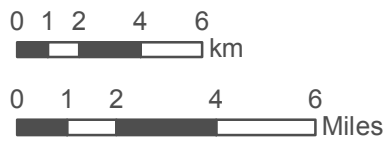
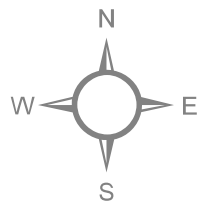
August, 2019. www.lambtononline.ca

Legend

- Airport - Sarnia
- Canada / USA Customs
- Toll Bridge - Bluewater Bridge
- Toll Ferry - Sombra / Walpole
- Municipal Boundary
- Provincial Highway
- County Road
- Township (Local) Road
- Railway

County Official Plan Designations

- Urban Centre
- Urban Settlement
- Lakeshore Development Areas
- Secondary Settlement
- Petrochemical Industrial Land
- Gas Compressor Station
- HWY. 402 Service Centres
- Agricultural Area
- Recreation and Conservation Area
- Thedford Marsh
- St. Clair Parkway (St. Clair Township)



Project Location



Legend

- Provincial Highway
- County Road
- Township (Local) Road
- Railway
- Municipal Boundary

Natural Heritage System Features

Refer to "Chapter 8" of the Official Plan regarding features not identified on MAP 2

- Core Area - Feature Inventory Identifier
- 36** Feature Inventory Identifier (Generalized)
- E** Cross Municipal - Feature Inventory Identifier
- Conservation Area / Habitat Management Area (HMA) Identifier
- Group "A" Features
(Provincially, Locally Significant Wetlands (PSW, LSW))
- Group "B" Features
(ANSI, LS, ESA, SAA, CGP, CC, WA, PC)
- Primary Corridor (Group "C" Feature)
- Thedford Marsh
- Cross Municipal Corridor Feature

County Official Plan Amendments

OPA # xx, xxxxxx xx, 20xx

Reference

Natural Heritage System BOUNDARIES are SCHEMATIC

Disclaimer: These digital mapping products have been produced on the County of Lambton's Geographic Information System. Data provided herein is derived from sources with varying levels of accuracy and currency. This is not a survey product. The County of Lambton disclaims all responsibility for the accuracy or completeness of information contained herein. The County of Lambton assumes no responsibility for errors arising from use of these digital mapping products.

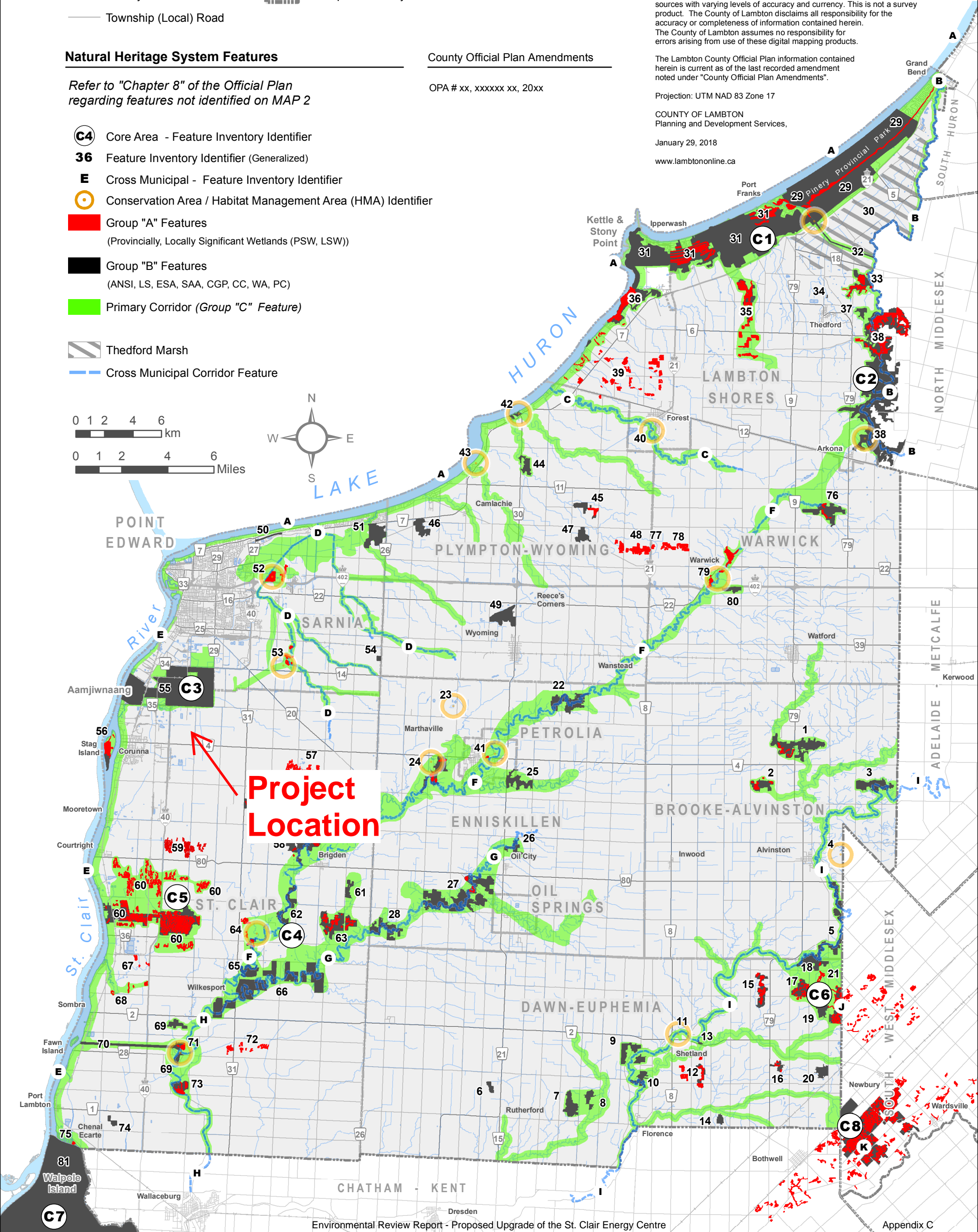
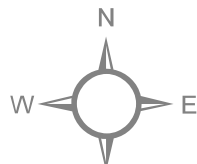
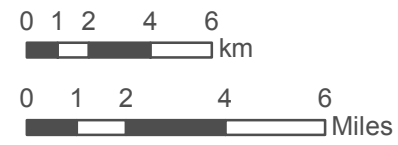
The Lambton County Official Plan information contained herein is current as of the last recorded amendment noted under "County Official Plan Amendments".

Projection: UTM NAD 83 Zone 17

COUNTY OF LAMBTON
Planning and Development Services,

January 29, 2018

www.lambtononline.ca



Project Location

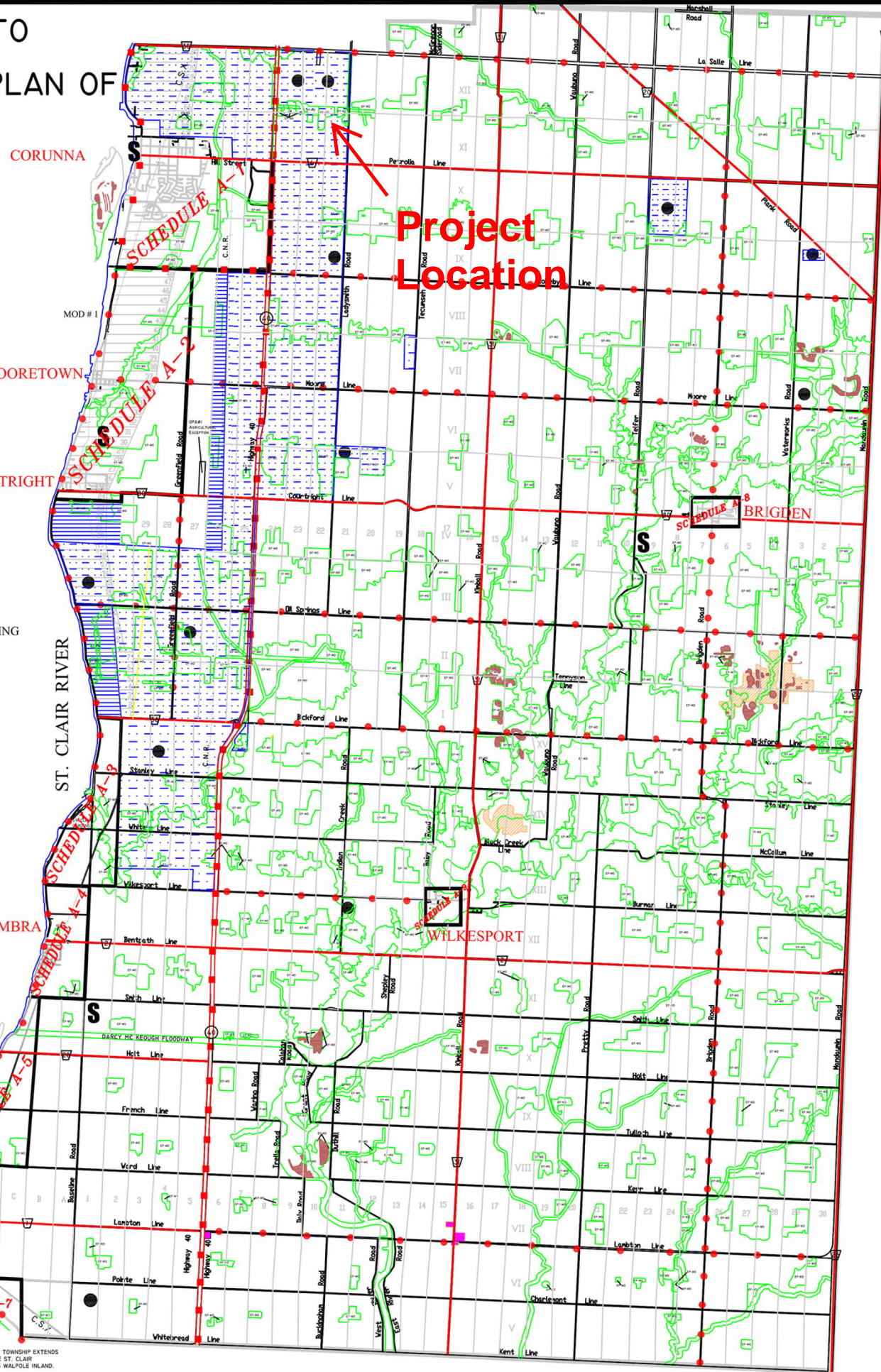
SCHEDULE "A" TO THE OFFICIAL PLAN OF ST. CLAIR

-  AGRICULTURE
-  INDUSTRIAL TYPE 2
-  INDUSTRIAL TYPE 3
-  HIGHWAY COMMERCIAL
-  WASTE DISPOSAL SITE
OPERATING OR NON-OPERATING
-  SEWAGE TREATMENT PLANT
-  HAZARD & ENVIRONMENTAL
PROTECTION
-  WETLANDS
-  ANSI
-  PROVINCIAL ROADS
-  COUNTY ROADS
-  ARTERIAL ROADS
-  COLLECTOR ROADS

Amended DPA #20, June 29, 2015

MOD # 1
COUNTY OF LAMBTON
PLANNING & DEVELOPMENT DEPT.
JANUARY 3, 2001

NOTE: ST. CLAIR TOWNSHIP EXTENDS
INTO LAKE ST. CLAIR
INCLUDING WALPOLE ISLAND.



Appendix B

Site Photographs

Photograph 1

November 18, 2022

Mixed Meadow
(foreground) and
Deciduous Plantation
(background).



Photograph 2

November 18, 2022

Mixed Meadow
(foreground) and Power
Generation (right).



Photograph 3

November 18, 2022

Deciduous Thicket.



Photograph 4

November 18, 2022

Open Agriculture
(foreground) and
Deciduous Thicket
(background).



Photograph 5

November 18, 2022

Open Agriculture.



Photograph 6

November 18, 2022

Open Agriculture
(foreground) and
Fencerow (background).



Photograph 7

November 18, 2022

Open Agriculture (left)
and Fencerow (right).



Photograph 8

November 18, 2022

Open Agriculture
(foreground) and Power
Generation (right).



Photograph 9

November 18, 2022

Open Agriculture
(foreground) and Power
Generation (right).



Photograph 10

November 18, 2022

Open Agriculture
(foreground) and Power
Generation (right).



Photograph 11

November 18, 2022

Deciduous Plantation.



Photograph 12

November 18, 2022

Deciduous Plantation.



Photograph 13

November 18, 2022

Green Lands,
Transportation
(foreground) and Power
Generation (right).



Photograph 14

November 18, 2022

Green Lands
(foreground) and Power
Generation
(background).



Photograph 15

November 18, 2022

Green Lands
(foreground), Open
Aquatic (centre), and
Power Generation (left).



Photograph 16

November 18, 2022

Green Lands
(foreground), Open
Aquatic, and Power
Generation
(background).



Photograph 17

November 18, 2022

Green Lands, Open Aquatic (foreground), and Power Generation (right).



Photograph 18

November 18, 2022

Transportation (left) and Power Generation (right).

