FINAL REPORT

December 2014

HERITAGE IMPACT ASSESSMENT

SP Belle River Wind LP
Belle River Wind Project
Various Lots and Concessions
Former Townships of Maidstone, Rochester and Tilbury West
Now Town of Lakeshore, Essex County, Ontario

Submitted to:
Mr. Marc Rose, MES, MCIP, RPP
Senior Environmental Planner, AECOM
105 Commerce Valley Drive West, 7th Floor
Markham, Ontario L3T 7W3
Tel: 905-886-7022 Fax: 905-886-9494

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Executive Summary

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.

A Heritage Impact Assessment (HIA) was conducted by Golder Associates Ltd. (Golder) on behalf of AECOM Canada Ltd. for the Belle River Wind Project (Belle River Project) (Map 1). The project is being proposed by SP Belle River Wind, LP, by its general partner, SP Belle River Wind, GP Inc. (Belle River Wind). Belle River Wind is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada, ULC (Pattern Development) and Samsung Renewable Energy, Inc. (Samsung Renewable Energy). This HIA is a required component of the client's application for a Renewable Energy Approval (REA), as outlined in Ontario Regulation 359/09 of the *Environmental Protection Act* (Government of Ontario 1990).

The Study Area, which measures approximately 10,300 hectares in size, is located on public and private lands south of the community of Belle River in the former Townships of Maidstone, Rochester, and Tilbury West, now Town of Lakeshore, County of Essex, Ontario. The Study Area is bounded by County Road 42 and the Canadian Pacific Railway line to the north, Lakeshore Road 111 to the west, Highway 401 and South Middle Road to the south, and Comber Sideroad to the east. Up to 59 wind turbine locations are currently being assessed for the Belle River Project, but have not been finalized.

The objective of this HIA was to determine whether the Project Location contains any built heritage resources or cultural heritage landscapes of significant cultural heritage value or interest. This HIA was undertaken according to the guidelines set out in the MTCS' *Ontario Heritage Toolkit: Heritage Resources in the Land Use Planning Process.* Research regarding the land use history of the Study Area was performed using primary and secondary sources and historic mapping. A field assessment was performed on October 2, 10, and November 24, 2014 in order to create an inventory of all potential heritage resources and cultural heritage landscapes within the Project Location.

A total of 15 sites with built heritage resources, including 14 residences and five barns or barn complexes were identified within the Project Location to be older than 40 years of age. Of these, nine resources (four houses and five barns) were identified to have potential cultural heritage value or interest. Following the evaluation of anticipated direct and indirect impacts according to the MTCS' *Ontario Heritage Toolkit: Heritage Resources in the Land Use Planning Process* no anticipated impacts were identified.

The Project Location was determined to represent a single cultural heritage landscape. Primarily used for agricultural activities, it is consistent with the historic division of land and can be characterized by flat land, drains, agricultural fields, pastures, woodlots, small concentrations of non-farm residences, and modern roadway improvements. Due to the typical nature of the landscape, cultural heritage value or interest was not identified according to *Ontario Regulation 9/06*.

As there are no anticipated impacts to the cultural heritage features, no further work is recommended.

Project Personnel

Project Director	Anthony D. Ciccone, Ph.D., P. Eng., Principal
Project Manager	Brad Drouin, M.A. (P311), Senior Archaeologist
Senior Built Heritage Specialist	Christopher Andreae, Ph.D., Associate, Senior Built Heritage Specialist
Report Production	Shannen Stronge, M.A., Archaeological Technician Michael Greguol, M.A., Junior Cultural Heritage Specialist Stacey Carson, Cultural Sciences Group Administrator
Senior Review	Christopher Andreae, Ph.D., Associate, Senior Built Heritage Specialist

Acknowledgements

Proponent Contact	Marc Rose, M.E.S., MCIP, RPP, AECOM Canada Ltd.
Town of Lakeshore	Rita Chappell-Arsenault, Manager of Special Projects
MTCS	Laura Hatcher, Heritage Planner
Ontario Heritage Trust	Michael Sawchuck, Manager, Acquisitions and Conservation

Table of Contents

TABLES

PLATES

MAPS

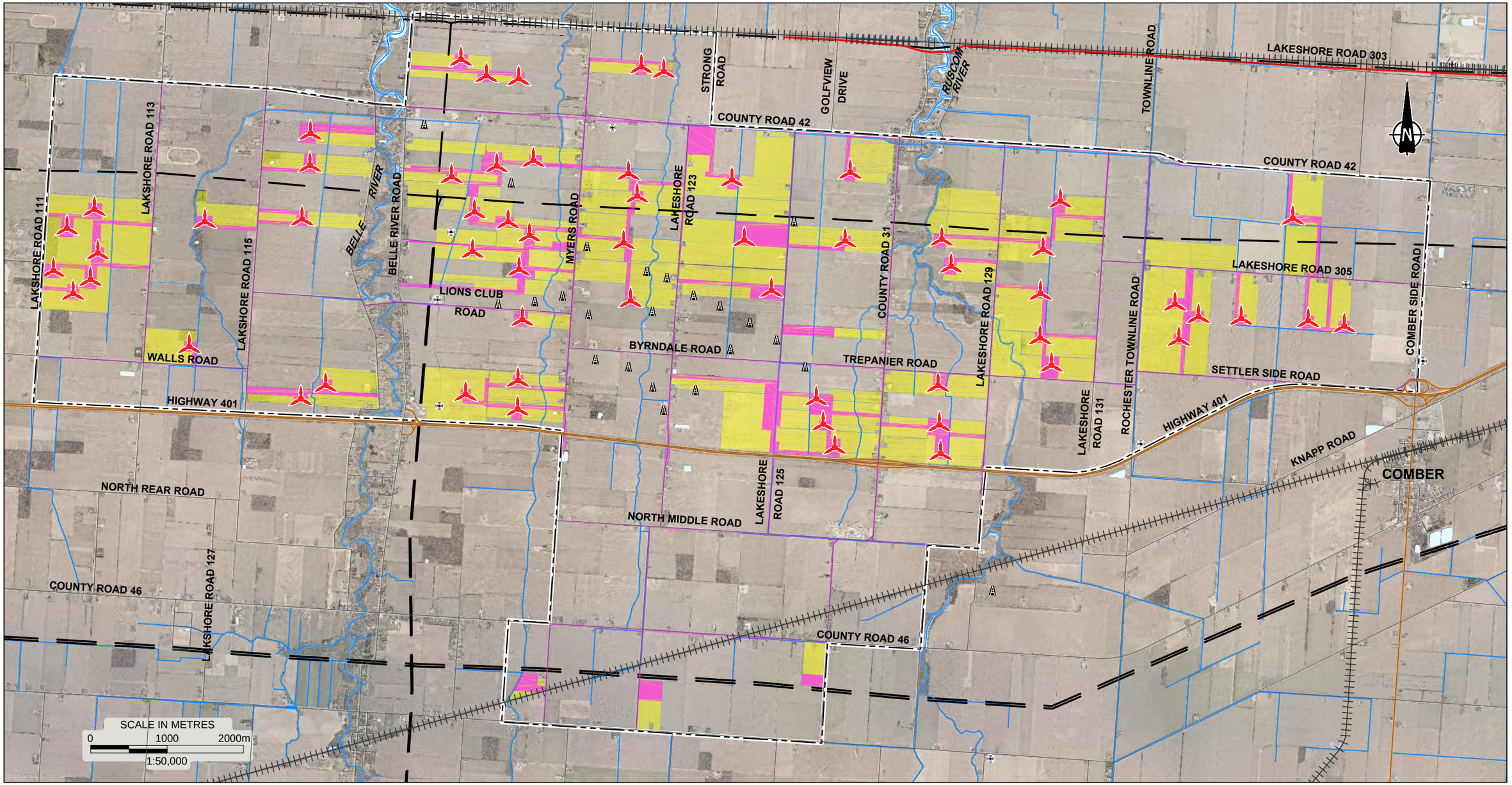
1.0 INTRODUCTION

1.1 Project Context

This Heritage Impact Assessment (HIA) has been prepared to provide information regarding heritage to the public, Aboriginal communities, municipalities and local authorities regarding the proposed Belle River Wind Project (Belle River Project) (Map 1). The project is being proposed by SP Belle River Wind, LP, by its general partner, SP Belle River Wind, GP Inc. (Belle River Wind). Belle River Wind is a joint venture limited partnership owned by affiliates of Pattern Renewable Holdings Canada, ULC (Pattern Development) and Samsung Renewable Energy, Inc. (Samsung Renewable Energy). This HIA is a required component of the client's application for a Renewable Energy Approval (REA), as outlined in Ontario Regulation 359/09 of the *Environmental Protection Act* (Government of Ontario 1990).

The Study Area, which measures approximately 10,300 hectares in size, is located on public road allowances and privately owned lands south of the community of Belle River in the former Townships of Maidstone, Rochester, and Tilbury West, now Town of Lakeshore, County of Essex, Ontario. The Study Area is bounded by County Road 42 and the Canadian Pacific Railway line to the north, Lakeshore Road 111 to the west, Highway 401 and South Middle Road to the south, and Comber Sideroad to the east. Up to 59 wind turbine locations are currently being assessed for the Belle River Project, but have not been finalized. Land use within the Study Area is primarily devoted to cash crop agriculture (e.g., soy beans, corn and wheat) and livestock farming. Additionally, some lots have been severed to include non-farm residential uses.

The Belle River Project is anticipated to be categorized as a Class 4 wind facility with a nameplate generating capacity of up to 100 MW. The major components of this project are expected to include up to 59 Siemens 2.3 MW or similar wind turbines, pad mounted step-up transformers, buried and overhead electrical collector systems and ancillaries, buried and overhead transmission lines and interconnection station, a collector substation, a microwave tower, meteorological towers, turbine access roads, temporary staging areas for erection of wind turbines, and an operations and maintenance building. The Belle River Project is currently in the pre-construction phase. Pending REA approval, future phases of the project will include construction, operations and maintenance, and decommissioning.



LEGEND

- PETROLEUM WELL
- COMMUNICATIONS TOWER
- TURBINE
- STUDY AREA
- WATER SEGMENT
- RAIL LINE (EXISTING OR FORMER)
- PIPELINE
- UTILITY LINE
- PROJECT LOCATION
- PROJECT COMPONENTS
- WATER BODY

REFERENCE

DRAWING BASED ON 2013 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION;
GIS LAYERS FROM AECOM, MAY 27 - 2014; AND CANMAP STREETFILES V2008.4.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

BELLE RIVER WIND PROJECT STUDY AREA

Golder Associates
LONDON, ONTARIO

PROJECT No.			1404174	FILE No. 1404174–3000–R01001
				SCALE AS SHOWN REV.
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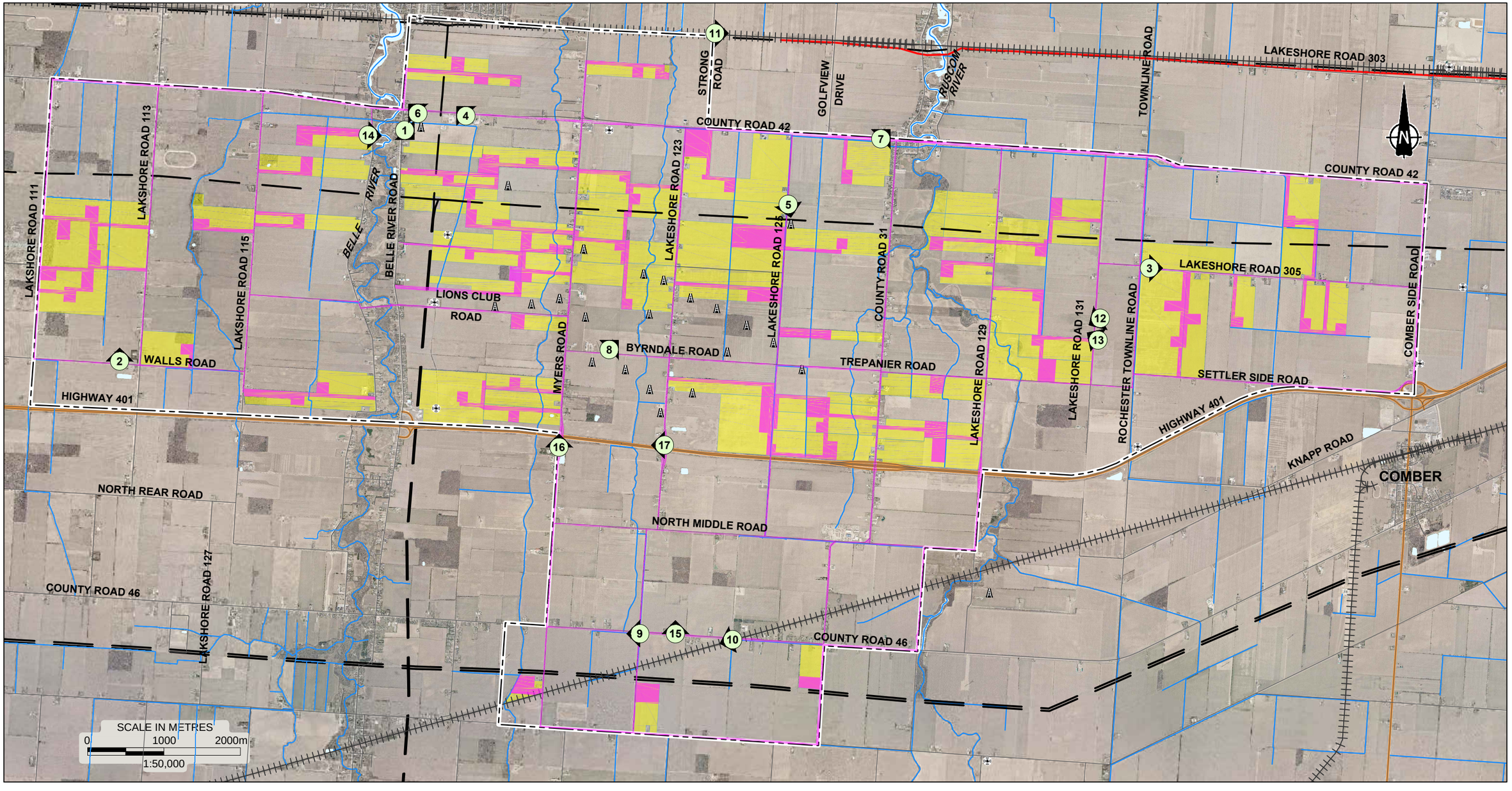

LEGEND

- PETROLEUM WELL
- COMMUNICATIONS TOWER
- PHOTOGRAPH LOCATION, VIEWING DIRECTION, AND PLATE NUMBER
- STUDY AREA
- WATER SEGMENT
- RAIL LINE (EXISTING OR FORMER)
- PIPELINE
- UTILITY LINE
- PROJECT LOCATION
- PROJECT COMPONENTS
- WATER BODY

REFERENCE

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GIS LAYERS FROM AECOM, MAY 27 - 2014; AND CANMAP STREETFILES V2008.4.

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

PHOTOGRAPH LOCATIONS WITHIN THE STUDY AREA

Golder Associates
LONDON, ONTARIO

PROJECT No.			1404174
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FILE No.1404174-3000-R01002
SCALE AS SHOWN | REV.

MAP 2

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2.0 METHODOLOGY

For the purposes of this HIA the term **Study Area** consists of the land encompassed within the Belle River Project (Maps 1 and 2). The limits of the Study Area were determined during the early stages of the project in order to encompass all proposed Project Components.

Project Components are defined as all infrastructure related to the wind farm layout, including the wind turbines, access roads, service roads, substations, transmission lines, and collector cables. Project Components could impact potential heritage resources in the Study Area during construction.

The term **Project Location** is used to define all properties participating within the Study Area where Project Components are proposed to be located.

2.1 Study Process

For this HIA report Golder Associates undertook the following tasks:

1) Production of land use history of the Study Area (Section 3) based on a review of:
   - Primary and secondary resources; and
   - Historic mapping.

2) Requests for information regarding the presence of any sites with or having potential local heritage interest were made via e-mail to the Town of Lakeshore Heritage Committee, Essex County Historical Society and the Comber and District Historical Society Museum. At the time of the production of the present report, Golder had only received a response from the chair of the Town of Lakeshore Heritage Committee, Patti Monk, who did not have any concerns.

3) Consultation with the local municipality (i.e., Town of Lakeshore), the Ontario Heritage Trust (OHT), and the Ministry of Tourism, Culture, and Sport (MTCS) (Section 4).

4) A field survey undertaken on October 2, 10, and November 24, 2014 that identified structures dating to greater than 40 years of age, which was used to create an inventory (Appendix A) and describe all potential heritage resources and cultural heritage landscapes at the Project Location (Section 4). Access to the properties was not available and all identifications were undertaken from public road allowances.

5) Analysis of the cultural heritage value or interest of identified potential heritage resources and cultural heritage landscapes (Section 5), according to *Ontario Regulation 9/06 Criteria for Determining Cultural Heritage Value or Interest*.

6) Analysis of the potential adverse impacts (Section 6), according to guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) *Ontario Heritage Toolkit: Heritage Resources in the Land Use Planning Process* (Appendix A).

2.2 Regulatory Framework

2.2.1 Introduction

In 2009, the Government of Ontario passed the *Green Energy and Green Economy Act* to encourage more renewable energy into the Province's power grid and increasing energy conservation and sustainability. Ontario Regulation 359/09 of the *Environmental Protection Act* (EPA) defines the requirements for a proposed Renewable Energy project to achieve Renewable Energy Approval (REA). The REA integrates previous requirements under the *Environmental Assessment Act* with clear provincial rules and standards under the EPA. This HIA for the proposed Belle River Project was undertaken in order to meet the REA requirements as outlined in Ontario Regulation 359/09 of the EPA.

This assessment addresses built heritage and cultural heritage landscape resources as required by *Ontario Regulation 359/09* (O. Reg. 359/09) under part V.0.1 of the *Environmental Protection Act*. Evaluation of cultural heritage value or interest was undertaken using *Ontario Regulation 9/06* (O. Reg. 9/06), made under the *Ontario Heritage Act*. The pertinent regulatory framework is defined in the following sections.

2.2.2 Ontario Regulation 359/09

O. Reg. 359/09 defines a heritage resource as a "real property that is of cultural heritage value or interest and may include a building, structure, landscape or other feature of real property." Section 19(1) requires a proponent of a proposed renewable energy project to determine if the Project Location is on a protected property, defined as:

1) A property that is the subject of an agreement, covenant or easement entered into under clause 10 (1) (b) of the *Ontario Heritage Act*.

2) A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the *Ontario Heritage Act*.

3) A property designated by a municipal by-law made under section 29 of the *Ontario Heritage Act* as a property of cultural heritage value or interest.

4) A property designated by order of the Minister of Tourism, Culture and Sport made under section 34.5 of the *Ontario Heritage Act* as a property of cultural heritage value or interest of provincial significance.

5) A property in respect of which a notice of intention to designate the property as property of cultural heritage value or interest of provincial significance has been given in accordance with section 34.6 of the *Ontario Heritage Act*.

6) A property that is the subject of an easement or a covenant entered into under section 37 of the *Ontario Heritage Act*.

7) A property that is part of an area designated by a municipal by-law made under section 41 of the *Ontario Heritage Act* as a heritage conservation district.

8) A property designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the *Ontario Heritage Act*.

Section 20(1) requires a proponent of a proposed renewable energy project to determine if the project may impact a heritage resource at the property location not listed in Section 19(1), or a property listed in Section 19(1) that abuts the parcel of land on which the property location is situated. If the proposed renewable energy project does impact on a heritage resource as documented in Sections 19(1) and 20(1) of O. Reg. 359/09, Section 23(1)(a) requires the proponent to conduct a heritage assessment consisting of:

1) an evaluation of whether there are any heritage resources at the Project Location, applying the criteria set out in Ontario Regulation 9/06, and

2) an evaluation of any impact of the renewable energy project on the heritage resources and proposed measures to avoid, eliminate or mitigate the impact, which may include a heritage conservation plan.

The HIA, as well as any written comments provided by MTCS in respect of the heritage assessment, will be submitted as part of an application for the issue of an REA.

2.2.3 Ontario Regulation 9/06, Ontario Heritage Act

O. Reg. 9/06 provides criteria for determining cultural heritage value or interest. If a property meets one or more of the following criteria it may be designated under Section 29 of the *Ontario Heritage Act*:

1) The property has design value or physical value because it:

   i) Is a rare, unique, representative or early example of a style, type, expression, material or construction method;

   ii) Displays a high degree of craftsmanship or artistic merit; or

   iii) Demonstrates a high degree of technical or scientific achievement.

2) The property has historic value or associative value because it:

   i) Has direct associations with a theme, event, belief, person, activity, organization, or institution that is significant to a community;

   ii) Yields, or has the potential to yield information that contributes to an understanding of a community or culture; or

   iii) Demonstrates or reflects the work or ideas of an architect, artist, builder, designer, or theorist who is significant to a community.

3) The property has contextual value because it:

   i) Is important in defining, maintaining or supporting the character of an area;

   ii) Is physically, functionally, visually or historically linked to its surroundings; or

   iii) Is a landmark.

3.0 LAND USE HISTORY

3.1 Physical Setting

The Study Area is located south of Lake St. Clair in the Town of Lakeshore, County of Essex, Ontario. It is situated entirely within the Essex Clay Plain physiographic region, which is a sub-region of the St. Clair Clay Plains. This area is characterized as a till plain overlying a low swell in the bedrock that has been smoothed by shallow deposits of lacustrine clay. As a result, the Study Area's topography is very flat with an average elevation of 180 metres above sea level (Plates 1 and 2). South of the Study Area, land elevations rise to a height of between 190 and 200 metres above sea level. This gradient produces a north-trending natural surface drainage into Lake St. Clair throughout the Study Area. Natural drainage of the Study Area is provided by two large watercourses, Belle River and Ruscom River, and three minor watercourses, Duck Creek, Moison Creek, and Little Creek. Due to the relatively flat topography of the area, sections of these watercourses have been artificially straightened to improve their drainage capacity (Map 2).[1]

The soils within the Study Area are comprised almost entirely of the Brookston Clay series. Despite being highly fertile, the Brookston Clay soils exhibit poor natural drainage, which can often hinder their ability to support agricultural activities. This limitation, combined with the flat topography of Study Area, created an environment where only marginal agricultural advancements occurred in the area until the late 19th century when artificial drainage became more common place (see Section 3.3).[2]

Plate 1: Example of relatively flat landscape, east of Belle River Road East, looking southeast.

[1] L.J. Chapman and D.F. Putnam, The Physiography of Southern Ontario, 146-148; N. R. Richards, A. G. Caldwell, and F. F. Morwick, *Soil Survey of Essex County*, 1949; Essex Region Source Protection Area, *Watershed Characterization*, 2011

[2] Richards et al., *Soil Survey of Essex County*, 1949.

Plate 2: Example of relatively flat landscape, looking north from Walls Road.

3.2 Early Settlement and Crown Surveys

The Study Area that is the subject of the present report is located within the boundaries of the former Townships of Maidstone, Rochester and Tilbury West, in Essex County. It is situated within an area of Ontario that exhibits evidence of an extended period of human settlement dating back at least 11,000 years. The nature of this settlement as it pertains to the pre-contact Aboriginal period has been well documented in the Stage 1 Archaeological Assessment and is assumed at this time to be the matter of archaeology.[3] As such, the present section will provide an overview of the European occupation of Essex County in general and the Study Area in particular.

The area that would eventually become Essex County was the first location in Ontario to be settled. Permanent settlements were established along the present Canadian shore of the Detroit River, opposite the location of Fort Ponchartrain, Detroit, as early as 1747 (County of Essex 2010). Early settlers in the area were of French descent and were comprised of a combination of disbanded or discharged soldiers directly from France and French Canadian fur traders. The first settlement established on the Canadian side of the Detroit River was known as the Petite Cote (Lajeunesse 1960: ix), which is located in present day LaSalle. When the river frontage in the Petite Cote settlement was fully occupied, settlers travelled further north toward Lake St. Clair and created a new settlement concentrated around the Church of Assumption, at the eventual site of the Town of Sandwich (County of Essex 2010; Lajeunesse 1960: xvii). In the late 18th and early 19th centuries, French settlers began travelling east along the southern shore of Lake St. Clair. They settled in two main locations: along the banks of

[3] Golder, *Stage 1 Archaeological Assessment, SP Belle River Wind LP, Belle River Wind Project, Various Lots and Concessions, Geographic Townships of Maidstone, Rochester, and Tilbury West, Essex County, Ontario,* 2014.

Belle River at the eventual site of Belle River Village in parts of Rochester and Maidstone Townships, and at the eventual site of Stoney Point adjacent to Little Creek in Tilbury West Township.[4] Shortly after their arrival, the government ordered land surveys to be completed in the area. The coast of Lake St. Clair across Maidstone and Rochester Townships and the lots fronting along the banks of Pike Creek, Puce River, Belle River and Ruscom River were the first areas to be surveyed. These locations were surveyed according to the single front survey system by Deputy Surveyor Abraham Iredell between 1796 and 1798.[5]

Additional settlement did not occur in the area until Lieutenant-Colonel Mahlon Burwell completed his survey of the Middle Road in 1823. This road, which stretched from the community of Merlin in East Tilbury Township to the Town of Sandwich in Sandwich Township, was surveyed according to the double front survey system. It passed through the middle portion of Tilbury West Township and the southern portions of Rochester and Maidstone Townships. During the 1830s and 1840s, pioneers primarily of Irish descent began settling along Middle Road across all three townships. These settlers were responsible for not only clearing trees from the road to make it accessible, but also for clearing trees from their lots in order to construct dwellings and begin farming the land.[6]

The remaining portions of Maidstone, Rochester and Tilbury West Townships were also surveyed according to the double front survey system by Mahlon Burwell between 1823 and 1824. Despite the completion of these surveys at this time, settlement by English, Irish, Scottish and German pioneers did not begin in these areas until the 1840s and 1850s. Settlement of Maidstone, Rochester and Tilbury West Townships was considered by local residents to be mostly complete by the late 19th century.[7] The slow rate of settlement in the area was undoubtedly related to the flat topography and poor natural drainage that the area exhibited (see Section 3.3. below).

3.3 Agriculture and Drainage

Due to the flat topography and poor natural drainage of Essex County's soils, the pace of settlement, and by extension agricultural development, was particularly slow in the Townships of Maidstone, Rochester and Tilbury West during the 19th century. By 1846, only 2.5% of the cumulative acreage present within all three townships was under cultivation. At this time, wheat was the primary crop grown by farmers in the area. Although it was recognized that proper drainage could increase the productivity and value of poorly drained areas, farmers often could not invest in constructing proper drains due to the high costs involved.

The Ontario Drainage Act passed in 1872 provided funding to municipalities for the construction of drainage ditches and substantial improvements were subsequently made (Plate 3). The extent to which drainage ditches had been installed in the area by 1881 can be seen on Maps 3 through 5 below. By 1880, the proportion of land that was under cultivation in Maidstone, Rochester and Tilbury West Townships had risen to 26%. At this time, the farmers residing in the area were typically growing grain crops, such as wheat, corn, and oats, for export to

[4] *Illustrated Historical Atlas of Essex County*, 1881.

[5] Clarke, *Land, Power, and Economics on the Frontier of Upper Canada,* 67, 73; A. Iredell, *A24, Survey Record 1547*, 1799.

[6] County of Essex, *Early History of Essex County (1792-1924),* www.countyofessex.on.ca; *Illustrated Historical Atlas of Essex County*, 1881; M. Wallace, *History of Rochester Township*, 1853-1978, 1978.

[7] M. Burwell, *No. 31 Tilbury West, Survey Record 2210*, 1824; Clarke, 67, 73; *Illustrated Historical Atlas of Essex County*, 1881.

the United States, but many farmers were also raising livestock for export to England and dairying activities. There were very few local industries present in the area at this time that depended upon agricultural products. [8]

The drainage improvements and agricultural productivity of Essex County increased in the late 19th and early 20th century. The Ontario Tile Drainage Act, which allowed municipalities to lend money to farmers to build sub-surface tile drains, was passed in 1878. According to the *Ontario Agricultural Commission of 1880*, very few farmers residing in Essex County had begun using tiles to improve the natural drainage of their land at this time. By the 1900s, the majority of Essex County had been improved by tile drainage. With tile drainage in place, and the subsequent arrival of Hydro-electric power in the late 1920s (Plate 4), the local agricultural industry was now capable of supporting a large cash crop industry of corn, wheat, beans, peas, and burley and black tobaccos. Dairying and beef raising for export was also commonly practiced on farms at this time. By the second half of the 20th century, the farming industry had begun to focus more exclusively on cash crop production, with large quantities of corn, soybeans, hay, and winter wheat being grown.

Other crops that were common at this time included white beans, black tobacco, green peas, tomatoes, cucumbers, melons, and many other vegetables and canning crops, while livestock production represented a very limited venture in the area.[9]

Plate 3: Drainage ditch along Lakeshore Road 305, looking east.

[8] W. H. Smith, *Smith's Canadian Gazetteer*, 1846; Ontario Agriculture Commission, *Report of the Commissioners: Appendix A*, 1880; R. L. Jones, *History of Agriculture in Ontario 1613-1880*, 89, 315.

[9] Ontario Agriculture Commission, *Report of the Commissioners: Appendix A*, 1880; Jones, 314; Wallace, 1978; Morrison, 122, 249-250.

Plate 4: Hydro corridor running through agricultural field north of County Road 42, looking northwest.

LEGEND

APPROXIMATE LIMITS OF STUDY AREA IN RELATION TO HISTORIC MAP

REFERENCE

DRAWING BASED ON 1881 ILLUSTRATED HISTORICAL ATLAS OF ESSEX COUNTY, H. BELDON & Co., TORONTO;
GIS LAYERS FROM AECOM, MAY 27 - 2014; AND CANMAP STREETFILES V2008.4.

NOTES

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ALL LOCATIONS ARE APPROXIMATE.

PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

A PORTION OF THE 1881 MAP OF MAIDSTONE TOWNSHIP

Golder Associates
LONDON, ONTARIO

PROJECT No.			1404174
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MAP 3

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LEGEND

STUDY AREA

REFERENCE

DRAWING BASED ON 1881 ILLUSTRATED HISTORICAL ATLAS OF ESSEX COUNTY, H. BELDON & Co., TORONTO;
GIS LAYERS FROM AECOM, MAY 27 - 2014; AND CANMAP STREETFILES V2008.4.

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PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

ROCHESTER TOWNSHIP 1881

Golder Associates
LONDON, ONTARIO

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MAP 4

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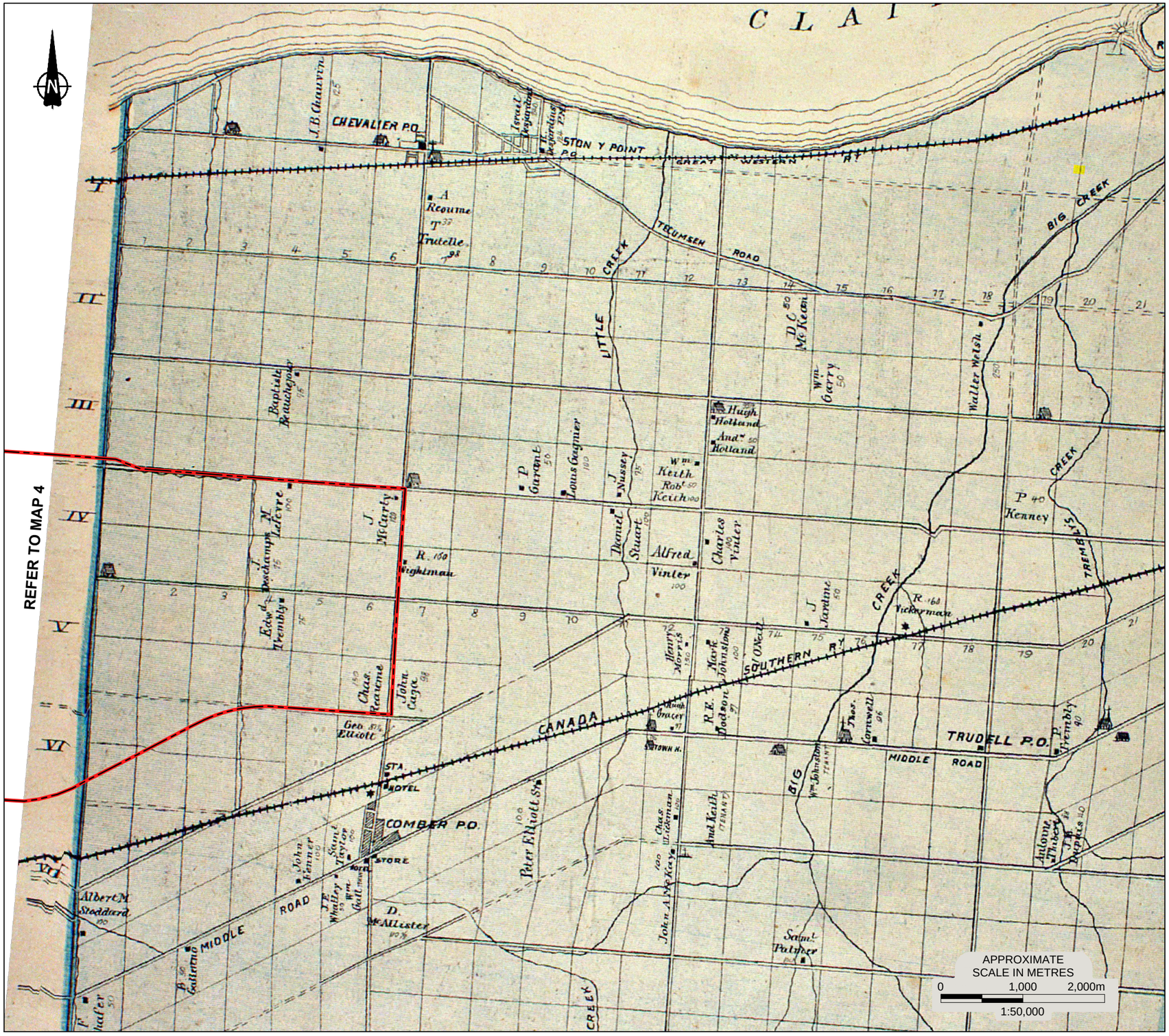

LEGEND

STUDY AREA

REFERENCE

DRAWING BASED ON 1881 ILLUSTRATED HISTORICAL ATLAS OF ESSEX COUNTY, H. BELDON & Co., TORONTO; GIS LAYERS FROM AECOM, MAY 27 - 2014; AND CANMAP STREETFILES V2008.4.

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PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

TILBURY WEST TOWNSHIP 1881

Golder Associates
LONDON, ONTARIO

PROJECT No.			1404174	FILE No. 1404174-3000-R01005
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3.4 Industry

The earliest industries of Essex County provided daily necessities for life in rural areas. Soon after they began clearing land and building roads, settlers began constructing mills. One of the earliest mills in the vicinity of the Study Area was built on the mouth of Belle River during the first half of the 19th century.[10]

By 1880, at least 25 steam saw mills were in operation throughout Essex County as a whole in order to support the lucrative lumber industry that existed in the area. Large quantities of wood were being cut for transportation as lumber to the United States, where it was used for manufacturing purposes. This industry provided a great deal of employment for farmers during the winter months and helped to clear the dense forests that still existed in Essex County in the late 19th century. As the dense forests that once covered the area were eventually cleared, the industry began to fade.[11]

Charcoal burning was another industry that emerged in Essex County during the late 19th century. Wood was placed in a kiln producing charcoal that was shipped to the United States for use in iron smelting. At least one charcoal kiln existed in both Rochester and Tilbury West Townships by 1880.[12]

The discovery of oil in Rochester and Tilbury West Townships in the 1880s triggered a minor boom in the fuel industry in Essex County. By 1900, over 40 companies, including the Standard Oil Company, were actively interested in the oil industry across Essex County. Although this industry quickly diminished in importance, at least one company, Dundee Energy L.P., is still operating oil wells throughout the Study Area (Plate 5).[13]

Other industries in Maidstone, Rochester and Tilbury West Townships that served the local economy during the second half of the 19th century included: iron foundries, carding and fulling mills, blacksmith shops, waggon shops, harness shops, cheese factories, and pearlash and potash factories.[14]

[10] *Illustrated Historical Atlas of Essex County*, 1881.

[11] Ontario Agriculture Commission, *Report of the Commissioners: Appendix A*, 1880.

[12] Ibid.

[13] N. F. Morrison, *Garden Gateway to Canada,* 195-196; S. R. Duquette, *The Tilbury Story: Celebration of A Century 1887-1987*, 1987.

[14] H. N. McEvoy, W.H. Irwin, and G. H. Burnham, *Gazetteer and Directory of the Counties of Kent, Lambeth, and Essex*, 1867; J. Lovell, *Lovell's Gazetteer of British North America,* 1874.

Plate 5: Dundee Energy L.P. oil well located in agricultural field east of Lakeshore Road 125, looking southeast.

3.5 Urban and Rural Communities

At least three urban and eight rural communities were established in the Townships of Maidstone, Rochester and Tilbury West over the course of the 19th century, including two urban and two rural communities located either within, or in close proximity to the Study Area. The Belle River Post Office was the only postal service location once situated within the limits of the Study Area. Just beyond the limits of the Study Area were the Village of Belle River in Rochester and Maidstone Township, the Village of Comber in Tilbury West Township, and the post office communities of Woodslee and Ruscom River in Rochester Township.

3.5.1 Belle River Village and Post Office

Located south of Lake St. Clair in the northwest corner of Rochester Township (with a small portion lying within Maidstone Township to the west) was the community that would eventually be known as Belle River Village. Originally settled as early as the 1790s by French residents from Sandwich Township, this farming community developed slowly until 1852 when the Great Western Railway was constructed through the area. This event triggered a survey of the town plot by the Ouellette family in the same year and led to the establishment of a post office, known as Rochester, in 1854. At this time, a steam saw and grist mill was present in the community, along with two “mercantile enterprises.”

By 1867, the community contained one dry goods store, four groceries, one grist and saw mill, one carding and fulling mill, one waggon shop, three blacksmith shops, one cooper, one harness shop, two shoe shops, one pearlash factory, one potash factory, two lime kilns, a cabinet shop, three hotels, a school, and a Roman Catholic church. In 1874, the post office name was changed to Belle River and its physical location was shifted three miles south of the community that had developed; this second location of the post office falls within the

limits of the present Study Area (Plate 6). The community of Belle River was home to 300 residents in 1874, prompting its incorporation as a village in that same year. During the 20th century, the village experienced some expansion beyond its 19th century limits into the surrounding agricultural landscape. This expansion led to its incorporation as a town in 1969. By 1996, the population of the Town of Belle River had grown to 4,531. In 1999, the Town of Belle River was amalgamated with the Townships of Maidstone, Rochester, and Tilbury West to form the Town of Lakeshore. The population of this new municipality grew to 34,546 in 2011.[15]

Plate 6: Intersection of Belle River Road East and County Road 42, former location of Belle River P.O., looking northwest.

3.5.2 Comber Village

The community that would come to be known as the Village of Comber was located in the west-central portion of Tilbury West Township, along Middle Road. Established in 1846, this community grew slowly with a population of only 50 residents reported in 1857. The construction of the Canada Southern Railway in 1872 triggered some additional growth in the community resulting in an array of commercial and mechanical industries developing in the community. By 1873, Comber was home to 100 individuals and contained a telegraph office, three or four stores, and was a centre for trade in produce, timber, railway ties and staves. By 1881, the population had reached 250 residents and, in 1890, Comber was incorporated as a Police Village. During the 20th century, the

[15] H. N. McEvoy, W.H. Irwin, and G. H. Burnham, *Gazetteer and Directory of the Counties of Kent, Lambeth, and Essex*, 1867; *Illustrated Historical Atlas of Essex County*, 1881; Carter, 1002; Statistics Canada, Census Profile, Town of Belle River and Town of Lakeshore, www.statcan.gc.ca; J. Lovell, *Lovell's Gazetteer of British North America,* 1874.

Village of Comber experienced limited growth beyond its 19th century limits. In 1999, this community was incorporated within the new Town of Lakeshore.[16]

3.5.3 Woodslee

The community of Woodslee, located in the southwest corner of Rochester Township, developed in the mid-19th century to relieve the inconvenience felt by some settlers in the southern portion of the township who had to travel to Belle River Village in order to do business and purchase supplies. By 1881, this community had 150 residents and contained an iron foundry, three saw mills, several stores, shops, churches, and a hotel, among other establishments. The community of Woodslee did not experience any significant growth in the 20th century. This community became a part of the Town of Lakeshore in 1999.[17]

3.5.4 Ruscom River

Ruscom River is a dispersed rural community in the northeast corner of Rochester Township. A post office was established in 1874 and in 1892, had a population of 80. This community changed its name to Deerbrook in 1898. By 1976 the population had grown slightly to 131. In 1999, this community was incorporated within the new Town of Lakeshore.[18]

3.6 Churches and Schoolhouses

By 1881, at least five churches and nine schoolhouses were located either within or in close proximity to the Study Area, which served the needs of the rural communities.[19] The churches catered to the religious beliefs of several denominations, including Catholic, Methodist, and Presbyterian, which had been brought the area by the various groups of immigrants.

St. Joachim Catholic church, constructed in 1882, is the only church greater than 40 years of age that still stands in close proximity to the present Study Area (Plate 7). One potential late 19th or early 20th century frame schoolhouse still remains within the Study Area, which has been converted into a private residence (Plate 8). Despite being located within the Study Area, neither of these structures are situated at, nor are they abutting, the Project Location.

[16] H. N. McEvoy, W.H. Irwin, and G. H. Burnham, *Gazetteer and Directory of the Counties of Kent, Lambeth, and Essex*, 1867; *Illustrated Historical Atlas of Essex County*, 1881; Carter, 252; J. Lovell, *Lovell's Gazetteer of British North America,* 1874.

[17] *Illustrated Historical Atlas of Essex County*, 1881; J. Lovell, *Lovell's Gazetteer of British North America,* 1874.

[18] *Illustrated Historical Atlas of Essex County*, 1881; Carter, 1023.

[19] *Illustrated Historical Atlas of Essex County*, 1881.

Plate 7: St. Joachim church, looking northeast from County Road 42.

Plate 8: Potential former late 19th or early 20th century schoolhouse, looking northeast from Byrnedale Road.

3.7 Transportation

3.7.1 Roads

Most of the major roads located in the Study Area follow the original survey grids laid out during the crown surveys of Maidstone, Rochester and Tilbury West Townships from the late 18th to early 19th century. These roads were cleared and made passable by the early land owners who built their dwellings adjacent to the concession roads. Despite being cleared, the conditions of the roads remained relatively poor until the late 19th and early 20th centuries. Specifically, the flat topography and poor natural drainage of the Brookston clay soils found throughout Essex County caused the roads in the area to frequently become impassable due to saturation. The installation of roadside flanking drainage ditches helped improve this feature of the landscape, but it was not until the surfaces of roads were lined with gravel and eventually asphalt in the 20th century that the roads became a more reliable form of transportation.

Middle Road (now County Road 46) and Highway 401 represent two of the more significant transportation routes present within the Study Area.

Middle Road, which passed through the central portion of Tilbury West Township and the southern portion of Rochester Township, was surveyed by Mahlon Burwell in 1823. Due to a rise in motor vehicle traffic, the Middle Road was designated as part of King's Highway 2A in 1929, which provided an alternate route to Highway 2 for accessing the Windsor area. Highway 2A was renamed Highway 98 in 1938. In 1970, Highway 98 was downloaded and was designated as County Road 46, of Essex County (Plate 9).[20]

Plate 9: Intersection of Middle Road and Lakeshore Road 231, looking west.

King's Highway 401 passes through the central portion of the Study Area, providing three main access points. Highway 401 was constructed in phases between 1947 and 1968 in order to address the growing problems of traffic congestion due to increased motor vehicle usage. Since its initial construction, Highway 401 has evolved into a vital economic corridor used by millions of motorists.[21]

[20] C. Bevers, Ontario Highways: History Pages & Route Maps, www.thekingshighway.ca

[21] C. Bevers, Ontario Highways: History Pages & Route Maps, www.thekingshighway.ca

3.7.2 Railways

Two rail lines ran through the Study Area: the Canada Southern Railway, and the Great Western Railway.

The Canada Southern Railway, financed by American investors, was incorporated in 1868 as the Erie and Niagara Extension Railway. Its name was changed to the Canada Southern Railway in 1869. In order to secure rail bridge access to the major border centres of Buffalo and Detroit, the company built a line, completed in 1873, that stretched across southwestern Ontario from Fort Erie to Amherstburg via St. Thomas. The western section of the rail line from St. Thomas to Amherstburg had a station in the Village of Comber just outside of the present Study Area. By 1876 the company had been taken over by the New York Central Railway system. The Canada Southern Railway Company remained the property of the New York Central Railway until 1968 when it was amalgamated into the Pennsylvania Central Railway. Conrail subsequently gained control of the rail line in 1976 when the Pennsylvania Central Railway declared bankruptcy. Passenger traffic on the rail line ended in 1979. The railway was purchased by the Canadian Pacific Railway and Canadian National Railway in 1983.[22] The tracks of this rail line have been abandoned (Plate 10).

Plate 10: Earthworks of Canada Southern Railway, looking southwest from County Road 46.

[22] North American Railway Hall of Fame, Canada Southern Railway, www.narhf.org

The mainline of the Great Western Railway from Niagara Falls to Windsor via Hamilton and London was in operation in 1854. This line had a station in the Village of Belle River just outside of the present Study Area. By 1882, the company operated 1,280 km of track throughout southwestern Ontario. At this time, it merged with its main competitor, the Grand Trunk Railway, in order to compete more effectively with rival American railroads. In 1923, the original Great Western Railway mainline was taken over by the Canadian National Railway. Today it is owned by VIA Rail, which still carries some freight along its tracks (Plate 11).[23]

Plate 11: VIA Rail line, looking east from Strong Road.

[23] Historica Canada, Great Western Railway, www.thecanadianencyclopedia.ca

4.0 DESCRIPTION OF CULTURAL FEATURES

4.1 Protected Properties

As part of the requirements of O. Reg. 359/09, s.19, three interested parties, the Minister of Tourism, Culture and Sport, the Ontario Heritage Trust, and the local Municipality, must be contacted to confirm the presence of protected properties within the Study Area.

Appendix B of the MTCS' *Cultural Heritage Resources: An Information Bulletin for Projects Subject to Ontario Regulation 359/09 – Renewable Energy Approval* indicated that, as of August 2013, no designated properties, nor pending or ongoing provincial designations were present within the Study Area. Laura Hatcher, Heritage Planner with the MTCS, confirmed that no new properties had been protected since this publication.

Michael Sawchuck, Manager of Acquisitions and Conservation Services for the Heritage Programs and Operations Branch of OHT confirmed that there are no properties within the Study Area subject to conservation easements.

The Town of Lakeshore was contacted regarding a municipal inventory, registry or listing of heritage resources within the present Study Area. Rita Chappell-Arsenault, Manager of Special Projects, provided Golder with a copy of the Heritage Properties Inventory/Register for the Town of Lakeshore. This inventory indicated the presence of one designated property, St. Joachim's Catholic Church (Site #1) (see Plate 6), and six listed properties either within or adjacent to the present Study Area (Table 1). The locations of these properties have been shown on Tile 1 in order to illustrate their spatial relationship to the Project Location. Although none of these properties were located at the Project Location itself, it was determined that two properties, the Tremblay Barn (Site #6) and the Log House (Site #7), are abutting the Project Location (Plates 12 to 14). Since these properties are not designated, they are not formerly recognized under O. Reg. 359/09 and, therefore, an evaluation of cultural heritage value or interest is not required.

Rita Chappell-Arsenault also confirmed that there are no properties with easements, covenants, or an intention to designate located within the Study Area.

Table 1: Designated and Listed Properties within or Adjacent to the Study Area

Site #	Address	Name or Type of Building	Reason for Consideration	Designated (Yes/No)
1	2722 County Road 42	St. Joachim Catholic Church	Historic/Archaeological	Yes
2	2736 County Road 42	St. Joachim Former Bank Building	Historic/Archaeological	No
3	1078 Countryview Lane	St. Lads Farm	Historic/Archaeological	No
4	2864 County Road 46	Lajoie Farm House	Historic/Archaeological	No
5	2423 County Road 46	Ruscom United Church Cemetery	Historic	No
6	1565 Lakeshore Road 131	Tremblay Barn- 300 Year Old Jesuit Pear Tree	Historic	No
7	708 West Belle River Road	Log House	Historic/Archaeological	No

Plate 12: Tremblay Barn, looking southwest from Lakeshore Road 131.

Plate 13: 300 Year Old Pear Tree, looking northwest from Lakeshore Road 131.

Plate 14: Log house, looking east from West Belle River Road.

4.2 Project Location Cultural Heritage Features

A total of 15 sites at the Project Location were visually identified during field work to be greater than 40 years old (Appendix A and Tile 1). Access to private properties was not available and all identifications were undertaken from public road allowances. Each site was photographed and evaluated according to *Ontario Regulation 9/06.*

The 15 sites identified at the Project Location contained multiple components, including 14 residential structures and five barns or barn complexes. As is typical in rural landscapes, the residential structures tend to be located close to the road with the barns adjacent to, or at the rear of, the residence. Thirteen of the sites are located on lots that front onto the concession road.

Eleven of the residential structures are represented by late 19th and early 20th century one and a half storey buildings. These houses were all of local vernacular designs with some elements of high architecture rather than designed in a particular formal architectural style. The modest size of structures found throughout the Project Location is reflective of economic conditions historically present throughout the region, as well as the general prosperity of agricultural production at the Project Location. These houses contribute to the late 19th and early 20th century agricultural character of the Study Area.

Three single storey early to mid-20th century residential structures, Site #s 3, 10, and 13, were also identified within the Project Location. One of these structures is a ranch style house, while the other two are consistent with local vernacular designs.

The five barns, Site #s 2, 3, 6, 8, and 15, contribute in a very visible manner to the late 19th and early 20th century agricultural character of the Study Area. Generally barns should be considered significant cultural resources because this type of structure is no longer viable for modern agriculture and are at risk through abandonment or removal. The barns included in Appendix A have been constructed in the late 19th or 20th

century, although they have now been incorporated into more modern complexes that typically include large silos and recent barns. This is reflective of the technological changes in the agricultural industry that have occurred in the region throughout the 20th and 21st centuries.

4.3 Cultural Heritage Landscapes at the Project Location

Section 6.0 of the *Provincial Policy Statement* defines cultural heritage landscapes as a:

> *A defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Aboriginal community. The area may involve features such as structures, spaces, archaeological sites or natural elements that are valued together for their interrelationship, meaning, or association.*[24]

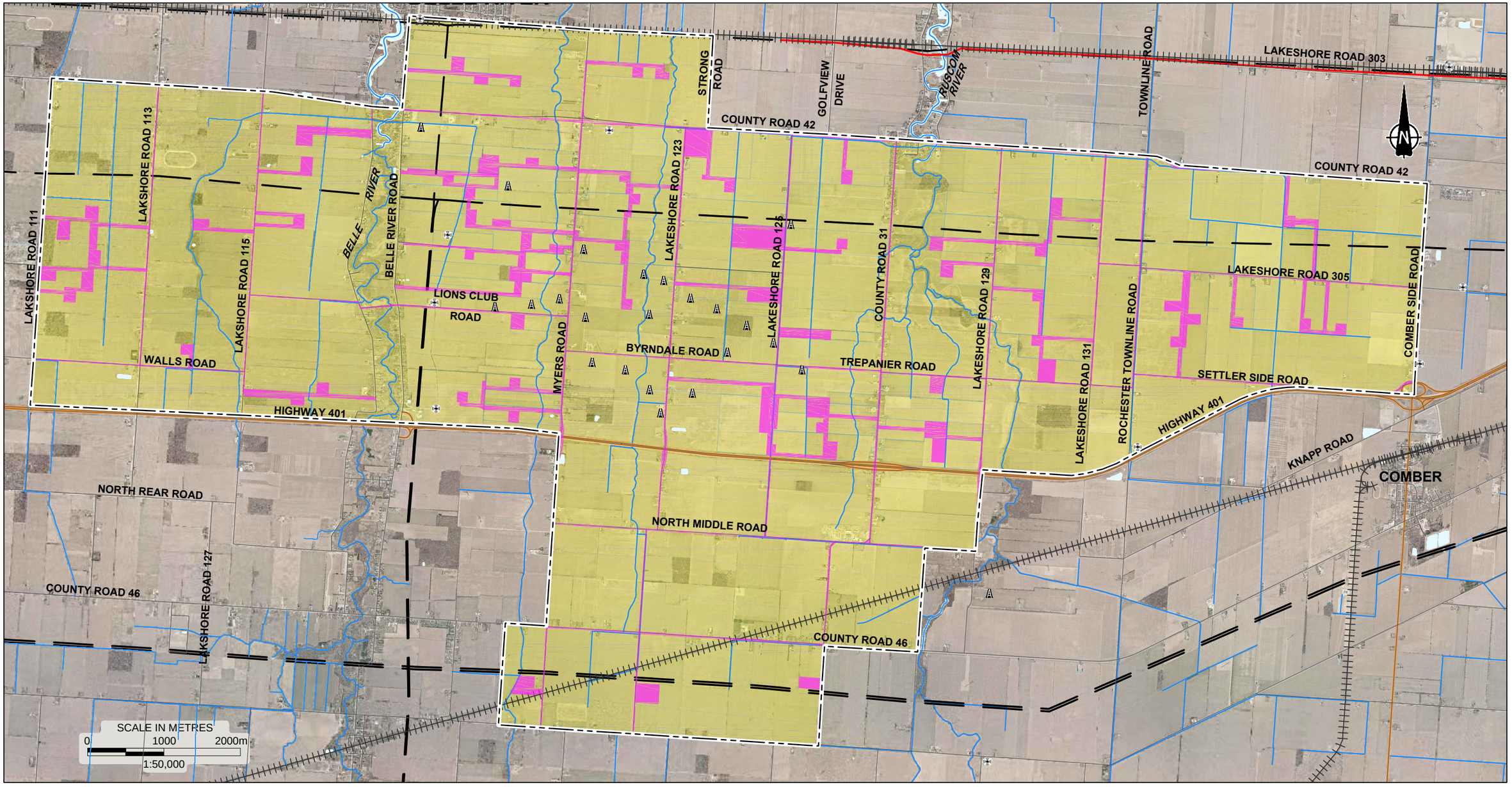
In many cases these areas have been highly modified and remain today as remnants of past human activity. Cultural heritage landscapes can also be comprised of entire communities and particular patterns of settlement, as well as more vernacular spaces including agricultural activities alongside urban developments.

The Study Area is defined as a single evolved vernacular rural cultural landscape (Map 6). It is comprised of a topographically flat landscape with various land uses including a land use pattern of agricultural fields, pastures, woodlots and associated farmsteads, as well as small concentrations of non-farm residential areas located on severed agricultural properties, and modern road improvements. For the purposes of this assessment, the cultural heritage landscape boundaries were defined as the Study Area and only the landscape which lies within the Study Area was described and evaluated.

The grid from the original surveys established the road and subsequent settlement patterns. Farmsteads throughout the Study Area are located along the concession roads. The majority of the land is still being used for agricultural purposes; however, subdivision in the 19th and 20th centuries has resulted in several modern non-farm residences being located along the concession and side roads. A larger concentration of non-farm residences also occurs along Belle River Road in the west portion of the Study Area. Municipal drains are also frequently encountered along the road allowances across Study Area.

There is no visible evidence of rural industries such as mills within the Study Area. The abandoned Canada Southern rail line is a particularly unique and visible feature of the landscape. Hydro corridors, oil wells, and solar panels (Plate 15), which occur in various places throughout the Study Area, are also particularly visible features protruding from the flat landscape. Modern road improvements provide what may be the most visually prominent component of the vernacular rural landscape. Highway 401 and its associated overpasses represent the most prominent transportation related cultural feature in the landscape of the Study Area (Plates 16 and 17).

24 Government of Ontario, *Provincial Policy Statement Under the Planning Act*, 2014.



LEGEND

- PETROLEUM WELL
- COMMUNICATIONS TOWER
- STUDY AREA
- WATER SEGMENT
- RAIL LINE (EXISTING OR FORMER)
- PIPELINE
- UTILITY LINE
- CULTURAL LANDSCAPE WITHIN STUDY AREA
- PROJECT COMPONENTS
- WATER BODY

REFERENCE

DRAWING BASED ON 2013 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION;
GIS LAYERS FROM AECOM, MAY 27 - 2014; AND CANMAP STREETFILES V2008.4.

NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

CULTURAL LANDSCAPE WITHIN THE STUDY AREA

Golder Associates
LONDON, ONTARIO

PROJECT No.			1404174
CADD	DCH/LMK	Dec. 22/14	
CHECK			

FILE No.1404174-3000-R01006
SCALE AS SHOWN | REV.

MAP 6

Drawing file: 1404174-3000-R01006.dwg Dec 22, 2014 - 11:01am

Plate 15: Solar panels located north of Middle Road, looking north.

Plate 16: Myers Road Hwy. 401 overpass, looking north.

Plate 17: Hwy. 401 east and west bound lanes, looking west from Lakeshore Road 123.

5.0 ANALYSIS OF CULTURAL FEATURES

5.1 Project Location Cultural Heritage Features

Appendix A identified 19 structures more than 40 years old and having potential cultural heritage value or interest. When O. Reg. 9/06 was applied (see Appendix A), nine of these structures (four houses and five barns or barn complexes) were determined to have some cultural heritage value or interest.

5.2 Cultural Heritage Landscapes at the Project Location

Section 4.2 identified the entire Study Area as a single evolved vernacular rural cultural landscape. The potential significance of this cultural heritage landscape was evaluated against *Ontario Regulation 9/06* in Table 2.

Table 2: Evaluation of Cultural Heritage Value or Interest According to O.Reg. 9/06

Criteria	Vernacular Rural Landscape
Design Value	None identified
Historic or Associative Value	None identified
Contextual Value	None identified

The Study Area remains associated with various land uses and continues to adapt to changing conditions. The defining attributes of the vernacular rural landscape include flat land, drains, agricultural fields, pastures, woodlots, small concentrations of non-farm residences, and modern roadway improvements. This is typical of rural landscapes throughout the region. As such, it was determined that the identified cultural landscape does not contain cultural heritage value or interest according to *Ontario Regulation 9/06*.

The Project Location lands are all part of the surrounding vernacular rural landscape. The rural cultural landscape that spans the Project Location is typical of what is found across southwestern Ontario. Therefore, there are no cultural landscapes located at the Project Location that have been determined to have cultural heritage value or interest.

5.3 Summary

5.3.1 Cultural Heritage Features

All individual cultural features located within the Project Location that were more than 40 years old were identified and 19 structures (14 houses and five barns) were photographed. These structures were then evaluated according to *Ontario Regulation 9/06*. When applying the criteria set out in *Ontario Regulation 9/06*, the number of structures was reduced to nine (four houses and five barns or barn complexes) that have potential cultural heritage value or interest.

5.3.2 Cultural Heritage Landscapes

The Study Area was determined to represent a single vernacular rural landscape consisting of flat land, drains, agricultural fields, pastures, woodlots, small concentrations of non-farm residences, and modern roadway improvements. The Project Location has been determined to be representative of the vernacular rural landscape. Evaluation according to *Ontario Regulation 9/06* concluded that the vernacular rural landscape was not of cultural heritage interest or significance. Therefore, there are no cultural landscapes located at the Project Location that have been determined to have cultural heritage value or interest.

6.0 IMPACT ASSESSMENT

6.1 Potential Impacts

Where potential cultural heritage value or interest was determined according to *Ontario Regulation 9/06*, the anticipated direct and indirect impacts were evaluated. These impacts were identified according to the MTCS' *Ontario Heritage Toolkit: Heritage Resources in the Land Use Planning Process.* Tables 3 and 4 outline the impacts identified by MTCS, and their relationship to the project.

Table 3: Potential Direct Impacts and Relevance to the Project

Direct Impacts	Relevance to this Project
Destruction - of any, or part of any, significant heritage attribute or feature	**None Anticipated**: no heritage attribute or feature to be demolished
Alteration - that is not sympathetic, or is incompatible, with the historic fabric or appearance	**None Anticipated**: no alterations anticipated

Table 4: Types of Potential Indirect Impacts and Relevance to the Project

Indirect Impacts	Relevance to this Project
Shadows - created that alter the appearance of a heritage attribute or change the visibility of a natural feature or plantings, such as a garden	**None Anticipated**: substantial distance from turbines
Isolation - of a heritage attribute from its surrounding environment, context or a significant relationship	**None Anticipated**: nature of wind turbine operations will not isolate features
Land Disturbance - such as a change in grade that alters historic patterns of topography or drainage	**None Anticipated**: no significant or permanent alteration to land
A Change in Land Use - such as rezoning a battlefield from open space to residential use, allowing new development of site alteration to fill in the formerly open spaces	**None Anticipated**: existing land use is agriculture with modern agricultural industries located throughout
Obstruction - of significant views or vistas from, within, or to a built and natural feature	**None Anticipated**: no significant views have been identified

6.2 Cultural Heritage Features at the Project Location

Although nine features were determined to have cultural heritage value or interest, no direct or indirect impacts are anticipated and therefore, no further mitigation is recommended.

6.3 Cultural Heritage Landscapes at the Project Location

As no cultural heritage value or interest was determined, there are no adverse impacts anticipated to the cultural heritage landscape.

7.0 RECOMMENDATIONS

An inventory was undertaken to identify and evaluate potential heritage resources. Through a windshield survey, 15 sites 40 years of age or older were documented and evaluated according to *Ontario Regulation 09/06*. The 15 sites contained 14 residences and five barns or barn complexes. Of these, four houses and five barns were identified to have potential cultural heritage value or interest. Following the evaluation of anticipated impacts, no anticipated impacts were identified.

The Project Location was determined to represent a single cultural heritage landscape. Primarily used for agricultural activities, it is consistent with the historic division of land and can be characterized by flat lands, drains, agricultural fields, pastures, woodlots, small concentrations of non-farm residences, and modern roadway improvements. Due to the typical nature of the landscape, cultural heritage value or interest was not identified according to *Ontario Regulation 9/06*.

As there are no anticipated impacts to the cultural heritage features, no further work is recommended.

The recommendations contained in this report are based on current provincial regulations and guidelines pertaining to the approvals process for wind energy projects in Ontario.

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8.3 Maps

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9.0 IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Golder Associates Ltd. has prepared this report in a manner consistent with the standards and guidelines developed by the Ontario Ministry of Transportation, the Ontario Heritage Bridge Guidelines and the Ontario Ministry of Tourism, Culture, and Sport, Programs and Services Branch, Cultural Division, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

This report has been prepared for the specific site, design objective, developments and purpose described to Golder Associates Ltd., by Mr. Marc Rose of AECOM. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder Associates Ltd.'s express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the Client, Golder Associates Ltd. may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder Associates Ltd. The report, all plans, data, drawings and other documents as well as electronic media prepared by Golder Associates Ltd. are considered its professional work product and shall remain the copyright property of Golder Associates Ltd., who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder Associates Ltd. The Client acknowledges the electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client cannot rely upon the electronic media versions of Golder Associates Ltd.'s report or other work products.

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10.0 CLOSURE

We trust that this report meets your current needs. If you have any questions, or if we may be of further assistance, please contact the undersigned.

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

Bradley Drouin, M.A.
Project Manager

ORIGINAL SIGNED

Christopher Andreae, Ph.D.
Associate, Senior Built Heritage Specialist

MG/SS/BD/CA/slc/ly/cr

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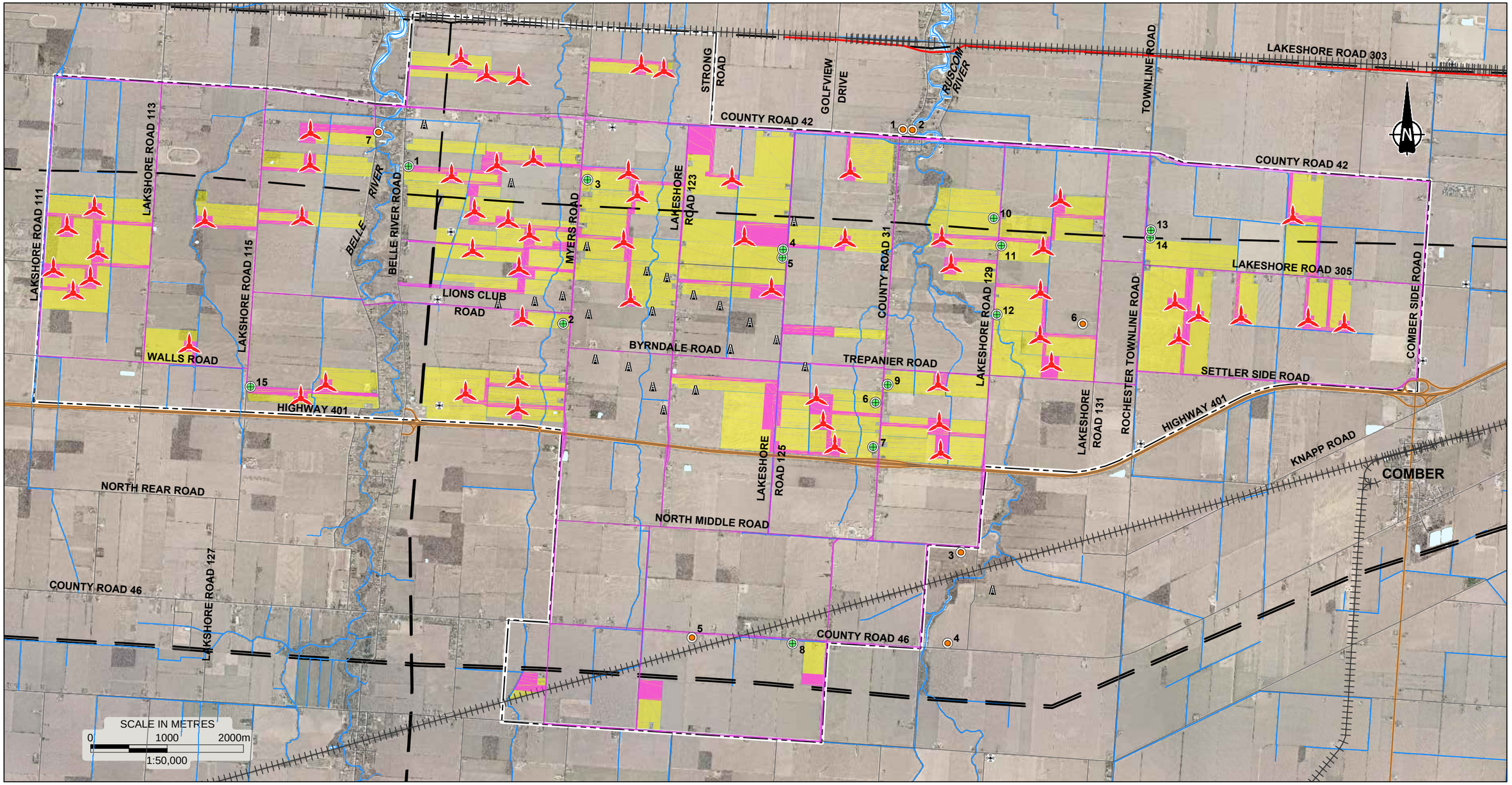
APPENDIX A

Built Heritage Inventory



LEGEND

- PETROLEUM WELL
- COMMUNICATIONS TOWER
- TURBINE
- HERITAGE SITE (REFER TO APPENDIX A)
- TOWN OF LAKESHORE DESIGNATED OR LISTED SITE
- STUDY AREA
- WATER SEGMENT
- RAIL LINE (EXISTING OR FORMER)
- PIPELINE
- UTILITY LINE
- PROJECT LOCATION
- PROJECT COMPONENTS
- WATER BODY

REFERENCE

DRAWING BASED ON 2013 AERIAL IMAGE FROM THE COUNTY OF ESSEX INTERACTIVE WEB MAPPING SITE, BY PERMISSION;
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NOTES

THIS DRAWING IS SCHEMATIC ONLY AND IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

PROJECT

HERITAGE IMPACT ASSESSMENT
SP BELLE RIVER WIND LP
BELLE RIVER WIND PROJECT
TOWN OF LAKEHORE, ESSEX COUNTY, ONTARIO

TITLE

INVENTORY OF POTENTIAL HERITAGE RESOURCES

Golder Associates
LONDON, ONTARIO

PROJECT No.			1404174
			SCALE AS SHOWN
CADD	DCH/LMK	Dec. 22/14	
CHECK			

FILE No. 1404174-3000-R010T1 REV.

TILE 1

Drawing file: 1404174-3000-R010T1.dwg Dec 22, 2014 - 11:07am

Site #1 – 1326 Belle River Road, Town of Lakeshore

Date: Early to mid-20th century

Description: One and a half storey vernacular farmhouse with gable roof and modern siding on a rusticated concrete block foundation.

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* None.
2) Historical or Associate Value: None.
3) Contextual Value*:* None.

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #2 – 1637 Myers Road, Town of Lakeshore

Date: Late 19th to early 20th century

Description: Timber frame barn with metal gambrel roof.

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* Example of early timber frame barn construction.
2) Historical or Associate Value: None.
3) Contextual Value*:* Supports the 19th century agricultural character of the surrounding vernacular rural landscape.
Heritage Attributes: Timber frame construction.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated; therefore no further mitigation is recommended.

Site #3 – 1342 Myers Road, Town of Lakeshore

Date: Mid-20th century

Description: Single storey, hipped roof house with wood and synthetic siding on a concrete foundation.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: None.

2) Historical or Associate Value: None.

3) Contextual Value: None.

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Date: Various (Late 19th/Early 20th century)

Description: Barn complex containing a timber frame barn with gable roof.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: Example of early timber frame barn construction.

2) Historical or Associate Value: None.

3) Contextual Value: Supports the 19th century agricultural character of the surrounding vernacular rural landscape.

Heritage Attributes: Timber frame construction.

Potential Direct and Indirect Impacts to the Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

Site #4 – 1451 Lakeshore Road 125, Town of Lakeshore

Date: Late 19th/Early 20th century

Description: One and a half storey side gable vernacular farmhouse with modern roof cladding and siding on a concrete block foundation.

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* None
2) Historical or Associate Value: None.
3) Contextual Value*:* None

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #5 – 1455 Lakeshore Road 125, Town of Lakeshore

Date: Late 19th/Early 20th century

Description: One and a half storey vernacular farmhouse with gable-pitched roof and modern siding on a concrete foundation.

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* None
2) Historical or Associate Value: None.
3) Contextual Value*:* None

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #6 – 1779 County Road 31, Town of Lakeshore

Date: Early 20th century

Description: One and a half storey, vernacular farmhouse with shallow hipped-gable roof and modern siding. Centrally located brick chimney.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: Representative example of historic building style and form in Essex County.

2) Historical or Associate Value: None.

3) Contextual Value: Supports the early 20th century character of the vernacular rural landscape.

Heritage Attributes: Hipped-gable roof construction.

Potential Direct and Indirect Impacts to the Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

Date: Various (19th and 20th century)

Description: Farm complex with modern and historic buildings, contains timber frame barn with metal gable roof.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: Representative barn style.

2) Historical or Associate Value: None.

3) Contextual Value: Supports the 19th century agricultural character of the surrounding vernacular rural landscape.

Heritage Attributes: Timber frame construction.

Potential Direct and Indirect Impacts to the Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

Site #7 – 1845 County Road 31, Town of Lakeshore

Date: Late 19th century

Description: One and a half storey vernacular farmhouse with gable roof and modern siding. Bay window on front façade and modern additions at rear.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value*:* None.

2) Historical or Associate Value: None.

3) Contextual Value*:* None.

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #8 – 2597 County Road 46, Town of Lakeshore

Date: Late 19th century

Description: One and a half storey vernacular farmhouse with gable roof and modern siding. Additions at side and rear façades.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: None.

2) Historical or Associate Value: None.

3) Contextual Value: None.

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #8 – 2597 County Road 46, Town of Lakeshore

Date: Various (Late 19th/Early 20th century)

Description: Farm complex with modern and historic buildings, contains timber frame barn with gable roof.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: Representative barn style.

2) Historical or Associate Value: None.

3) Contextual Value: Supports the 19th century agricultural character of the surrounding vernacular rural landscape.

Heritage Attributes: Timber frame construction.

Potential Direct and Indirect Impacts to the Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

Site #9 – 1734 County Road 31, Town of Lakeshore

Date: Late 19th century

Description: One and a half storey vernacular farmhouse with cross-gable roof and modern siding on a concrete block foundation. Enclosed verandahs on front and side façades.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value*:* None

2) Historical or Associate Value: None.

3) Contextual Value*:* None

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #10 – 1353 Lakeshore Road 129, Town of Lakeshore

Date: Early 20th century

Description: One storey vernacular farmhouse with a hipped roof and modern siding on a rusticated concrete block foundation.

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* None
2) Historical or Associate Value: None.
3) Contextual Value*:* None

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #11 – 1414 Lakeshore Road 129, Town of Lakeshore

Date: Early 20th century

Description: One and a half storey vernacular farmhouse with hipped gable roof and modern siding on a rusticated concrete block foundation

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* Representative example of historic building style and form in Essex County.
2) Historical or Associate Value: None.
3) Contextual Value*:* Supports the early 20th century character of the vernacular rural landscape.
Heritage Attributes: Hipped-gable roof construction.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

Site #12 – 1564 Lakeshore Road 129, Town of Lakeshore

Date: Various (19th to 20th century)

Description: One and a half storey vernacular farmhouse with a gable roof and modern siding. Several additions to side facades

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* Representative example of vernacular farmhouse architecture.
2) Historical or Associate Value: None.
3) Contextual Value*:* Supports the 19th century character of the vernacular rural landscape.
Heritage Attributes: One and a half storey gable roof construction.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

Site #13 – 1368 Rochester Townline Road, Town of Lakeshore

Date: Mid-20th century

Description: One storey Ranch style house with shallow gable roof, and exterior brick cladding.

Potential CHVI According to O. Reg. 9/06:
1) Design or Physical Value*:* None.
2) Historical or Associate Value: None.
3) Contextual Value*:* None.

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #14 – 1372 Rochester Townline Road, Town of Lakeshore

Date: Late 19th century

Description: One and a half storey vernacular farmhouse with cross gable roof and modern siding. Gable centrally located on front façade.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value*:* None.

2) Historical or Associate Value: None.

3) Contextual Value*:* None.

Not determined to have cultural heritage value or interest.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: CHVI was not identified, therefore impacts were not assessed.

Mitigation of Negative Impacts: Impacts were not identified; therefore mitigation is not recommended or necessary.

Site #15 – 1132 Lakeshore Road 115, Town of Lakeshore

Date: Various (19th and early 20th century)

Description: One and a half storey vernacular farmhouse with hipped gable roof and modern siding on a concrete block foundation.

Timber frame barn with metal gambrel roof and attached concrete silo.

Potential CHVI According to O. Reg. 9/06:

1) Design or Physical Value: House is a representative example of historic building style and form in Essex County. Representative barn style.

2) Historical or Associate Value: None.

3) Contextual Value: House supports the early 20th century character of the vernacular rural landscape. Barn supports the 19th century agricultural character of the surrounding vernacular rural landscape.

Heritage Attributes: Hipped-gable roof construction of house. Timber frame construction of barn.

Potential Direct and Indirect Impacts to the Identified Heritage Attributes: None anticipated.

Mitigation of Negative Impacts: No direct or indirect impacts are anticipated, therefore no further mitigation is recommended.

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
309 Exeter Road, Unit #1
London, Ontario, N6L 1C1
Canada
T: +1 (519) 652 0099

Golder Associates