

# RENEWABLE ENERGY APPROVAL DOCUMENTS

RE Orillia 3 Solar Project  
Executive Summary

August 3, 2011

RECURRENT  
ENERGY



## Table of Contents

<b>Section 1: Project Introduction .....</b>	<b>1</b>
1.1: Project Location .....	2
1.2: Project Proponent.....	2
1.3: Project Description .....	3
1.4: Project Benefits.....	4
Social Benefits.....	4
Environmental Benefits .....	4
1.5: Renewable Energy Approval Process.....	4
1.6: Guide to Reviewing Project Reports .....	6
<b>Figure 1: Site Layout.....</b>	<b>7</b>
<b>Figure 2: Project Reports.....</b>	<b>8</b>
<b>Appendix A: Project Report Summaries .....</b>	<b>9</b>



*RE Orillia 3 Project Site*



*Trillium found on site*

### **Disclaimer**

This report has been prepared by or on behalf of RE Orillia 3 ULC for submission to the Ontario Ministry of the Environment as part of the Renewable Energy Approval process. The content of this report is not intended for the use of, nor is it intended to be relied upon by, any other person. Neither RE Orillia 3 ULC nor any of its directors, officers, employees, agents or consultants has any liability whatsoever for any loss, damage or injury suffered by any third party arising out of, or in connection with, their use of this report.

## Section 1: Project Introduction

### 1.1: Project Location

RE Orillia 3 ULC is proposing to develop a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land. This proposed facility is referred to as “RE Orillia 3” and is also referred to as the “Project.”

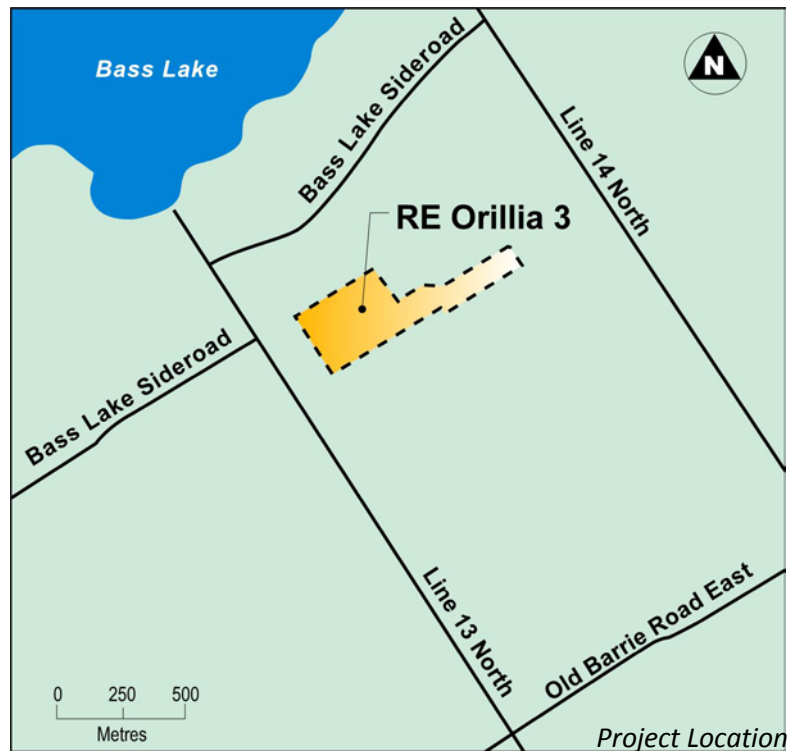
**RE Orillia 3** is located in the Township of Oro-Medonte in the County of Simcoe, approximately 7 km west southwest of the City of Orillia. The Project will not be located on any Class 1 or Class 2 agricultural lands.

### 1.2: Project Proponent

The RE Orillia 3 Project is being proposed by **RE Orillia 3 ULC**, a Nova Scotia Unlimited Liability Company owned by Recurrent Energy, LLC through its subsidiaries. Recurrent Energy is an independent power producer and a leading developer of distributed solar projects for utilities, government, and commercial customers.

The company develops, builds, and operates distributed solar power systems – typically 2 to 20 MW each – connected to the existing distribution grid. Its vision is to use proven solar technology to meet rising energy demand with a fleet of clean power plants located right where they are needed most.

RE Orillia 3 ULC has retained Hatch Ltd. to coordinate the completion of the Renewable Energy Approval (REA) process. All comments or questions in relation to the REA documents provided herein should be directed to Hatch, at the contact information provided below.



*Examples of Comparable Solar Arrays*

Contact Information	
<p><b>Primary Contact</b></p> <p>Noel Boucher, B.Sc.  Environmental Coordinator  Hatch Ltd.  4342 Queen Street, Suite 500  Niagara Falls, ON, Canada L2E 7J7  Tel: 905-374-0701 ext. 5757  Email: nboucher@hatch.ca</p>	
<p><b>Project Contact</b></p> <p>RE Orillia 3 ULC  c/o Recurrent Energy  300 California Street, 8th Floor  San Francisco, CA 94104  Tel: 415-675-1500  Fax: 415-675-1501  <a href="http://www.ontariosolarfuture.ca">www.ontariosolarfuture.ca</a></p>	<p><b>Secondary Contact</b></p> <p>David Brochu  300 California Street, 8th Floor  San Francisco, CA 94104  Tel: 630-333-7602  Email: <a href="mailto:david.brochu@recurrentenergy.com">david.brochu@recurrentenergy.com</a></p>

### 1.3: Project Description

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. The panels will be stationary, arranged in rows mounted off the ground and tilted to the south to catch the sun’s rays. Electricity generated by the rows of panels is collected through underground cabling by inverters which convert the DC electricity to alternating current (AC). The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, a transformer increases the voltage to the level of voltage of the electricity distribution grid. The Project will provide electricity to the grid by interconnecting with the existing distribution line near the intersection of Line 15 North Road and Bass Lake Side Road East. Other Project components include a small parking area, control house and internal access road network. The proposed site layout is provided in Figure 1.

Construction of the Project is scheduled to commence July 2011, subject to receipt of the REA and any other permits or approvals that may be required. Construction will last for approximately 6-10 months, with the earliest possible commissioning of the facility scheduled for February 2012. The commercial operation date and associated construction schedules proposed herein are currently estimates based on a number of variables. The start of construction and operations dates for the project may be significantly changed, either accelerated or delayed, due to changes in expected timeframes for regulatory approval, equipment procurement, and/or project scheduling optimization.

Commissioning is the process of assuring that all systems and components of the Project are installed, tested, and operating safely and according to its operational requirements. The main construction activities will include site preparation (road and parking area construction, minor vegetation removal and grading), installation of facilities (racking structures, solar panels, underground cabling, inverters and substation components), testing and commissioning and site restoration.

The facility is expected to operate for 30 years prior to decommissioning. Upon decommission the site, all Project components will be removed and the site will be restored to its previous agricultural use.

## 1.4: Project Benefits

The proposed Project will result in a number of social and environmental benefits, both at a local level and throughout the Province of Ontario.

### *Social Benefits*

Operation of the Project will result in production of approximately 9.2 million kWh of electricity per year, enough to power approximately 900 average homes. Construction and operation of the Project will result in the creation of jobs for the people of Ontario throughout the life of the Project – from initial development, design and manufacture, to construction and ongoing maintenance. At least 60% of the materials for the Project will be made or sourced from Ontario. This will help contribute to the Province’s goal of creating 50,000 jobs in the green energy industry. The Project will also result in benefits for the local landowner of the Project.

### *Environmental Benefits*

Solar PV is among the safest and cleanest sources of energy generation. It uses using only the sun, a completely renewable energy source, as its fuel, with no harmful pollutants emitted due to electricity generation. The Project will help Ontario to meet its goal of increasing the amount of energy generated from green renewable sources in the Province. This will assist in helping the Province phase out heavily polluting, non-renewable coal generation by 2014, therefore greatly reducing emissions associated with power generation. Further, operation of the facility will result in minimal waste generation and very limited use of raw materials (e.g., minimal water requirements for cleaning purposes), limiting the long-term environmental impacts associated with power generation.

### *Benefits to Ontario*

The Project will help Ontario to meet its goal of doubling the amount of energy generated from renewable sources by 2025.

This will allow the Province to phase out existing coal generating facilities by 2014, which will substantially reduce air emissions due to power generation activities.

The RE Orillia 3 Project will assist the Province in meeting these important goals.

## 1.5: Renewable Energy Approval Process

The environmental approval for renewable energy projects is called the **Renewable Energy Approval (REA)**. It is regulated by the Ministry of the Environment (MOE) and the Ministry of Natural Resources (MNR). To obtain a Renewable Energy Approval, the Project is subject to the requirements of Ontario

Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) created under the *Environmental Protection Act*. The REA Regulation identifies a process to engage and receive feedback from the public, Aboriginal communities, municipal and regulatory agencies. As part of the REA Regulation, RE Orillia 3 ULC is required to prepare a number of documents to describe the Project and identify potential adverse effects. Any adverse effects will be prevented or minimized through mitigation measures and monitoring commitments. These documents are required to be made available for public, Aboriginal, municipal and agency review and comment prior to submission of the REA Application to the MOE. The documents that are included in this package for review include:

- Project Description Report
- Construction Plan Report
- Design and Operations Report
- Decommissioning Plan Report
- Natural Heritage Records Review, Site Investigation, Evaluation of Significance and Environmental Impact Study (EIS) Reports
- Waterbody Records Review, Site Investigation and EIS Reports
- Stage 1 & 2 Archaeological Assessment Reports
- Noise Study Report.

The Natural Heritage and Water Body Reports identified several environmental features within 120 m of the Project site including the Langman Marsh Provincially Significant Wetland and associated woodlot, significant wildlife habitat and a groundwater seepage area. Mitigation measures have been specified to prevent and/or minimize adverse effects on this feature due to construction, operation and eventual decommissioning of the facility. A letter from the Ontario Ministry of Natural Resources confirming that the Natural Heritage Assessment satisfies the REA Regulation criteria is provided in Appendix 9.

Stage 1 & 2 Archaeological Assessments were conducted on the Project site to assess the potential for presence of archaeological features that could be disturbed due to construction. No archaeological resources were identified within the proposed development area. A letter from the Ministry of Tourism and Culture confirming that the Stage 1 and 2 Archaeological Assessment is acceptable is provided in Appendix 14.

A Heritage Checklist was completed to determine if a heritage resource was located on the property. The results indicated that a heritage resource was not located on the property and therefore a heritage assessment was not required. For further information relating to protected properties and heritage resources please refer to Appendix 15.

### *Benefits to Ontario*

Power 900 homes with clean, sustainable energy.

60% of materials made or sourced from Ontario.

Contribute to the goal of creating 50,000 jobs in the Province's renewable energy industry through the Feed-In Tariff program.

A noise study was undertaken to assess noise emissions from the inverters and transformer. The solar panels themselves do not emit noise. Mitigation measures (e.g., sound enclosures over the transformer) will be applied as necessary to ensure the Project meets MOE requirements with respect to noise levels in rural environments.

Summaries of each of these reports are provided in Appendix A.

## 1.6: Guide to Reviewing Project Reports

The REA Regulation requires that the reports discussed in Section 1.4 be made available for Aboriginal and public review at least 60 days in advance of the second public information centre for the Project. This section of the Executive Summary has been prepared to use as a guide when reviewing and commenting on these reports.

Figure 2 identifies the Project reports that are available for review, summarizes the purpose of each report and identifies a logical progression in which reports should be read to form a complete understanding of the Project and its potential environmental implications. If read in this sequence, the first reports provide information on Project construction, operation and decommissioning plans. Next, the reports identify the existing environmental features on or near the site. Finally, the remaining reports assess the potential adverse effects based on the interactions of the Project components and activities with the environmental features.

If you have any questions or require clarification on any of the information contained within these reports, you may contact Mr. Boucher by phone. However, all comments on the Project should be submitted in writing by letter, fax or email.

Once all comments have been received, they will be compiled and reviewed by Recurrent Energy and Hatch. A Consultation Report will be prepared identifying all comments received and how each comment has been addressed, and where necessary, how reports have been changed as a result.

Once all comments have been addressed, the complete REA application package, including the application form and all of the Project reports, will be submitted to the MOE for review. The MOE will then have 6 months to review the application and make a decision on the Project. The MOE's decision will be posted for a 15-day comment period on the Environmental Bill of Rights (EBR) Registry. Provided no appeal requests are received, the Project could commence, subject to receipt of any other permits and approvals that may be required.

### *Submitting Comments*

Comments on these reports should be submitted, in writing, no later than 2 weeks following the final public meeting, to the attention of:

**Noel Boucher, B.Sc.**  
Environmental Coordinator  
Hatch Ltd.  
4342 Queen Street, Suite 500  
Niagara Falls, ON, Canada L2E 7J7  
Tel: 905-374-0701 ext. 5757  
Email: nboucher@hatch.ca



## Figure 2: Project Reports

Report Name	Purpose
<b>Project Description Report</b>	Summarizes Project location, construction and operational activities, potential environmental effects and mitigation, and social and environmental benefits.
<b>Construction Plan Report</b>	Summarizes construction activities, timelines, materials, temporary uses of land and waste materials generated and environmental effects, mitigation and monitoring during construction.
<b>Design and Operations Report</b>	Summarizes the site layout plan, Project components, operations and maintenance activities, communications and emergency response plan, and environmental effects monitoring plan.
<b>Decommissioning Plan Report</b>	Summarizes activities undertaken to decommission and restore the Project site.
<b>Natural Heritage Records Review Report</b>	Summarizes existing information on natural heritage features including woodlots, valleylands, wetlands, Areas of Natural and Scientific Interest and wildlife habitat.
<b>Natural Heritage Site Investigations Report</b>	Documents the results of the site investigations to identify and confirm natural heritage features on and within 120 m of the Project.
<b>Natural Heritage Evaluation of Significance Report</b>	Evaluates the significance of any natural heritage features located within 120 m of the Project.
<b>Natural Heritage Environmental Impact Study</b>	Identifies potential adverse environmental effects on significant natural heritage features, mitigation measures to prevent or minimize adverse effects and monitoring requirements.
<b>Water Body Records Review Report</b>	Summarizes existing information on waterbodies including lakes, permanent and intermittent streams and groundwater seepage areas.
<b>Water Body Site Investigation Report</b>	Documents the results of the site investigations to identify and confirm water body features on and within 120 m of the Project.
<b>Waterbodies Environmental Impact Study</b>	Identifies potential adverse environmental effects on waterbodies, mitigation measures to prevent or minimize adverse effects and monitoring requirements.
<b>Stage 1 &amp; 2 Archaeological Assessment Report</b>	Documents the results of the desktop Stage 1 study to identify archaeological potential and the Stage 2 site investigations to confirm if archaeological artefacts are present on the site.
<b>Heritage Resources</b>	Documents the results of the assessment of potential effects on protected properties and heritage resources.
<b>Noise Assessment Study Report</b>	Documents the results of noise modeling to identify noise emissions levels at nearby sensitive receptors and mitigation requirements to meet MOE noise emissions guidelines.

## Appendix A: Project Report Summaries

- Appendix A1 – Project Description Report Summary
- Appendix A2 – Construction Plan Report Summary
- Appendix A3 – Design and Operations Report Summary
- Appendix A4 – Decommissioning Plan Report Summary
- Appendix A5 – Natural Heritage Records Review Report Summary
- Appendix A6 – Natural Heritage Site Investigation Report Summary
- Appendix A7 – Natural Heritage Evaluation of Significance Report Summary
- Appendix A8 – Natural Heritage Environmental Impact Study Summary
- Appendix A9 – MNR Confirmation Letter
- Appendix A10 – Water Body Records Review Report Summary
- Appendix A11 – Water Body Site Investigation Report Summary
- Appendix A12 – Waterbodies Environmental Impact Study Summary
- Appendix A13 – Stage 1 & 2 Archaeological Assessment Report Summary
- Appendix A14 – MTC Confirmation Letter
- Appendix A15 – Protected Properties and Heritage Resources
- Appendix A16 – Noise Assessment Study Report Summary

**Appendix A1**  
**Project Description**  
**Report Summary**

**RE Orillia 3 ULC  
RE Orillia 3 Solar Project****Summary****Project Description Report****1. Introduction**

As per Section 17 of the Renewable Energy Approvals Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Project Description Report for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, in the Township of Oro-Medonte in County of Simcoe approximately 7 km west-southwest of Orillia (herein referred to as “RE Orillia 3” or the “Project”).

Table 1 of the REA Regulation requires proponents of Class 3 solar projects to prepare a Project Description Report (PDR). The PDR is prepared as one of the first Project documents once the REA process commences and is made available for public review prior to the first public meeting. The purpose of the PDR is to provide preliminary information regarding the Project to members of the public, Aboriginal groups, municipalities and other government agencies. The contents of the PDR are summarized in the following sections.

**2. Project Proponent**

The RE Orillia 3 Project is being proposed by RE Orillia 3 ULC, a Nova Scotia Unlimited Liability Company owned by Recurrent Energy, LLC through its subsidiaries.

RE Orillia 3 ULC has retained Hatch Ltd., an Ontario-based environmental and engineering consulting company, to undertake the REA process.

**3. Summary of Project**

The proposed Project consists of a 10-MW Class 3 solar facility, constructed on privately owned land in the Township of Oro-Medonte. RE Orillia 3 ULC has entered into a lease agreement with the private landowner for a lease term of 30 years. RE Orillia 3 ULC has obtained a contract from the Ontario Power Authority (OPA) to buy the power produced by the proposed facility under the Feed-In-Tariff (FIT) program for a period of 20 years. The proposed commercial operation date is February 2012. Decommissioning of the facility would likely not occur until around 2043.

Construction of the proposed facility would occur over a 6 to 10 month period with major construction activities including site preparation, access road construction, installation of solar panels

(including footings, support structures and panels), installation of inverters and transformer and all electrical cabling and site rehabilitation following construction.

The facility would operate 365 d/yr, generating electricity when sufficient solar irradiation conditions exist. Inspection and maintenance activities would be conducted periodically through the year, with primary activities including inspection of components, replacement of air filters, maintenance of ground cover vegetation and panel washing (approximately three times per year). The proposed facility would not consume any fuels nor produce any waste as a result of generation activities.

#### **4. Potential Environmental Effects**

The PDR summarized the existing environmental features on the Project location. The site primarily consists of agricultural land with some scattered hedgerows. A woodland associated with the Langman Marsh Provincially Significant Wetland (PSW) is situated immediately east and north of the Project location.

The PDR also identified preliminary potential environmental effects of the Project including

- potential erosion and sedimentation due to construction activities
- temporary loss of agricultural lands due to facility installation and operation
- minor removal of tree species in hedgerows
- noise emissions from the invertors and transformer.

Mitigation measures were identified to prevent or eliminate those effects. Potential effects and mitigation measures were assessed in more detail in other Project reports.

#### **5. Outline of REA Process**

The PDR provided a point form outline of the REA process including the main points of Aboriginal, public and agency consultation and reporting and assessment requirements, including identification of the Project reports required to be prepared under the REA Regulation.

#### **6. Project's Social and Environmental Benefits**

Benefits provided by the Project include

- increasing diversity, reliability, public health and environmental benefits of energy mix
- promoting stable electricity prices
- protecting public health and improving environmental quality
- ameliorating air quality problems
- improving public health by reducing the burning of fossil fuels
- enhancing energy resource diversity.

**Appendix A2**  
**Construction Plan**  
**Report Summary**

August 3, 2011

RE\_Orillia 3\_CPR\_Summary\_Rev\_1

## **RE ORILLIA 3 PROJECT SUMMARY: CONSTRUCTION PLAN**

### **Introduction:**

RE Orillia 3 (the "Project") is made by RE Orillia 3 ULC. As per the March 1, 2010 draft of *Technical bulletin three: Guidance for preparing the Construction Plan Report as part of an application under O.Reg.359/09 PIBS 7438e* made under the Renewable Energy Approvals, the following is a summary of the reporting completed for the DRAFT Construction Plan for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5 megawatt (MW) facility on a parcel of agricultural land totalling approximately 15 hectares located about 7 km southwest of Orillia, in the Township of Oro-Medonte, County of Simcoe, Province of Ontario (herein referred to as RE Orillia 3 project).

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. This project will use 230W – 280W crystalline photovoltaic modules to form the solar panel arrays. The panels will be stationary, arranged in rows mounted off the ground with a fixed tilt angle to the south to catch the sun's rays. Electricity generated by the rows of panels is collected through underground cabling by inverter/transformer pairs which convert the DC electricity to alternating current (AC) at a specified voltage. The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, the main power transformer increases the voltage to the level of voltage of the electricity distribution grid. The power passes through protective relays (SEL - 351) and fault-breaking switches before being delivered to Hydro One's electrical network. The total installed capacity of the Project is 6.5 MW AC.

### **Construction:**

The construction of the facility will be conducted in three phases:

- Phase 1: Site preparation;
- Phase 2: Construction and Installation; and
- Phase 3: Post-installation.

Construction of the facility is scheduled to begin in July 2011 and a completion date between February, 2012 and May 2012. The commercial operation date and associated construction schedules proposed herein are currently estimates based on a number of variables. The start of construction and operations dates for the project maybe significantly

changes, either accelerated or delayed, due to changes in expected timeframes for regulatory approval, equipment procurement, and/or project scheduling optimization.

### Phase 1 – Site Preparation

Site preparation activities includes: connecting a temporary power supply; site survey and staking; road and parking area construction; water well installation; preparation of site including, removal of vegetation and topsoil and compaction of sub-grade, land preparation for construction of substation and control house, shaping of ditches and swales and; installation of a perimeter security fence.

Schedule: July 30, 2011 to November 29 2011

### Phase 2 – Construction and Installation

Construction and installation activities includes: excavation of substation area for footings, foundations and oil containment area; construction of substation and control house; installation of culverts across ditches to the public roadways and; installation of panels, transformers, inverters, cable and other equipment. The site will accommodate approximately 25,600 solar panels.

Schedule: October 4, 2011 to February 13, 2012

### Phase 3 – Post-installation

Post-installation activities include the testing of systems, calibration of equipment and troubleshooting, prior to commencement of operations.

Schedule: January 24, 2012 to February 13, 2012

Re-seeding/re-vegetating the site including ditches and swales will occur in the spring of 2012 when weather conditions allow. A non-invasive, and low-maintenance plant species (determined in conjunction with the Nottawasaga Valley Conservation Authority and/or Ministry of Natural Resources) will be spread in order to reduce soil erosion.

### **Communications and Emergency Response:**

Outlined in the report is a general plan for emergency communications and response at the site, including a listing of applicable local contacts for each type of emergency. A response plan to deal with general inquiries is also included in the report. A detailed emergency response plan will be developed in consultation with the local municipal authorities and emergency response agencies prior to the commencement of the construction.

**Appendix A3**  
**Design and Operations**  
**Report Summary**

## **RE ORILLIA 3 PROJECT SUMMARY: DESIGN & OPERATIONS**

### **Introduction:**

RE Orillia 3 (the "Project") is made by RE Orillia 3 ULC. As per the March 1, 2010 draft of *Technical bulletin two: Guidance for preparing the Design and Operations Report as part of an application under O. Reg. 359/09 PIBS 7437e* made under the Renewable Energy Approvals, the following is a summary of the reporting completed for the DRAFT Design and Operations of the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5 megawatt (MW) facility on a parcel of agricultural land totalling approximately 15 hectares located about 7 km southwest of Orillia in the Township of Oro-Medonte, County of Simcoe, Province of Ontario (herein referred to as RE Orillia 3 project).

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. This project will use 230W – 280W crystalline photovoltaic modules to form the solar panel arrays. The panels will be stationary, arranged in rows mounted off the ground with a fixed tilt angle to the south to catch the sun's rays. Electricity generated by the rows of panels is collected through underground cabling by inverter/transformer pairs which convert the DC electricity to alternating current (AC) at a specified voltage. The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, the main power transformer increases the voltage to the level of voltage of the electricity distribution grid. The power passes through protective relays (SEL - 351) and fault - breaking switches before being delivered to Hydro One's electrical network. The total installed capacity of the Project is 6.5 MW AC.

### **Structures:**

In addition to the PV panels, the facility will consist of a substation with a power transformer, control house, and internal access roadways.

Structural components in the substation area will include:

- Footings and oil containment system for the power transformer;
- Footings for the control house; and
- A pre-fabricated control house to enclose the protection and control equipment.

The internal road system will consist of approximately 1575 m of granular roadways with widths varying from 3.5 to 5.0 m and varying depths of granular pavement structure depending on the type of subsoils encountered on the site.

#### **Stormwater:**

In general, the development will follow the existing topography of the site to the greatest extent possible in order to minimize the extent of re-grading required and to maintain existing drainage patterns. A system of swales, ditches and culverts will be constructed to collect and transport stormwater runoff through the site to existing drainage outlets. These swales and ditches will generally be installed adjacent to the proposed internal roadways and will be lined with vegetation to minimize the potential for erosion.

#### **Maintenance:**

Maintenance will include panel repairs, panel washing, maintenance to transformers, inverters and other electrical equipment as needed, maintenance to the oil/water separator system and road and fence repairs. Inspections will occur monthly and all items will be documented and repairs will take place accordingly, as required.

As part of maintenance to the property, vegetation onsite will be managed appropriately. Control of the vegetation will be satisfied to allow access to all areas of the site, as well as maintaining good aesthetics.

A water well will be installed during the construction phase of the project. The water will be used for panel washing and dust control (when required). It is estimated that approximately 17,000 L of water would be drawn from the well over three or four days for each panel washing maintenance cycle.

The facility electrical operations will be monitored remotely with a SCADA system. The facility will be monitored by security cameras installed around the facility.

#### **Landscaping Plan:**

A conceptual landscaping plan was prepared to identify the vegetation species and planting plans for the visual screening that will be installed along portions of the Line 13 North property frontage and for the ground cover species that will be planted throughout the facility.

#### **Communications and Emergency Response:**

Outlined in the report is a general plan for emergency communications and response at the site, including a listing of applicable local contacts for each type of emergency. A response plan to deal with general inquiries is also included in the report. A detailed emergency response plan will be developed in consultation with the local municipal authorities and emergency response agencies prior to the commencement of the construction.

**Appendix A4**  
**Decommissioning Plan**  
**Report Summary**

August 3, 2011

RE\_Orillia 3\_DPR\_Summary\_Rev\_1

## **RE ORILLIA 3 PROJECT SUMMARY: DECOMMISSIONING**

### **Introduction:**

RE Orillia 3 (the "Project") is made by RE Orillia 3 ULC. As per the March 1, 2010 draft of *Technical bulletin four: Guidance for preparing the Decommissioning Plan Report as part of an application under O. Reg. 359/09 PIBS 7439e* made under the Renewable Energy Approvals, the following is a summary of the reporting completed for the DRAFT Decommissioning Plan for the RE Orillia 3 Solar Project.

Decommissioning includes details for the RE Orillia 3 facility at the cease of operations, or if the facility is abandoned before completion. The area is currently farm land and the intent of the decommissioning process will be to return the location to as close to the baseline conditions established in 2009 as possible.

RE Orillia 3 ULC is proposing to develop and operate a 6.5 megawatt (MW) facility on a parcel of agricultural land totalling approximately 15 hectares located about 7 km southwest of Orillia in the Township of Oro-Medonte, County of Simcoe, Province of Ontario (herein referred to as RE Orillia 3 project).

The Project will consist of solar photovoltaic panels that generate direct current (DC) electricity when exposed to sunlight. This project will use 230W – 280W crystalline photovoltaic modules to form the solar panel arrays. The panels will be stationary, arranged in rows mounted off the ground with a fixed tilt angle to the south to catch the sun's rays. Electricity generated by the rows of panels is collected through underground cabling by inverter/transformer pairs which convert the DC electricity to alternating current (AC). The AC current then continues from the inverters through underground cabling to a single main facility substation. At this substation, the main power transformer increases the voltage to the level of voltage of the electricity distribution grid. The power passes through protective relays (SEL - 351) and fault - breaking switches before being delivered to Hydro One's electrical network. The total installed capacity of the Project is 6.5 MW AC.

### **Removal of Equipment:**

The decommissioning and restoration process comprises removal of above ground structures; removal of below ground structures; and restoration of topsoil, re-vegetation and seeding.

It is anticipated that structures will be fully removed from the ground. In the event that a structure breaks off below 1.2 m (4 feet) below the ground surface, the remaining section

will be left in place. If the structure breaks off in the upper 1.2 m (4 feet) of soil, it will be excavated and removed.

Removal of the above ground equipment includes electrical wiring, the equipment on the inverter pads and the interconnection transformer pad and associated equipment. The equipment will be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers and secured in a truck transport trailer for shipment off-site.

Removal of the solar modules includes removing the racks which the solar panels are attached and placed in secure transport crates and into a trailer for storage for ultimate transportation to another facility. The bolts and reusable fasteners, attaching each module to the racks, will be removed will be saved for re-use, where possible. Once the solar modules have been removed, the racks will be disassembled and the structures supporting the racks will be removed. These components will be scraped and sold for salvage value.

All other associated site infrastructure will be removed which includes roads, fences, awnings, concrete pads that supported the inverters, transformers and related equipment, and the underground electrical wiring. The fence and gate shall be removed and all materials recycled to the greatest extent possible. The culvert crossing will be removed if requested by the landowner and approved by the applicable authorities.

#### **Site Restoration:**

All road and other areas compacted during original construction or by equipment used in the decommissioning, shall be tilled in a manner adequate to restore the sub-grade material to the proper density and depth consistent with the surrounding fields. Low areas will be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, topsoil will be placed to a depth and density consistent with the surrounding field. Compost will be applied to the topsoil spread and then the entire site will be tilled to further loosen the soil and blend in the compost.

Finally, an appropriate seed mixture, in accordance with the lease agreement with the landowner, subject to guidelines of local and provincial authorities, will be broadcast or drilled across the site and weed-free mulch spread will be crimped in to stabilize the soil until germination takes place and the young plants are established to facilitate moisture retention in the soil which, helps improve germination and survival of the seedlings.

#### **Communications and Emergency Response:**

Outlined in the report is a general plan for emergency communications and response at the site, including a listing of applicable local contacts for each type of emergency. A response plan to deal with general inquiries is also included in the report. A detailed emergency response plan will be developed in consultation with the local municipal authorities and emergency response agencies prior to the commencement of the decommissioning.

**Appendix A5**  
**Natural Heritage**  
**Records Review Report Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Natural Heritage Records Review Report

### 1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Records Review Report for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on approximately 15-hectare (ha) parcel of land located about 7 km west-southwest of Orillia in the Township of Oro-Medonte in County of Simcoe (herein referred to as "RE Orillia 3" or the "Project").

Section 25 of the REA Regulation requires proponents of Class 3 solar projects to undertake a natural heritage records review. Records were searched within a minimum distance of 1 km from the Project location from Ministry of Natural Resources (MNR), federal government, County of Simcoe, Township of Oro-Medonte and other relevant sources.

### 2. Results

Key natural features and points of interest identified during the records review include the following:

- Langman Marsh Provincially Significant Wetland (PSW) appears to be approximately 200 m from the Project location
- Bass Lake PSW and the Bass Lake ANSI appear to be ~ 600 m away
- satellite imagery shows that small woodlot present in MNR mapping to the west of the Project location is no longer present
- woodlot is present to the east and north of the Project location which appears to be part of the Langman Marsh PSW
- no specific wildlife habitat features, ANSIs or valleylands were identified on or within 120 m of the Project location.
- there are no provincial parks or conservation reserves on or within 120 m of the Project location

- no Crown land, and therefore Crown Forest Resources were identified in the vicinity of the Project location
- Ontario Herpetofaunal Summary Atlas identified several species of reptile and amphibian whose ranges may include with the Project location of which several are species of conservation concern including Milksnake (*Lampropeltis triangulum*), Western Chorus Frog (*Pseudacris triseriata*), and Snapping Turtle (*Cheyltra serpentine*)
- Ontario Breeding Bird Atlas identified species of conservation concern in the vicinity of the Project: Red-headed Woodpecker (*Melanerpes erythrocephalus*), Olive-sided Flycatcher (*Contopus cooperi*), Cerulean Warbler (*Dendroica cerulea*), Golden-winged Warbler (*Vermivora chrysoptera*), Black Tern (*Chlidonias niger*), and Common Nighthawk (*Chordeiles minor*).

### 3. Conclusions

Table 3.1 summarizes the results of the records review.

**Table 3.1 Summary of Records Review Determinations**

Determination to be Made	Yes/No	Description
Is the Project in or within 120 m of a provincial park or conservation reserve?	No	
Is the Project in a natural feature?	No	The Project location not in a natural feature.
Is the Project within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project location.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There are woodlands and wetlands within 120 m of the Project location.

Therefore, depending on the layout of the proposed Project, some components could potentially be located within 120 m of a natural feature. As per Section 26 of the REA Regulation, a site investigation will be required to confirm the features identified during this records review. The site investigation will (i) identify if any corrections to the information presented herein are required, (ii) determine whether any additional natural features exist on or adjacent to the Project location, (iii) confirm the boundaries of the natural features within 120 m of the Project, and (iv) determine the distance from the Project to the natural feature boundary. In addition, the potential for species at risk identified will be considered during the site investigation.

**Appendix A6**  
**Natural Heritage**  
**Site Investigation Report Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Natural Heritage Site Investigations Report

### 1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Site Investigations Report for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, located in the Township of Oro-Medonte in County of Simcoe approximately 7 km west-southwest of Orillia (herein referred to as "RE Orillia 3" or the "Project").

Section 26 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Natural Heritage Site Investigation for the purpose of determining if the information provided in the Natural Heritage Records Review Report is correct, if any additional natural heritage features are present within 120 m of the Project, and if the borders and distance of the natural heritage features from the Project location are correct. To obtain this information a site visit was completed. If any features are located within the specified setbacks an Evaluation of Significance is required.

### 2. Results

The Project location is composed entirely of pastureland, with some scattered hedgerows and shrubs around the periphery of the property. The Project location and the surrounding areas would be classified as wildlife habitat. There is a large woodland present north and east boundary of the Project location and this woodland is also a part of the Langman Marsh Provincially Significant Wetland (PSW). During the site investigation the Langman Marsh PSW boundary was revised and now occurs within 120 m of the Project location.

During the site investigation a valleyland was observed on the Project location that was not identified in the Records Review. The valleyland transports surface water runoff from upland areas to the Langman Marsh Provincially Significant Wetland located north of the Project location; this is the primary function of the valleyland

The woodland originally determined to be located to the west of the Project location, as identified in the Natural Heritage Records Review Report, is no longer present and this area is now a scrubland. The second woodland was identified as having the functions of

- contribution to extent of woodland landscape cover
- contribution to the riparian cover associated with the Langman Marsh PSW
- contribution to local and regional water quality and quantity
- contributions to local nutrient cycling and food web interactions

## 2.1 Habitats of Seasonal Concentrations of Animals

The Project location and surrounding 120 m was searched for winter deer yards/moose late winter habitat, colonial bird nesting sites, waterfowl stopover and staging areas, waterfowl nesting, shorebird/landbird migratory stopover areas, raptor winter feeding and roosting sites, wild turkey winter range, turkey vulture summer roosting areas, reptile hibernacula, bat hibernacula, bullfrog concentration areas, and migratory butterfly stopover areas. Only candidate significant raptor winter feeding and roosting habitat was identified on and within 120 m of the Project location.

## 2.2 Rare Vegetation Communities or Specialized Habitat for Wildlife

Vegetation communities and specialized habitat for wildlife were searched on and within 120 m of the Project location. Rare vegetation communities include alvars, tall-grass prairies, savannahs, rare forest types, talus slopes, rock barrens, sand barrens and Great Lakes dunes. None of these vegetation communities were identified during the site investigation.

Specialized wildlife habitats include habitat for area sensitive species, forest providing a high diversity of habitats, old-growth or mature growth stands, foraging areas with abundant mast, woodlands supporting amphibian breeding ponds, turtle-nesting habitat, specialized raptor-nesting habitat, mink, otter, marten and fisher denning sites, highly diverse areas, cliffs and caves and seeps and springs. Woodland supporting amphibian breeding ponds, seepage areas, and habitat for Ovenbird and Savannah Sparrow, area sensitive species, were determined to occur on or within 120 m of the Project location.

## 2.3 Habitat of Species of Conservation Concern

Habitat for Red-headed Woodpecker, Olive-sided Flycatcher, Red-headed Woodpecker, Golden-winged Warbler, Canada Warbler, Cerulean Warbler, Black Tern, Common Nighthawk, Milksnake, Snapping Turtle, Western Chorus Frog, Yellow Bartonian, and Ram's-head Lady's-Slipper was searched for on and within 120 m of the Project location. Based on the results of the site investigations, there are no habitats for species of conservation concern on or within 120 m of the Project location, however should the woodland be determined to be significant impacts to Olive-sided Flycatcher, Red-head Woodpecker, Canada Warbler, Western Chorus Frog and Milksnake will be assessed.

## 2.4 Animal Movement Corridors

The hedgerows and woodland located on and within 120 m of the Project located were determined to be animal movement corridors.

## 3. Conclusions

Based on the results of the site investigation identified above, there are several corrections to the results of the natural heritage records review (Hatch Ltd., 2010a) required. These include

- there is no longer a woodland present within 120 m of the western portion of the Project location
- a valleyland was identified that was not noted during the records review
- several wildlife habitats were identified on and within 120 m of the Project location that were not identified during the records review
- additional wetland areas were identified within 120 m of the Project location than those identified during the records review.

There are three features present within the vicinity of the Project location that will require an Evaluation of Significance in order to determine whether Environmental Impact Studies (EIS) are required. These include the following three categories requiring Evaluation of Significance:

- valleylands
- woodlands
- wetlands
- wildlife habitats, including
  - ◆ raptor winter feeding and roosting
  - ◆ woodlands supporting amphibian breeding habitat
  - ◆ seepage area
  - ◆ habitat for area sensitive species (e.g., Ovenbird and Savannah Sparrow)
  - ◆ hedgerows and woodlands as animal movement corridors.

Therefore, some components of the Project are located within 120 m of a natural feature. As per Section 27 of the REA Regulation, an Evaluation of Significance is required to identify if the wildlife habitats, woodland, valleyland and Langman Marsh PSW are significant natural features.

**Appendix A7**  
**Natural Heritage**  
**Evaluation of Significance**  
**Report Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Natural Heritage Evaluation of Significance Report

### 1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Natural Heritage Features – Evaluation of Significance Report for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, located in the Township of Oro-Medonte in County of Simcoe approximately 7 km west-southwest of Orillia (herein referred to as “RE Orillia 3” or the “Project”).

Section 24 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Evaluation of Significance for each natural heritage feature identified in the records review and site investigations reports within 120 m of the Project. These reports identified the need to complete an Evaluation of Significance for:

- valleylands
- woodlands
- wetlands
- wildlife habitats, including
  - ◆ raptor winter feeding and roosting
  - ◆ woodlands supporting amphibian breeding habitat
  - ◆ seepage area
  - ◆ habitat for area sensitive species (e.g., Ovenbird and Savannah Sparrow)
  - ◆ hedgerows and woodlands as animal movement corridors.

## 2. Results

### 2.1 Wildlife Habitat

The criteria and processes outlined in the Ministry of Natural Resources Natural Heritage Reference Manual (NHRM) and Significant Wildlife Habitat Technical Guide (SWHTG) were used to evaluate the significance of wildlife habitat. These resources identify four main types of wildlife habitat that are considered to be significant. These include: habitat for seasonal concentrations of animals, rare or specialized habitats for wildlife, habitat for species of conservation concern and wildlife movement corridors.

Raptor winter feeding and roosting areas was evaluated based on the criteria of relative importance of the site, presence of species of conservation concern/species diversity/abundance, size of site, level of disturbance, location of site, quality of habitat, and historical use. This feature was determined not to be significant as it did not meet any of the criteria.

Habitat for Ovenbird, an area sensitive species was evaluated based on the criteria of presence of rare, uncommon, or declining species, overall area of the site, amount of vertical stratification, degree of disturbance, amount of adjacent residential development, current representation of specialized habitat in the planning area, provision of significant wildlife habitat, and potential long-term protection of the site. This feature was determined to be significant as it met five of the eight criteria.

Habitat for Savannah Sparrow, an area sensitive species, was evaluated based on the criteria of presence of rare, uncommon or declining species, overall area of the site/current representation of the specialized habitat, amount of vertical stratification of the site, degree of disturbance, amount of adjacent residential development, provision of significant wildlife habitat, and potential for long-term protection of the site. While two of the seven criteria were met, the expected availability of habitat on the Project location following construction, and with the level of disturbance present within the suitable habitat, it was determined that this feature to not meet the criteria for significance.

The woodland supporting amphibian breeding ponds was evaluated on the criteria of provision of significant wildlife habitats, degree of permanence, species diversity of pond, presence of rare species, size and number of ponds, diversity of submergent and emergent vegetation, presence of shrubs, logs at edge of pond, adjacent forest habitat, water quality, and level of disturbance. This feature is considered to be significant as it met seven of the ten criteria.

The seepage area was evaluated based on the criteria of abundance of seeps, duration of surface water, nature of adjacent area, presence of rare species, and location of seeps. The seepage area was determined to be significant as it met two of the five criteria.

The animal movement corridor associated with the woodland was evaluated on the criteria of importance of areas to be linked, importance of corridor to survival of target species, dimensions of corridor, continuity of corridor, habitat and habitat structure of the corridor, species found in the corridor or presumed to be using the corridor, risk of mortality for species using the corridor, opportunity for protection and provisions of other related values. The majority of hedgerows on and within 120 m of the Project location were determined not to meet the criteria for animal movement corridors. The exception being the hedgerow which runs 120 m south of the Project location, which connects the significant woodland/PSW to a significant animal movement corridor across Line 13 N, and as a result it will be considered a significant animal movement corridor. The woodland met all the criteria and therefore is considered to be a significant animal movement corridor.

## 2.2 Woodlands

The criteria for establishing woodland significance identified within Section 7 of the Natural Heritage Reference Manual (MNR, 2010). These criteria include

- woodland size (woodlands greater than 50 ha are significant)
- ecological function
  - ◆ woodland interior (woodlands with greater than 8 ha of forest interior)
  - ◆ proximity to other woodlands or other habitats (woodlands within 30 m of a significant natural feature receiving ecological benefit from the woodland)
  - ◆ linkages (woodlands providing a connecting link between two other significant features)
  - ◆ water protection (woodlands within 50 m of water features)
  - ◆ woodland diversity (a high native diversity through a combination of composition and terrain)
- uncommon characteristics (i.e., old-growth, rare vegetation communities)
- economic and social functional values (high economic or special services value).

The woodland meets the criteria of forest interior size, proximity to a watercourse, and proximity to a significant natural feature, and is considered to be a significant woodland.

## 2.3 Valleyland

The MNR document titled “Natural Heritage Reference Manual for Natural Heritage Policies for the Provincial Policy Statement 2005, Second Edition” (2010) explains a series of criteria used to determine the significance of valleylands. This criteria includes

- surface water functions
- groundwater functions
- landform prominence
- distinctive geomorphic landforms
- degree of naturalness
- community and species diversity
- unique communities and species
- habitat value
- linkage function.

While the valleyland only meets one of the nine criteria, it is still considered significant for its groundwater functions.

## 2.4 Wetland

The Ontario Wetland Evaluation System (OWES) was developed by the MNR to determine the significance of wetlands. The Langman Marsh wetland was evaluated by the MNR and is recognized as a Provincially Significant Wetland (PSW).

Natural Resource Solutions Inc. (NRSI) was retained by Hatch Ltd. to conduct the wetland evaluations. Their evaluation found that the new wetland communities identified during the site investigation were part of the Langman Marsh PSW.

### 3. Conclusions

Table 3.1 summarizes the results of the evaluation of significance report.

**Table 3.1 Significant Natural Features on and within 120 m of the Project Location**

Natural Feature		Project Location	Adjacent Lands (within 120 m)
SIGNIFICANT	Woodland	No	Yes
	Wildlife Habitat	Yes	Yes
	Valleyland	No	Yes
PROVINCIALY SIGNIFICANT	Wetland	No	Yes
	Earth Science ANSI	No	No
	Life Science ANSI	No	No

Therefore, of the natural heritage features evaluated wildlife habitats, the woodland north and east of the Project location, a valleyland and Langman Marsh PSW met the criteria of significance. These significant natural features require an Environmental Impact Study as per Section 38 of the REA Regulation.

**Appendix A8**  
**Natural Heritage**  
**Environmental Impact**  
**Study Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Natural Heritage Environmental Impact Study

### 1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Environmental Impact Study – Natural Heritage Features for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, located in the Township of Oro-Medonte in County of Simcoe approximately 7 km west-southwest of Orillia (herein referred to as “RE Orillia 3” or the “Project”).

Section 38 of the REA Regulation requires proponents of Class 3 solar projects to complete an Environmental Impact Study (EIS) for all significant natural heritage features determined to be within a specified setback in order to obtain a REA. The EIS is required in order to determine (i) any potential negative environmental effects on the natural features, (ii) identify mitigation measures, (iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects, and (iv) describe how the Construction Plan Report addresses any negative environmental effects.

One woodland, a valleyland, the Langman Marsh Provincially Significant Wetland (PSW), and wildlife habitats associated with the Project location were identified as significant and therefore an EIS was completed. The EIS concluded that there would not be any significant adverse effects as a result of the Project on these significant natural features.

### 2. Results

The results of the EIS on the significant natural features are summarized in Table 2.1.

**Table 2.1 Summary of Negative Environmental Effects and Proposed Mitigation**

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
<b>Vegetation Communities/Wildlife Habitat</b>		
Construction	Removal of vegetation due to direct encroachment on the natural features.	No direct encroachment into the significant natural features. Work areas in proximity to the woodland and wetland to be marked, workers to be made aware not to enter the woodland and wetland.
Construction/ Decommissioning	Heavy dust may impact photosynthesis due to fugitive dust generation.	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, and avoid earthworks during windy days
Construction	Increase in surface water runoff rate and alter surface water pattern and therefore effect vegetation due to land grading and ditching, soil compaction, and vegetation removal.	Minor grading will occur and take into consideration current land grade to replicate present storm water flow patterns. Discing or other soil loosening methods will be used on compacted areas. Long term ground cover will be planted.
Operations	Alterations to surface water runoff and therefore vegetation communities due to changes in grading and ditching, impervious or less pervious surfaces and changes in vegetation.	Minor grading will occur and take into consideration current land grade to replicate present storm water flow patterns. Long term ground cover will be planted. Impervious and less pervious soils drain into ditches or localized areas; therefore no appreciable impact to local drainage patterns.
Operations	Placement of equipment on Bobolink breeding habitat.	Operations of solar facility will not produce any noise or move to cause avoidance of Bobolink. Noise generated by transformers/inverters may cause avoidance in the immediate vicinity. Ground cover will be selected to promote Bobolink nesting and will not be mowed during the breeding bird period.
Construction	Decrease in groundwater table if excavations intersect with the groundwater table.	Due to timing window of excavation activity (2 weeks or less) if pumping of groundwater is required it will only be a minor amount. Pumped groundwater will be managed and discharge to meet MOE requirements.
Construction	Decrease in groundwater table due to water takings from a new well during construction.	Typical withdrawals will be approximately 10,000 L/d. If more water is required periodically it will be limited to 45,000 L/d to minimize local changes in the groundwater table.
Operation	Decrease in groundwater table due to water takings from a new well during operations.	Withdrawals for maintenance purposes will be limited to 45,000 L/d to minimize local changes in the groundwater table. Panel washing will take approximately 17,000 L over a 4 to 5 day period, approximately three times per year.
Decommissioning	Alterations to surface water runoff due to changes in grading and changes in vegetation.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions.
<b>Wildlife Communities</b>		
Construction/ Decommissioning	<p>Auditory and visual disturbance of local wildlife populations may result in a short-term reduction of resident populations.</p> <p>Potential for incidental take of wildlife.</p>	Vehicular speeds on access roads will be restricted. Construction workforce will be made aware of the potential for wildlife occurring on the Project location and to avoid wildlife wherever possible. If wildlife are observed on the Project location, they will be either directed off of the Project location by a worker or collected by a designated employee, who has been provided with protocols for the safe handling and transport of wildlife, and transported to the nearest available location off site and released.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Construction/ Decommissioning	Disturbance from construction/ decommissioning activities on the seepage area	Seepage area is located approximately 35 m from the Project location therefore no direct encroachment will occur. Construction and decommissioning will not occur during the winter months
Construction/ Decommissioning	Auditory and visual disturbance of amphibians within breeding habitat	Construction activities to occur during the day whereas amphibian breeding occurs during the night. Mitigation measures discussed above to be implemented.
Operations	Potential for incidental take of wildlife.	Vehicular speeds on access roads will be restricted. Visual monitoring of access roads will also occur. Workforce will be made aware of the potential for wildlife occurring on the Project location. If wildlife are observed on the Project location, they will be either directed off of the Project location by a worker or collected by a designated employee, who has been provided with protocols for the safe handling and transport of wildlife, and transported to the nearest available location off site and released. Known occurrences of incidental take due to mowing will be reported and species impacted will be documented. If the species is determined to be a species of conservation concern, work within the area will be ceased immediately, and the MNR/EC will be contacted to make them aware of the occurrence. Work in the area will remain ceased until a survey is conducted by a trained biologist to ensure that there are no further species of conservation concern present in the area.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

As discussed in the Design and Operations Report, environmental effects monitoring is proposed with respect to any negative environmental effects that may result from engaging in the Project. The monitoring plan in the Design and Operations Report identifies: performance objectives with respect to the negative environmental effects; mitigation measures to assist in achieving the performance objectives; and, a program for monitoring negative environmental effects for the duration of the time the Project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

In addition, the Construction Plan Report for the Project details the construction and installation activities, location and timing of construction and installation activities, any negative environmental effects that result from construction activities within 300 m of the Project and mitigation measures for the identified negative environmental effects.

### 3. Conclusions

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on the significant natural features. Potential negative effects are associated with

- alterations to vegetation communities/wildlife habitat as a result of
  - ◆ direct encroachment on the feature
  - ◆ fugitive dust generation
  - ◆ changes to surface water runoff
  - ◆ disturbance of wildlife communities as a result of Project activities.

Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency in the event that they do occur. The primary mitigation measure that will prevent adverse effects on the natural features is avoidance of direct encroachment onto the features themselves. Certain construction activities may have short-term minor impacts, but these would be temporary in nature. Operational activities are not anticipated to impact the natural heritage features. Decommissioning activities will be similar to construction activities and as such they may cause short-term minor impacts; yet once the Project location has been restored to its previous condition, no long-term impacts are anticipated.

**Appendix A9**  
**MNR Confirmation Letter**

April 29, 2011

RE Orillia 3 ULC  
c/o Bob Leah, Recurrent Energy LLC  
800 E. Northwest Highway  
Suite 611  
Palatine, Illinois  
60074

Dear Mr. Leah,

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals regulation (O.Reg.359/09), applicants are required to prepare a natural heritage assessment and environmental impact study using evaluation criteria or procedures established or accepted by the Ministry of Natural Resources (MNR). The regulation requires MNR to confirm that the natural heritage assessment and environmental impact study, including mitigation measures, were prepared using established procedures acceptable to MNR. The MNR's confirmation letter, along with other required project documentation, must be submitted to MOE as part of an application for a Renewable Energy Approval for consideration by MOE in making their Renewable Energy Approval decision.

The Ministry of Natural Resources (MNR) has reviewed the natural heritage assessment and environmental impact study for RE Orillia 3 Solar Project in the Township of Oro-Medonte submitted by RE Orillia 3 ULC on April 26, 2011.

In accordance with sections 28(2) and 38(2)(b) of the Renewable Energy Approvals regulation, MNR provides the following confirmations following review of the natural heritage assessment reports:

1. The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.
2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR, if no natural features were identified.
3. The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR (if required).
4. The MNR confirms that the project location is not in a provincial park or conservation reserve.

5. The MNR confirms that the environmental impact study report has been prepared in accordance with procedures established by the MNR.

MNR is providing this confirmation letter based on the review of the information provided in your natural heritage assessment reports. Applicants should be aware of the transition provisions under section 62 of the amended Renewable Energy Approvals regulation and fulfill natural heritage assessment requirements accordingly.

Where specific commitments have been made by the applicant in the natural heritage assessment with respect to project design, construction, rehabilitation, operation, mitigation, or monitoring, MNR expects that these commitments will be considered in MOE's Renewable Energy Approval decision and, if approved, be implemented by the applicant.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, including those sections describing the environmental effects monitoring plan and construction plan report. Should any changes be made to the proposed project that would alter the natural heritage assessment, MNR may need to undertake additional review of the natural heritage assessment.

In accordance with section 12(1) of the Renewable Energy Approvals Regulation, this letter must be included as part of your application submitted to the MOE for a Renewable Energy Approval.

If you wish to discuss any part of the confirmation or additional comments provided, please contact Whitney Moore, Renewable Energy Planning Ecologist, at (705) 725-7560.

Sincerely,



Mark Shoreman  
District Manager  
Midhurst District, MNR

cc. Jim Beal, Renewable Energy Provincial Field Program Coordinator, Regional Operations Division, MNR  
Narren Santos, Environmental Assessment and Approvals Branch, MOE

**Appendix A10**  
**Water Body**  
**Records Review Report Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Water Body Records Review Report

### 1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Records Review Report for the Re Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, located about 7 km west-southwest of Orillia in the Township of Oro-Medonte in County of Simcoe; herein referred to as “RE Orillia 3” or the “Project”.

Section 30 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Water Body Records Review. The focus of the assessment was on identifying whether or not the Project was located within or adjacent to any of the specified water features (e.g. within 120 m of the average annual high water mark of a permanent or intermittent stream). Records were searched from the Ministry of Natural Resources (MNR), Ontario Ministry of Agriculture, Food and Rural Affairs, federal government, Nottawasaga Valley Conservation Authority (NVCA), County of Simcoe, Township of Oro-Medonte and other relevant sources.

### 2. Results

Key water body features and points of interest identified during the records review include the following:

- no waterbodies were identified within 120 m of the Project location
- stream channel associated with the Langman Marsh Provincially Significant Wetland (PSW), located approximately 200 m northeast of the Project location
- NVCA mapping showed that the Regulated Area associated with the 120 m buffer around the Langman Marsh PSW encroaches onto the northeast corner of the Project location
- Bass Lake is approximately 700 m away.

### 3. Conclusions

Table 3.1 summarizes the results of the records review.

**Table 3.1 Summary of Records Review Determinations**

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	No part of the Project will be constructed within a water body
Is the Project within 120 m of the average annual high water mark of a lake, other than a lake trout lake that is at or above development capacity?	No	Bass Lake is located approximately 700 m north of the Project.
Is the Project within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity?	No	No lake trout lakes are present on or within 300 m of the Project location
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	No	No water courses were identified during the records review on or within 120 m of the Project.
Is the Project within 120 m of a seepage area?	No	No seepage areas were identified during the records review within 120 m of the Project.

A site investigation, as required in Section 31 of the REA Regulation will be completed to (i) confirm the features identified during this records review, (ii) identify if any corrections to the information presented herein are required, (iii) determine whether any additional waterbodies exist in the Project area, (iv) confirm the boundaries of any water feature within 120 m of the Project and (v) determine the distance from the Project to the water boundary.

# **Appendix A11**

## **Water Body Site Investigation Report Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Water Body Site Investigations Report

### 1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Water Body Site Investigations Report for the RE Orillia 3 Solar Project (Hatch, 2010).

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, located in the Township of Oro-Medonte in County of Simcoe approximately 7 km west-southwest of Orillia (herein referred to as "RE Orillia 3" or the "Project").

Section 31 of the REA Regulation requires proponents of Class 3 solar projects to undertake a Water Body Site Investigation for the purpose of determining if the information provided in the Water Body Records Review Report is correct, if any additional waterbodies are present within 120 m of the Project, and if the borders and distance of the waterbodies from the Project location are correct. To obtain this information a site visit was completed. If any waterbodies are located within the specified setbacks an Environmental Impact Study (EIS) is required.

### 2. Results

The Langman Marsh Provincially Significant Wetland (PSW) boundary was revised based on the results of the site investigation. Seepage areas were observed along the base of the valley within the woodland adjacent to the Project location, creating saturated ground conditions leading to the revised wetland boundary. The seepage area is described as follows:

#### **Groundwater Seepage Area**

- Observed at the base of a valley adjacent to the eastern border of the Project location.
- Vegetation predominantly consists of open grassy meadow and scattered pockets of trees.
- Several areas of shallow standing pooled water in mucky soils are indicative of groundwater seepage at the base of the valley and a shallow groundwater table.

No permanent or intermittent streams were observed on or within 120 m of the Project location.

### 3. Conclusions

The seepage area will require an EIS as per Section 39 and 40 of the REA Regulation in order to determine (i) any potential negative environmental effects on the natural features, (ii) identify mitigation measures, (iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects, and (iv) describe how the Construction Plan Report addresses any negative environmental effects.

**Appendix A12**  
**Water Body**  
**Environmental Impact**  
**Study Summary**

**RE Orillia 3 ULC  
RE Orillia 3 Solar Project****Summary****Waterbodies Environmental Impact Study****1. Introduction**

As per Section 17 of the Renewable Energy Approvals Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Environmental Impact Study Report for the RE Orillia 3 Solar Project (Hatch, 2010).

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on approximately 15-hectare (ha) parcel of land located about 7 km west-southwest of Orillia in the Township of Oro-Medonte in County of Simcoe (herein referred to as “RE Orillia 3” or the “Project”).

Sections 39 and 40 of the REA Regulation require proponents of Class 3 solar projects to complete an Environmental Impact Study (EIS) for all waterbodies determined to be within a specified setback in order to obtain a REA. The EIS is required in order to determine (i) any potential negative environmental effects on the natural features, (ii) identify mitigation measures, (iii) describe how the environmental effects monitoring plan in the Design and Operations Report addresses any negative environmental effects, and (iv) describe how the Construction Plan Report addresses any negative environmental effects.

This EIS was completed on the identified groundwater seepage area along the eastern border of the Project location. The EIS concluded that there will be no significant adverse effects on the seepage area and associated biophysical and ecological functions.

**2. Results**

The results of the EIS on the seepage area are summarized in Table 2.1.

**Table 2.1 Summary of Potential Negative Environmental Effects and Proposed Mitigation**

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
<b>Surface Water Runoff</b>		
Construction	Altered surface water runoff pattern to the seepage area due to land grading and ditching, soil compaction, and vegetation removal	Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted around and beneath the solar panels and in ditches along the Project access roads to control surface water runoff to the 30-m buffer around the seepage area.
Operations	Altered surface water runoff patterns to the seepage area due to land grading and ditching, impervious and less pervious soils, and changes in vegetation	Long-term ground cover will be planted around and beneath the solar panels and in ditches along the Project access roads to control surface water runoff to the 30-m buffer around the seepage area; therefore no appreciable impact to local drainage patterns around the seepage area.
<b>Surface Water Quality</b>		
Construction/ Operations/ Decommissioning	Accidental spills contaminating surface water runoff to the seepage area	Fuelling stations and hazardous materials storage to be located greater than 30 m from the seepage area. Hazardous materials storage area to be equipped with a drain to capture all materials plus surface water runoff. Hazardous materials storage area to be equipped with a barrier. Emergency spill kit on site at all times and the spill kit will have adequate materials/equipment for spill response. Machinery arriving on site to be clean and free of leaks. Contractor to have spill response procedure and all workers will be properly trained on the procedure. No concrete to be used within 30 m of the seepage area. Concrete truck rinsing station at least 120 m away from the seepage area. Cement storage to be raised and place in a waterproof shelter.
Operations	Water used in maintenance activities to be released on site may effect surface water quality	Panel washing will use up to 17,000 L over a 3 to 4 day period approximately three times per year. No cleaning agents will be used and therefore no impacts to surface water quality is anticipated.
<b>Groundwater</b>		
Construction	Groundwater resources potentially affected by water withdrawals from a new on-site well during construction	Typical withdrawal rates will be around 10,000 L/d. If more water is periodically required, withdrawals will be limited to less than 45,000 L/d to minimize effects on the local groundwater table.
Operations	Groundwater resources potentially affected by well withdrawals for periodic maintenance purposes	Panel washing will use up to 17,000 L over a 3 to 4 day period approximately three times per year. Should maintenance activities require more water, groundwater withdrawal will be limited to 45,000 L/d or less. This will have a minimal short-term effect on the local groundwater table around the well.
Construction/ Operations/ Decommissioning	Groundwater contamination due to accidental spills	See mitigation measures above for accidental spills contaminating surface water.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

As discussed in the Design and Operations Report environmental effects monitoring is proposed in respect of any negative environmental effects that may result from engaging in the Project. The monitoring plan in the Design and Operations Report identifies: performance objectives in respect of the negative environmental effects; mitigation measures to assist in achieving the performance objectives; and, a program for monitoring negative environmental effects for the duration of the time the Project is engaged in, including a contingency plan to be implemented if any mitigation measures fail.

In addition, the Construction Plan Report for the Project details the construction and installation activities, location and timing of construction and installation activities, any negative environmental effects that result from construction activities within 300 m of the Project and mitigation measures for the identified negative environmental effects.

### **3. Conclusions**

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on the seepage area. Mitigation measures have been proposed to prevent these effects from occurring or minimize the magnitude, extent, duration and frequency in the event that they do occur. The primary mitigation measure that will prevent adverse effects on the seepage area is adherence to the 30-m setback requirement. Construction activities are not expected to impact the seepage area. Should any impacts occur they will be short term minor impacts and temporary in nature. Operational activities are not anticipated to impact the seepage area as the Project operated remotely and maintenance is only expected to occur periodically throughout the year. Decommissioning activities will be similar to construction activities and as such they may cause short term minor impacts yet once the Project location has been restored to its previous condition no long term impacts are anticipated.

Overall, the Project will result in no negative effects on the seepage area following implementation of the mitigation and monitoring measures proposed in this EIS.

# **Appendix A13**

## **Stage 1 and 2 Archaeological Assessment Report Summary**

**RE Orillia 3 ULC  
RE Orillia 3 Solar Project****Summary****Stage 1 and 2 Archaeological Assessment Report****1. Introduction**

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Archaeological Assessment Report, prepared by D.R. Poulton & Associates for the RE Orillia 3 Solar Project.

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, in the Township of Oro-Medonte in County of Simcoe approximately 7 km west-southwest of Orillia (herein referred to as “RE Orillia 3” or the “Project”).

Section 22 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Archaeological Assessment where there is a concern that an undertaking could impact archaeological resources. The Ministry of Tourism and Culture must review and accept the Archaeological Assessment Report and provide an acceptance letter that will become part of the application for a REA. The purpose of the present assessment was to confirm the presence or absence of significant archaeological resources that could represent potential constraints for the proposed RE Orillia 3 Solar Generation Facility. The assessment included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2-km radius of the RE Orillia 3 Project location. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

**2. Results**

The background study determined that there are seven registered archaeological fieldwork or discoveries documented within a 2-km radius of the RE Orillia 3 Project location. The sites include Oro 39 site, Oro 40 site, Oro 41 site, Oro 28 site, Oro 35 site, Oro 36 site and Oro 37 site. The study also determined that the property had a moderate to high potential for as-yet undiscovered sites. The survey did not find any archaeological sites on the Project location.

**3. Conclusions**

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18, and accepted its findings. During the Stage 2 Archaeological Assessment no artefacts were discovered, therefore further investigation is not warranted and the Project location does not have any significant archaeological resources or planning concerns for the proposed solar generation facility.

**Appendix A14**  
**MTC Confirmation Letter**

**Ministry of Tourism and Culture**  
Culture Division  
Culture Programs Unit  
Programs and Services Branch  
400 University Avenue, 4<sup>th</sup> floor  
Toronto, ON, M7A 2R9  
Telephone: 416-314-7132  
Facsimile: 416-314-7175  
Email : Jim.Sherratt@ontario.ca

**Ministère du Tourisme et de la Culture**  
Division de culture  
Unité des programmes culturels  
Direction des programmes et des services  
400, avenue University, 4<sup>e</sup> étage  
Toronto, ON, M7A 2R9  
Téléphone: 416-314-7132  
Télécopieur: 416-314-7175  
Email : Jim.Sherratt@ontario.ca



August 12, 2010

Ms. Kimberley Arnold  
Hatch Limited  
4342 Queen Street  
Niagara Falls, Ontario  
L2E 7J7

**RE: Orillia 3 Solar Generation Facility, Lot 7, Concession 14, Oro Geographic Township, Township of Oro-Medonte, Simcoe County, Ontario, FIT-FJJQB55, MTC File no. HD00488, PIF No. P316-064-2010.**

Dear Proponent:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act's* licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the Report.\*

The report [P316-064-2010] recommends the following:

*As detailed in Section 5.0 of this report, the Stage 1 background study determined that there were no documented past archaeological investigations within the RE Orillia 3 property. However, it was also determined that the property was flanked to the north and east by known First nations archaeological sites, and that the property has a moderate to high potential for as-yet undiscovered sites.*

*Notwithstanding the inferred potential, the subsequent Stage 2 survey of the RE Orillia 3 property determined that no archaeological sites are present within the property. In view of the negative results of the survey, it is recommended that no further archaeological investigations or concerns are warranted for the proposed RE Orillia 3 Solar Generation Facility.*

*Further to the above, it is recommended that the Ministry of Tourism and Culture issue a letter accepting the present report into the Provincial Registry [sic] of archaeological reports. In view of the negative results of the assessment it is also recommended that the letter include a statement that the Ministry concurs with the recommendations and other findings presented in this report. Finally, it is requested that a copy of the letter be forwarded by email to Bob Leah, Director of Development, Canada, Recurrent Energy. His email address is [Bob.Leah@recurrentenergy.com](mailto:Bob.Leah@recurrentenergy.com). In due course, this letter and the related archaeological assessment report will be submitted by Recurrent Energy and Hatch Ltd, to the Ontario*

*Ministry of the Environment as part of the complete REA application for the development of the proposed solar generation facility on the RE Orillia 3 property.*

*The above conclude the property-specific recommendations of this report. Nevertheless, it should be emphasized that no archaeological assessment can be considered to totally negate the potential for deeply buried cultural remains, including human burials. In recognition of that fact, the archaeological technical guidelines formulated by the Province of Ontario require that all reports on archaeological assessments include recommendations to address the possibility that deeply buried remains may be encountered during earthmoving and construction (MCTR 1993:12).*

*In accordance with the above, it is recommended that archaeological staff of the Ontario Ministry of Tourism and Culture be notified immediately if any deeply buried archaeological remains should be discovered during earthmoving or construction related to the proposed solar generation facility. In the event that human remains should be encountered, it is similarly recommended that the proponent immediately contact Jim Sherratt, Archaeological[sic] Review Officer, Ontario Ministry of Tourism and Culture (email address [Jim.Sherratt@ontario.ca](mailto:Jim.Sherratt@ontario.ca)), telephone 416-314-7132) and Michael D'Mello, the Registrar of Cemeteries of the Cemeteries Regulation Unit of the Ontario Ministry of Small Business and Consumer Services (telephone #416-326-8404; email address [Michael.D'Mello@ontario.ca](mailto:Michael.D'Mello@ontario.ca)) (pages 17 and 18).*

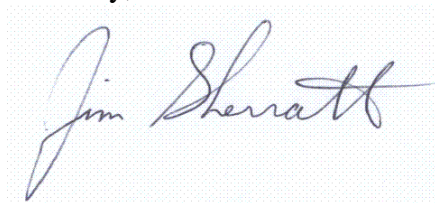
The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the Ontario *Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,



Jim Sherratt  
Archaeology Review Officer  
Eastern Region

- c. Ms. Sherri Pearce, D.R. Poulton & Associates Inc.  
Mr. Bob Leah, Recurrent Energy

---

\*In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

## **Appendix A15**

### **Protected Properties and Heritage Resources**

Project Report

August 3, 2011

**RE Orillia 3 ULC**  
**RE Orillia 3 Solar Project**

**Protected Properties and Heritage Resources Report**

**Table of Contents**

**1. Introduction ..... 3**

    1.1 Project Description ..... 3

    1.2 REA Legislative Requirements ..... 3

**2. Protected Properties..... 3**

**3. Heritage Resources ..... 4**

**4. Conclusion ..... 4**

**Attachment 1 Project Area**

**Attachment 2 E-mails/Screenshots**

Blank back

## 1. Introduction

### 1.1 Project Description

RE Orillia 3 ULC is proposing to develop and operate a 6.5-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 15-hectare (ha) parcel of land, located about 7 km west-southwest of Orillia in the Township of Oro-Medonte in County of Simcoe; herein referred to as “RE Orillia 3” or the “Project”.

### 1.2 REA Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – *Renewable Energy Approvals Under Part V.0.1 of the Act*, (herein referred to as the REA Regulation) made under the *Environmental Protection Act* identifies the Renewable Energy Approval (REA) requirements for projects in Ontario. As per Section 4 of the REA Regulation, ground mounted solar facilities with a name plate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and do require a REA.

Section 19 of the REA Regulation requires proponents of Class 3 solar facilities to determine whether the Project location is on a property (“protected property”) described in Column 1 of the Table to Section 19. Section 23 of the REA requires that proponents of Class 3 solar projects, as a result of the consideration mentioned in Subsection 20, determine whether engaging in the renewable energy project may have an impact on a heritage resource described in Subsection 20(1).

In June 2011, the Ministry of Tourism and Culture (MTC) released *An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals*. The applicable identification and self-assessment processes described in Parts 1, 3B and 4 of this Bulletin have been completed to satisfy the requirements of the MTC with respect to the consideration of Protected Properties and Heritage Resources under the REA Regulation. Findings are presented in Tables 1.1, 1.2 and 1.3 of this report, and a map of the Project area is presented in Attachment 1.

As per MTC’s Information Bulletin, “Project location” is defined as per Ontario Regulation 359/09, “as part of land and all or part of any building or structure in, on or over which the REA applicant engages or proposed to engage in the project and any air space in which a person is engaging in or proposes to engage in the project”. All phases of the project (i.e., construction, operation and decommissioning) must be considered.

## 2. Protected Properties

Resources used to determine whether the Project location was on or abutting Protected Properties described in Column 1 of the Table to Section 19 included internet searches of various Provincial and Municipal websites in addition to Municipal consultation as directed within Appendix B of the MTC’s Information Bulletin (June 2011). As discussed in Section 1.2 above, Tables 1.1 and 1.2 have been prepared to address Section 19 of the REA Regulation.

### **3. Heritage Resources**

Resources used to determine whether the Project may or will impact heritage resources at the Project location included (i) internet searches of various Federal, Provincial and Municipal websites among others; (ii) Archaeological Assessments conducted for the Project location; (iii) consultation with the Municipality of Oro-Medonte, as directed within Appendix B of the MTC's Information Bulletin (June 2011). As discussed in Section 1.2 above, Table 1.3 has been prepared to address Section 23 of the REA Regulation.

### **4. Conclusion**

Based on the information presented in Tables 1.1 and 1.2, the proposed Project is not located on a Protected Property as described in Column 1 of the Table to Section 19. Hatch contacted all of the appropriate people or bodies and has determined that the Project is not located on the applicable type(s) of protected property.

In addition, research and agency consultation undertaken as described within Table 1.3 has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation.

**Table 1.1**  
**Identifying Protected Properties at the Project Location**

**Project Name:** RE Orillia 3 Solar Project

**Project Location:** No Civic Address (Property located on the east side of Line 13N, 0.33 km southeast of the intersection of Line 13N and Bass Lake Sideroad E, L0L 2X0)

**REA Project Identifier:** OPA Reference No. FIT- FJJQB35

**Type and Classification of Project:** Class 3 Solar Facility

**Proponent Name:** RE Orillia 3 ULC

**Proponent Contact Info:**

David Brochu

RE Orillia 3 ULC

300 California Street, 8<sup>th</sup> Floor

San Francisco, CA 94104

Tel: 630-333-7602

Email: [david.brochu@recurrentenergy.com](mailto:david.brochu@recurrentenergy.com)

If you answer YES to any of the following questions you will require: either written authorization as set out in the Table in Section 19 of O. Reg. 359/09, or written confirmation that written authorization is not required. Continue until all questions are answered for each property at the project location.			
Description of Property	Yes	No	Reference
Is the property subject to an Ontario Heritage Trust easement agreement?		✓	According to the Ontario Heritage Trust website ( <a href="http://www.heritagefdn.on.ca">www.heritagefdn.on.ca</a> ) no easement properties are located in the vicinity of the Project. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26Feb10)
Has a notice of intention to designate been issued by a municipality for the property?		✓	Consultation with the municipality, has not determined that a notice of intention to designate has been given. In addition, the MTC Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or adjacent to such a property.
Is the property municipally designated?		✓	Consultation with the municipality has not determined that the Project is located on a property designated by a municipal by-law. In addition, the MTC Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or adjacent to such a property.
Is the property provincially designated?		✓	As per Appendix G of the <i>'Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals'</i> (2011), no properties have been designated under Section 34.5 of the <i>Ontario Heritage Act</i> .

Has a notice of intention to designate been issued by the MTC for the property?		✓	As per Appendix G of the <i>'Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals'</i> (2011), a notice of intention to designate has not occurred for the Project location.
Is the property subject to a municipal easement agreement?		✓	The Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or adjacent to such a property.
Is the property located within a designated Heritage Conservation District?		✓	The Ontario Heritage Properties Database includes properties designated under Part V of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on such a property.
Is the property designated as a historic site under Regulation 880?		✓	As per Appendix G of the <i>'Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals'</i> (2011), there are only three sites designated as a historic site under Regulation 880, and these three sites do not occur within the Project location.

**Table 1.2**  
**Identifying Protected Properties Abutting a Project Location**

**Project Name:** RE Orillia 3 Solar Project

**Project Location:** No Civic Address (Property located on the east side of Line 13N, 0.33 km southeast of the intersection of Line 13N and Bass Lake Sideroad E, L0L 2X0)

**REA Project Identifier:** OPA Reference No. FIT- FJJQB35

**Type and Classification of Project:** Class 3 Solar Facility

**Proponent Name:** RE Orillia 3 ULC

**Proponent Contact Info:**

David Brochu

RE Orillia 3 ULC

300 California Street, 8<sup>th</sup> Floor

San Francisco, CA 94104

Tel: 630-333-7602

Email: [david.brochu@recurrentenergy.com](mailto:david.brochu@recurrentenergy.com)

If you answer YES to any of the following questions a heritage assessment is required.			
Description of Property	Yes	No	Reference
Is there an abutting subject to an Ontario Heritage Trust easement agreement?		✓	According to the Ontario Heritage Trust website ( <a href="http://www.heritagefdn.on.ca">www.heritagefdn.on.ca</a> ) no easement properties are located in the vicinity of the Project. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26Feb10)
Is there an abutting property for which a notice of intention to designate been issued by a municipality?		✓	Consultation with the municipality, has not determined that a notice of intention to designate has been given. In addition, the MTC Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or abutting such a property.
Is there an abutting property that has been municipally designated?		✓	Consultation with the municipality has not determined that the Project is located on a property designated by a municipal by-law. In addition, the MTC Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or adjacent to such a property.
Is there an abutting property that has been provincially designated?		✓	As per Appendix G of the ' <i>Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals</i> ' (2011), no properties have been designated under Section 34.5 of the Ontario Heritage Act.

Is there an abutting property for which a notice of intention to designate has been issued by the MTC?		✓	As per Appendix G of the <i>'Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals'</i> (2011), a notice of intention to designate has only been issued to one property, which occurs in the District of Manitoulin, and as such does not occur abutting the Project location.
Is there an abutting property that is subject to a municipal easement agreement?		✓	The Ontario Heritage Properties Database includes properties designated under Part IV of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or abutting such a property.
Is there an abutting property that is part of a designated Heritage Conservation District?		✓	The Ontario Heritage Properties Database includes properties designated under Part V of the <i>Ontario Heritage Act</i> . The Project is not proposed to be located on or abutting to such a property.
Is there an abutting property designated as a historic site under Regulation 880?		✓	As per Appendix G of the <i>'Protected Properties, Archaeological and Heritage Resources: An Information Bulletin for Applicants Addressing the Cultural Heritage Component of Projects Subject to Ontario Regulation 359/09 Renewable Energy Approvals'</i> (2011), there are only three sites designated as a historic site under Regulation 880, and these three sites do not abut the Project location.

**Table 1.3**  
**Consideration of Heritage Resources at the Project Location: Self-Assessment Checklist**

**Project Name:** RE Orillia 3 Solar Project

**Project Location:** No Civic Address (Property located on the east side of Line 13N, 0.33 km southeast of the intersection of Line 13N and Bass Lake Sideroad E, L0L 2X0)

**REA Project Identifier:** OPA Reference No. FIT- FJJQB35

**Type and Classification of Project:** Class 3 Solar Facility

**Proponent Name:** RE Orillia 3 ULC

**Proponent Contact Info:**

David Brochu

RE Orillia 3 ULC

300 California Street, 8<sup>th</sup> Floor

San Francisco, CA 94104

Tel: 630-333-7602

Email: [david.brochu@recurrentenergy.com](mailto:david.brochu@recurrentenergy.com)

Screening Question	Yes	No	Reference
<b>Part A: Recognized Cultural Heritage Value:</b>			
1. Is the project area abutting a protected heritage property as described in the table in Section 19 of O. Reg. 359/09?		✓	See Table 1.2.
If you answer <b>YES</b> , a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
If you answer <b>NO</b> , a copy of the correspondence required for Appendix E must be submitted as part of the application. Continue to question 2.			
2. Is the subject property listed on the municipal heritage register, or a provincial register/list?		✓	See Table 1.1.
If you answer <b>YES</b> , a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
If you answer <b>NO</b> , a copy of the printouts/screenshots of all relevant queries must be submitted as part of the application. Continue to question 3.			
3. Is there a municipal, provincial or federal plaque on or related to the subject property?		✓	There are no provincial plaques located in the vicinity of the Project location (Research completed 2Aug11 ( <a href="http://www.ontarioplaques.com/index.html">http://www.ontarioplaques.com/index.html</a> )). Federal plaques appear at National Historical Sites of Canada, none of which exist within the vicinity of the Project (see Attachment 2).

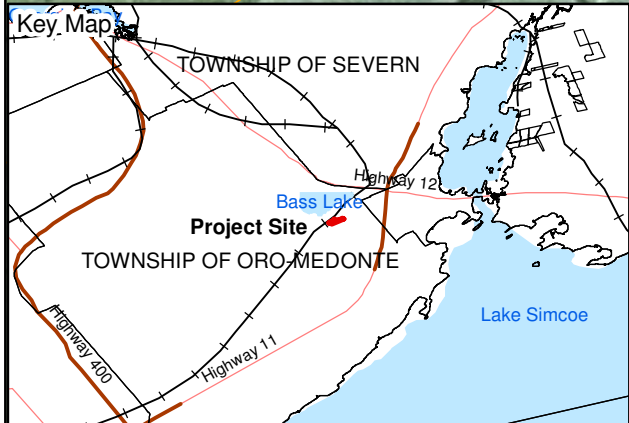
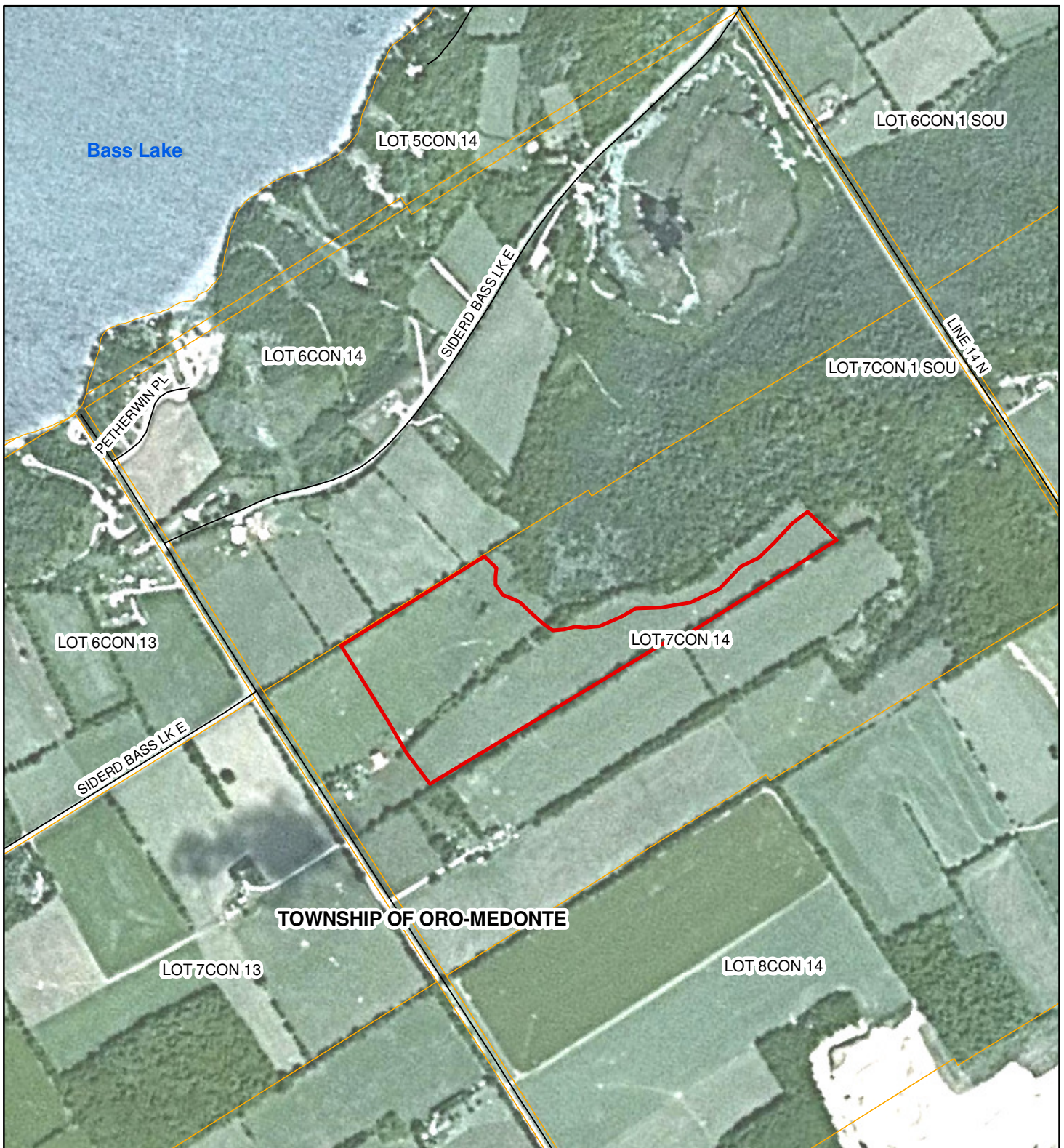
			A search of Parks Canada website ( <a href="http://www.pc.gc.ca/a/lh-nhs/index.e.asp">http://www.pc.gc.ca/a/lh-nhs/index.e.asp</a> ) resulted in the determination that there are no federal plaques on or related to the subject property (see Attachment 2)
If you answer <b>YES</b> , a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
If you answer <b>NO</b> , a copy of correspondence with the Municipality and printouts/screenshots of all relevant queries must be submitted as part of the application. Continue to question 4.			
4. Is the subject property a National Historic Site or a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?		✓	National Historic Sites are included within the Ontario Heritage Properties Database. In addition, no sites within the vicinity of the Project are listed on the Canadian Register of Historic Places (Research completed 26Feb10 <a href="http://www.historicplaces.ca">www.historicplaces.ca</a> )  The Project is not located on any United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site of which the Rideau Canal is the only in Ontario.
If you answer <b>YES</b> , a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
If you answer <b>NO</b> , a copy of printouts/screenshots of all relevant queries and project area information indicating that it is not within the Rideau Canal Corridor must be submitted as part of the application. Continue to question 5.			
<b>Part B: Potential Cultural Heritage Value</b>			
<b>Built Heritage Resources. These are defined as significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and are identified as being important to a community.</b>			
5. Can it be confirmed that buildings at the project location are less than 40 years old? Consideration should include:		✓	There are no buildings within the Project location.
a) Residential structures (e.g., house, apartment building, shanty or trap line shelter)		✓	There are no such buildings within the Project location.
b) Farm buildings (e.g., barns, outbuildings, silos, windmills)		✓	There are no such buildings within the Project location. Further review using the County of Simcoe interactive maps, provided further confirmation that there are no buildings on the Project location.
c) Industrial, commercial or institutional operations (e.g., factory, school, quarry, mining, etc)		✓	
d) Engineering works (e.g., bridges, water or communications towers, roads, water/sewer systems, dams, canals, locks, earthworks, etc)		✓	See Part C (Item #2).

e) Monuments or Landmark Features (e.g., cairns, statues, obelisks, fountains, reflecting pools, retaining walls, boundary or claim markers, etc)	✓		There are no such features within the Project location.
If you answer <b>YES</b> , a written summary of historic source materials consulted (with bibliography) must be submitted as part of the application. Continue to question 6.			
If you answer <b>NO</b> , to any part, a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
<b>Cultural Heritage Landscapes:</b> These are defined geographical areas of heritage significance that human activity has modified and that a community values. Such an area involves a grouping(s) of individual heritage features, such as structures, spaces archaeological sites and natural elements, which together form a significant type of heritage form distinct from that of its constituent elements or parts. Examples include: villages, parks, gardens, battlefields, main streets and neighbourhoods, cemeteries, trails and industrial complexes of cultural heritage value.			
6. Is there a known burial site and/or cemetery located at or abutting the project location?		✓	Stage 2 Archaeological Assessment determined there are known burial sites and/or cemeteries located within or abutting the Project location.
If you answer <b>YES</b> to any part, a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
If you answer <b>NO</b> , a copy of printouts/screenshots of all the database queries must be submitted as part of the application. Continue to question 7.			
7. Is the project location within a Canadian Heritage River watershed?		✓	The Project is not located in a Canadian Heritage River watershed.
If you answer <b>YES</b> , a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application. It is not necessary to complete the remaining questions in the checklist.			
If you answer <b>NO</b> , a map or correspondence from the appropriate conservation authority or municipal staff indicating that the project area is not located within a Canadian Heritage River watershed must be submitted as part of the application. Continue to Part C.			
<b>Part C: Other Considerations</b>			
<b>The presence/existence of the following at or abutting the project location is an indicator of cultural heritage value or interest. However, they may be more difficult to verify definitively. Many cultural landscape features are readily visible and could be identified during a site visit.</b>			
Is the property or an abutting property associated with a known architect, landscape architect, planner or builder?		✓	There are no buildings within the Project location. In reference to abutting properties, no association with a known architect, landscape architect, planner or builder was discovered over the course of researching the project lands.
Is the property or an abutting property associated with a historic road or rail corridor?		✓	A review of the Canadian County Digital Atlas Project did not indicate the presence of any historic road or rail on the Project location.

Is the property or an abutting property a park or planned/designated recreational or community space?		✓	
Is there accessible documentation to indicate built heritage or cultural heritage landscape potential?		✓	
Is the subject property or abutting property associated with a person or event of historic interest?		✓	No association with a person or event of historic interest was discovered over the course of researching the project lands, during public consultation or during conversations with municipal staff.
<p><b>If YES to any of the above questions</b>, a heritage assessment is required. If uncertain, additional research is required to make this determination, and a heritage assessment is required. The heritage assessment report and MTC's written comments must be included in the application.</p> <p><b>If NO</b> to all of the above questions, a heritage assessment is not required.</p>			

# Attachment 1

## Project Area



**Legend**

- Project Location
- Road
- Parcels



1:10,000

1. OBM and NRVIS data downloaded from LIO-MNR with permission.
2. Spatial referencing UTM NAD 83
3. Satellite image obtained from Google Earth Pro.

Attachment 1  
 Recurrent Energy  
**RE Orillia 3**  
 Project Area



# Attachment 2

## E-mails/Screenshots

---

**From:** Binns, Shawn [<mailto:sbinns@oro-medonte.ca>]  
**Sent:** Thursday, March 18, 2010 5:24 PM  
**To:** Vukovics, Kathleen  
**Subject:** Re: Potential Heritage Values in Oro-Medonte

Hi Kathleen,  
I have checked with our clerk, and to his knowledge the properties do not have noted heritage properties.

Shawn Binns sent from blackberry wireless

Shawn Binns  
Director Recreation & Community Services  
Township of Oro-Medonte



P: (705) 487-2171  
F: (705) 487-0133  
148 Line 7s., Box 100  
Oro, Ontario L0L 2X0  
[www.oro-medonte.ca](http://www.oro-medonte.ca)

---

This e-mail may contain PRIVILEGED AND CONFIDENTIAL INFORMATION and is intended solely for the use of the individual or entity to whom it is addressed. If you are not the intended recipient, please notify the sender by e-mail. Further, you should not copy, disclose, or distribute this e-mail or its contents to any other person and any such actions are unlawful. This e-mail may contain viruses. The Township of Oro-Medonte has taken every reasonable precaution to minimize this risk, but is not liable for any damage you may sustain as a result of any virus in this e-mail. You should carry out your own virus checks before opening the e-mail or attachment. The Township of Oro-Medonte reserves the right to monitor and review the content of all messages sent to or from this e-mail address. Messages sent to or from this e-mail address may be stored on the Township of Oro-Medonte's e-mail system.

---

**From:** Vukovics, Kathleen <[KVukovics@hatch.ca](mailto:KVukovics@hatch.ca)>  
**To:** [sbinns@oro-medonte.ca](mailto:sbinns@oro-medonte.ca) <'sbinns@oro-medonte.ca'>  
**Cc:** 334680 <[334680@hatch.ca](mailto:334680@hatch.ca)>  
**Sent:** Thu Mar 18 16:27:20 2010  
**Subject:** FW: Potential Heritage Values in Oro-Medonte  
Hi Sean,

I would like to follow up regarding my email below. Should you have any comment, or wish to discuss further, please don't hesitate to let me know.

Thanks again, Kathleen

**Kathleen Vukovics**

Environmental Scientist / Environmental Assessment & Management  
Tel: +1 905 374 0701 ext. 5313  
Niagara Falls

---

**From:** Vukovics, Kathleen  
**Sent:** Wednesday, March 03, 2010 1:49 PM  
**To:** 'sbinns@oro-medonte.ca'  
**Cc:** 334680  
**Subject:** Potential Heritage Values in Oro-Medonte

Hi Sean,

As we discussed this afternoon, I am currently working with Recurrent Energy on five proposed solar energy projects within the Township of Oro-Medonte. In particular I would like to determine the potential cultural value of the properties, and whether there is documentation to suggest built heritage or cultural heritage landscape potential in the area, such as research studies, heritage impact assessments, etc.

Beyond the addresses of the properties (below), I can provide further information should you require. Please give me a call at your earliest convenience to discuss if you have any additional questions.

- 1) 217 Line 5 North, Oro Station, ON, L0L2E0
- 2) 1599 Line 13 North Hawkstone, ON, L0L 1T0
- 3) Property bordered to the southwest by Highway 11N and bound to the east by Line 6N and west by Line 5N in Oro-Medonte Township, L0L 2X0
- 4) Property located on the west side of Line 13N, 0.61 km SE of Line 13N and Bass Lake Sideroad E, Hawkstone, ON, L0L 1T0
- 5) Property located on the east side of Line 13N, 0.33 km Southeast of the intersection of Line 13N and Bass Lake Sideroad E, L0L 2X0

Thank you so much,

**Kathleen Vukovics**

Environmental Scientist / Environmental Assessment & Management



Tel: +1 905 374 0701 ext. 5313  
Fax: +1 905 374 1157  
4342 Queen Street, Suite 500, Niagara Falls, Ontario Canada L2E 7J7

---

**NOTICE** - This message from Hatch is intended only for the use of the individual or entity to which it is addressed and may contain information which is privileged, confidential or proprietary. Internet communications cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, arrive late or contain viruses. By communicating with us via e-mail, you accept such risks. When addressed to our clients, any information, drawings, opinions or advice (collectively,

"information") contained in this e-mail is subject to the terms and conditions expressed in the governing agreements. Where no such agreement exists, the recipient shall neither rely upon nor disclose to others, such information without our written consent. Unless otherwise agreed, we do not assume any liability with respect to the accuracy or completeness of the information set out in this e-mail. If you have received this message in error, please notify us immediately by return e-mail and destroy and delete the message from your computer.

---

**Search Results From This Site**

Found 3 items, now showing 1 - 3

[index](#)   [search tips](#)   [advanced search](#)  
[Return to the homepage](#)<< Prev | Next >>    New  Refine1. [African Methodist Episcopal Church of Oro Historical Plaque](#)

The Township of **Oro-Medonte** On Old Barrie Road West at 3 Line North, 4.4 km east of Highway 93 Coordinates: N 44 30.160 W 79 38.180 Plaque Text Built in 1849, this church is the  
[www.ontarioplaques.com/Plaques\\_STU/Plaque\\_Simcoe55.html](http://www.ontarioplaques.com/Plaques_STU/Plaque_Simcoe55.html)

2. [Black Settlement in Oro Township Historical Plaque](#)

The Township of **Oro-Medonte** On the north side of Shanty Bay Road/Ridge Road West (Road 20) east of Barrie, 3.3 km east of Blake Street (Road 93) Coordinates: N 44 23.906 W 79 37.  
[www.ontarioplaques.com/Plaques\\_STU/Plaque\\_Simcoe21.html](http://www.ontarioplaques.com/Plaques_STU/Plaque_Simcoe21.html)

3. [St. Thomas' Church Historical Plaque](#)

The Township of **Oro-Medonte** In Shanty Bay, on the northwest corner of Line 2 South and Church Street 1 block south of Road 20 Coordinates: N 44 24.651 W 79 34.912 Plaque Text This  
[www.ontarioplaques.com/Plaques\\_STU/Plaque\\_Simcoe20.html](http://www.ontarioplaques.com/Plaques_STU/Plaque_Simcoe20.html)

<< Prev | Next >>    New  Refine[index](#)   [search tips](#)   [advanced search](#)  
[Return to the homepage](#)

# Ontario Heritage Trust

---

## Online Plaque search results

2 results have been returned in the order of relevance.

### [Honourable Ernest Charles Drury, The](#)

A graduate of the Ontario Agricultural College, Drury (1878-1968) became the first president of the United Farmers of Ontario in 1914. That organization formed the provincial government from 1919 to 1923 during which time Drury served as prime minister.

### [St. Thomas' Church 1838](#)

St. Thomas' Church on Lake Simcoe was built by local parishioners using a construction technique known as rammed earth. Wet clay mixed with straw was compacted into wooden moulds and left to harden. When completely dry, the mud walls were reinforced with a coating of plaster t...



Parks  
Canada

Parcs  
Canada

Canada

[Home](#) > [National Historic Sites](#) > [Directory of Designations of National Historic Significance](#) > Search by  
Keyword

## Directory of Designations of National Historic Significance of Canada

No documents found for **oro-medonte**. [Return](#)

- = National Historic Site
- = National Historic Person
- ▲ = National Historic Event

Date Modified: 2005-02-22

## **Appendix A16**

### **Noise Assessment Study Report Summary**

## RE Orillia 3 ULC RE Orillia 3 Solar Project

### Summary

## Noise Assessment Study Report

### 1. Introduction

This report presents the results of the noise assessment study for the RE Orillia 3 Solar Project, required under Regulation 359/09 as part of the Renewable Energy Approval Process (REA).

RE Orillia 3 ULC is proposing to develop the 6.5 megawatt (MW) solar photovoltaic (Solar PV) facility, on approximately 15-hectares (ha), located about 7 km southwest of Orillia, Ontario in the Township of Oro-Medonte; herein referred to as “RE Orillia 3” or the “Project”.

This Noise Impact Assessment has been prepared based on the document entitled “Basic Comprehensive Certificates of Approval (Air) – User Guide” by the Ontario Ministry of the Environment (MOE), which requires that the sound pressure levels at the points of reception (POR) are estimated using ISO 9613-2. The performance limits used for verification of compliance correspond to the values for Class 3 areas (45 dBA for day time, 40 dBA for night time) as established by MOE.

### 2. Results

- The main sources of noise from the solar facility will be the step-up transformer, located at the substation, and four inverter clusters which also contain step-up transformers.
- The sound pressure levels at the POR were predicted using procedures from ISO 9613-2 as required by MOE (Basic Comprehensive Certificates of Approval (Air) – User Guide), which is a widely used standard for evaluation of noise impact in environmental assessments
- For the purpose of evaluating the potential noise impacts of the substation transformer, the sound power level was estimated using data from the National Electrical Manufacturers Association (NEMA). This standard provides maximum sound level values for transformers, and manufacturers routinely meet this specification.
- Noise data was obtained for two inverter manufacturers: Satcon and Xantrex. Both inverters had the same capacity at 500 kW. Xantrex data was more complete, including third-octave band data, and it was also higher than the Satcon data in terms of sound power level. For that reason, Xantrex data was used for modelling the inverter clusters. The attenuation caused by the inverter enclosures/e-house and solar panels was not considered in the model.

- To ensure compliance with MOE standards at the receptors located close to the facility noise mitigation measures (sound barriers) were introduced at the substation and one of the inverter clusters. Minimum construction requirements for the noise barriers, as well as the absorption coefficients used in the noise model, were specified. While analysis indicates that no additional mitigation will be required, the noise levels will be verified at the closest receptors after the RE Orillia 3 facility goes into service. If measurements indicate a need to reduce sound levels to satisfy MOE criteria, the mitigation measures will be taken at the sources.

### 3. Conclusions

Based on the results obtained in this study, it is concluded that the sound pressure levels at the POR, following implementation of mitigation measure, will be below MOE requirements for Class 3 areas at night time (40 dBA), and well below the limits at day time (45 dBA).