

RENEWABLE ENERGY APPROVAL DOCUMENTS

RE Smiths Falls 6 Solar Project
Executive Summary

February 23, 2011

RECURRENT
ENERGY



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RE Smiths Falls 6 Project Site



Leopard Frog found on site

Disclaimer

This report has been prepared by or on behalf of RE Smiths Falls 6 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 Smiths Falls 6 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 Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land. This proposed facility is referred to as “RE Smiths Falls 6” and is also referred to as the “Project.”

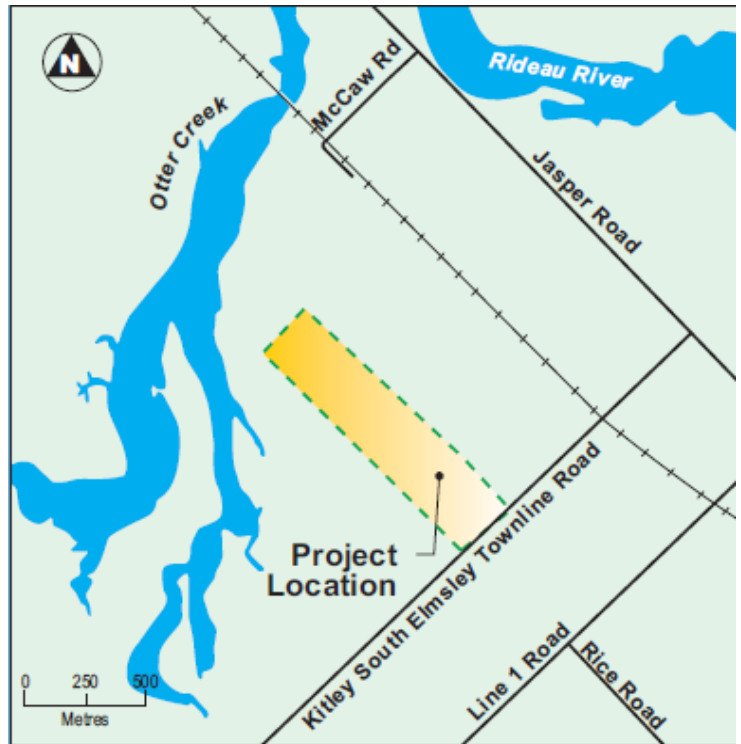
The Project is located in the Township of Rideau Lakes with in the United Counties of Leeds and Grenville, approximately 5 km southeast of the Town of Smiths Falls. The Project will be located on approximately 29 ha of the property and will not be located on any Class 1 or Class 2 agricultural lands.

1.2: Project Proponent

The RE Smiths Falls 6 Project is being proposed by **RE Smiths Falls 6 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 Smiths Falls 6 ULC has retained Hatch Ltd. (Hatch) 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>Primary Contact</p> <p>Kimberley Arnold, B.Sc., M.E.S Environmental Coordinator Hatch Ltd. 4342 Queen Street, Suite 500 Niagara Falls, ON, Canada L2E 7J7 Tel: 905-374-0701 ext. 5318 Email: karnold@hatch.ca</p>	
<p>Project Contact</p> <p>RE Smiths Falls 6 ULC c/o Recurrent Energy LLC 300 California Street, 8th Floor San Francisco, CA 94104 Tel: 415-675-1500 Fax: 415-675-1501 www.ontariosolarfuture.ca</p>	<p>Secondary Contact</p> <p>David Brochu 300 California Street, 8th Floor San Francisco, CA 94104 Tel: 630-333-7602 Email: david.brochu@recurrentenergy.com</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 on Kitley South Elmsley Townline Road, east of the Project site. Other Project components include a small parking area, control house and internal access road network. The proposed Site Layout from the Construction Plan Report is provided in Figure 1.

Construction of the Project is scheduled to commence in July 2011, subject to receipt of the REA and any other permits or approvals that may be required. Construction will last for approximately 8 months, with commissioning of the facility scheduled for March 2012. 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 14.7 million kWh of electricity per year, enough to power approximately 1400 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 Smiths Falls 6 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 Smiths Falls 6 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
- Heritage Checklist
- Noise Study Report

The Natural Heritage and Waterbody Reports identified several environmental features within 120 m of the Project site including a tributary of Otter's Creek, Otter Creek Provincially Significant Wetland Complex (PSWC) and several woodlots. Mitigation measures have been specified to prevent and/or minimize adverse effects on these features 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.

Stages 1 and 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. These assessments identified the potential presence of two potentially significant Euro-Canadian homestead sites. A Stage 3 and 4 Archaeological Assessment will likely be undertaken to further assess the size and significance of this feature pending Ministry of Tourism and Culture requirements. These requirements will be followed to ensure that there are no negative impacts to the archaeological resources. 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. However, the checklist did determine that the Project site was located within a heritage river watershed, the Rideau Canal. As requested by Parks Canada, the authority with jurisdiction over the Rideau Canal, a preliminary impact assessment was completed. The results of the assessment indicated that, and as confirmed by Parks Canada, there will be no negative impacts on the

Benefits to Ontario

Power 1,400 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.

cultural heritage values and viewscapes of the Rideau Canal. For further information relating to protected properties and heritage resources please refer to Appendix 15.

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 Ms. Arnold 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 RE Smiths Falls 6 ULC 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 January 20, 2011, to the attention of:

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Environmental Coordinator
Hatch Ltd.
4342 Queen St., Suite 500
Niagara Falls, ON L2E 7J7
Phone: 905-374-0701
Fax: 905-374-1157
Email: karnold@hatch.ca

Figure 1: Site Layout

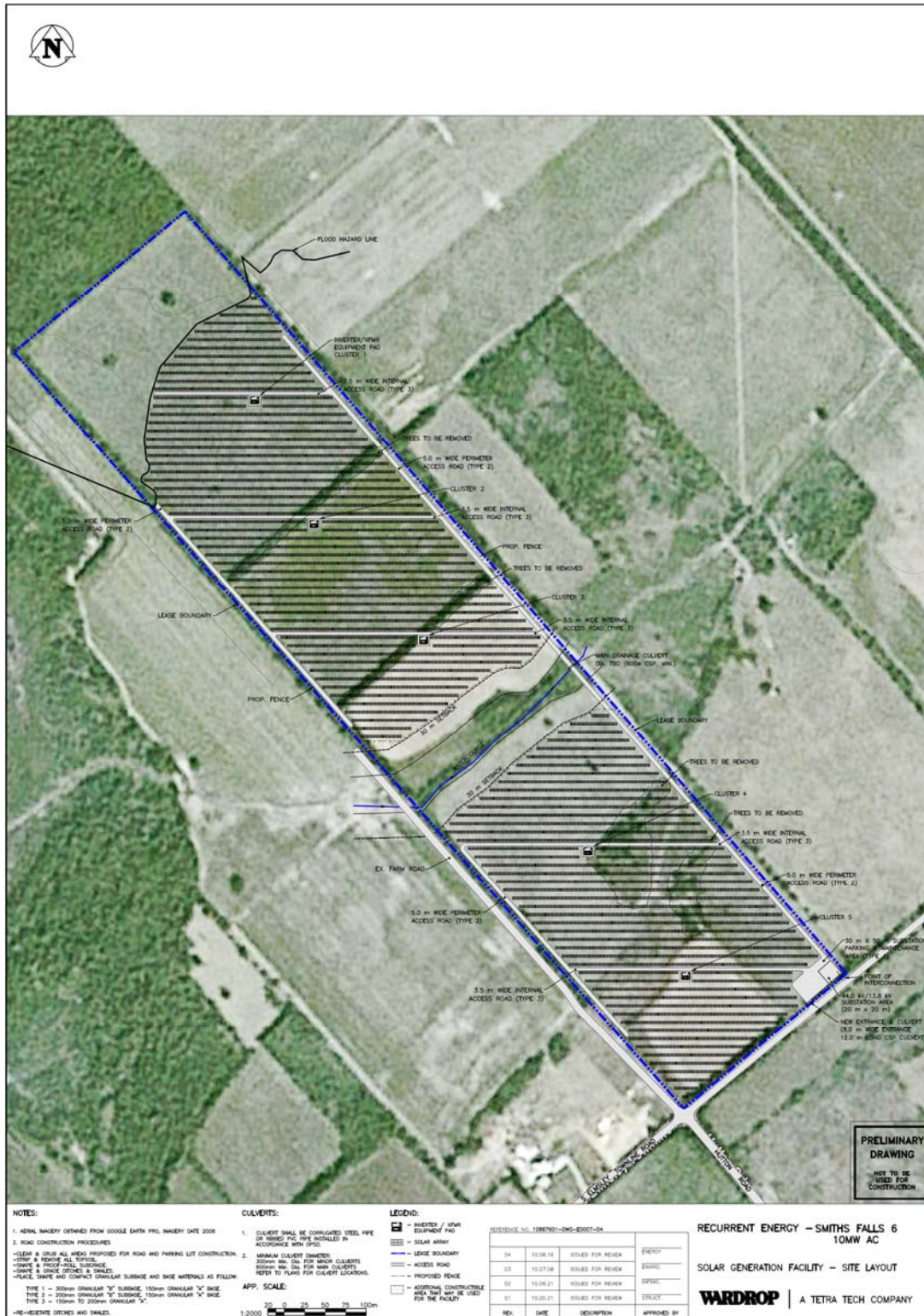


Figure 2: Project Reports

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

Appendix A1
Project Description
Report Summary

RE Smiths Falls 6 ULC RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as "RE Smiths Falls 6" 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 Smiths Falls 6 Project is being proposed by RE Smiths Falls 6 ULC, a Nova Scotia Unlimited Liability Company owned by Recurrent Energy, LLC through its subsidiaries Recurrent Energy Portfolio Holdings LLC, Recurrent Energy International Holdings LLC, Recurrent Energy Lux Holdings S.a.r.l. and RE Smiths Falls 6 Holdings ULC.

RE Smiths Falls 6 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 Rideau Lakes. RE Smiths Falls 6 ULC has entered into a lease agreement with the private landowner for a lease term of 30 years. RE Smiths Falls 6 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 November 29, 2011. Decommissioning of the facility would likely not occur until around 2042.

Construction of the proposed facility would occur over a 6 to 9 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 throughout 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 site. The site primarily consists of agricultural land with a small watercourse/wetland running through it. The Otter Creek Provincially Significant Wetland and several woodlands are located in proximity.

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

RE SMITHS FALLS 6 DRAFT PROJECT SUMMARY: CONSTRUCTION PLAN

Introduction:

RE Smiths Falls 6 (the "Project") is made by RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10 megawatt (MW) facility on a parcel of agricultural land totalling approximately 33 hectares located about 5 km southeast of Smiths Falls, Ontario. The property does not have a civic address; it is north of Kitley South Elmsley Townline Road at the intersection of Kitley South Elmsley Townline Road and Hutton Road, Township of Rideau Lakes, County of Leeds, Province of Ontario (herein referred to as RE Smiths Falls 6 project). Approximately 29 hectares of the property will be used for the 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 10 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 be complete by January 2012.

Phase 1 – Site Preparation

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

Schedule: July 8, 2011 – December 30, 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.

Schedule: November 3, 2011 – March 9, 2012

Phase 3 – Post-installation

Post-installation activities include: re-seeding/re-vegetating the site including ditches and swales and testing of systems prior to commencement of operations known as commissioning, commissioning of the interconnection.

Schedule: February 24, 2012 – March 15, 2012

The site will be re-seeded in the Spring of 2012 weather permitting.

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 SMITHS FALLS 6 DRAFT PROJECT SUMMARY: DESIGN & OPERATIONS

Introduction:

RE Smiths Falls 6 (the "Project") is made by RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10 megawatt (MW) facility on a parcel of agricultural land totalling approximately 33 hectares located about 5 km southeast of Smiths Falls, Ontario. The property does not have a civic address; it is north of Kitley South Elmsley Townline Road at the intersection of Kitley South Elmsley Townline Road and Hutton Road, Township of Rideau Lakes, County of Leeds, Province of Ontario (herein referred to as RE Smiths Falls 6 project). Approximately 29 hectares of the property will be used for the 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 10 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 4,000 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. One access point from a municipal roadway to the site will be created from Kitley South Elmsley Townline Road which will have an entrance/exit over a culvert.

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). Panels will be washed as needed, current plans are for three times per year. It is estimated that approximately 25,700 L of water would be drawn from the well over four to five 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.

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

RE SMITHS FALLS 6 DRAFT PROJECT SUMMARY: DECOMMISSIONING

Introduction:

RE Smiths Falls 6 (the "Project") is made by RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

Decommissioning includes details for the RE Smiths Falls 6 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 Smiths Falls 6 ULC is proposing to develop and operate a 10 megawatt (MW) facility on a parcel of agricultural land totalling approximately 33 hectares, located about 5 km southeast of Smiths Falls, Ontario. The property does not have a civic address; it is north of Kitley South Elmsley Townline Road at the intersection of Kitley South Elmsley Townline Road and Hutton Road, Township of Rideau Lakes, County of Leeds, Province of Ontario (herein referred to as RE Smiths Falls 6 project). Approximately 29 hectares of the property will be used for the 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 10 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 reuse, 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 roads 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 Smiths Falls 6 ULC RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as "RE Smiths Falls 6" 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 site from Ministry of Natural Resources (MNR), federal government, Rideau Valley Conservation Authority (RVCA), United Counties of Leeds and Grenville, Township of Rideau Lakes and other relevant sources.

2. Results

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

- a portion of the Otter Creek Provincially Significant Wetland Complex (PSWC) is located within 120 m of the Project site
- a small woodland is centrally located within the Project site
- several woodlands have been identified within 120 m of the Project site, including a larger woodland that surrounds Otter Creek PSWC north of the Project site
- no ANSIs, specific wildlife habitat features or valleylands were identified in the vicinity of the Project site
- no Crown land, and therefore Crown Forest Resources were identified in the vicinity of the Project site
- the Natural Heritage Information Centre (NHIC) did identify an occurrence of Black Tern (*Chlidonias niger*) and Loggerhead Shrike (*Lanius ludovicianus*) within a 1 km of the Project site

- MNR indicated that Gray Ratsnake (*Pantherophis spiloides*), Butternut (*Juglans cinerea*), and Scarlet Beebalm (*Monarda didyma*) may occur within the vicinity of the Project site
- the Ontario Herpetofaunal Summary Atlas identified several species of reptile and amphibian whose ranges may include with the Project site of which several are species at risk, including Milksnake (*Lampropeltis triangulum*), Gray Ratsnake (*Pantherophis spiloides*), Eastern Ribbonsnake (*Thamnophis sauritus*), Blanding’s Turtle (*Emydoidea blandingii*), Stinkpot (*Sternotherus odoratus*), Snapping Turtle (*Cheylдра serpentine*) and Northern Map Turtle (*Graptemys geographica*)
- information provided by the RVCA shows that a portion of the Project site is within the Flood Hazard Zone for Otter Creek
- Township of Rideau Lakes Official Plan (TRL 2004) depicts the Project site adjacent to land zoned Natural Heritage A; the Natural Heritage A designation is for the Otter Creek PSWC
- the Ontario Breeding Bird Atlas identifies six species at risk within the vicinity of the Project: Black Tern, Loggerhead Shrike, Common Nighthawk (*Chordeiles minor*), Red-shouldered Hawk (*Buteo lineatus*), Golden-winged Warbler (*Vermivora chrysoptera*) and Canada Warbler (*Wilsonia canadensis*).

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 natural feature?	Yes	There is a woodland located on the Project site.
Is the Project within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project site.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	The Otter Creek PSW and surrounding woodlands are located within 120 m of the Project site.

Therefore, depending on the layout of the proposed Project, some components of the Project 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 site, 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 Smiths Falls 6 ULC RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as "RE Smiths Falls 6" 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 site 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 site is primarily composed of hay fields with several hedgerows that cross the Project site, and occasional small tree stands around rock discard piles and dilapidated buildings.

Several woodlands were identified during the records review as being present surrounding the watercourse on and adjacent to the Project site. However, during the site investigation, there were no woodlands present along the watercourse. The woodland previously identified in the records review was examined and determined to be trees restricted to a single row of trees on each side of the watercourse, which is not consistent with the definition of a woodland. Therefore, the woodland that was indicated as being present in the southwestern corner of the Project site was no longer present. There is a large woodland present north of the Project site. The Project site and the surrounding areas would also be classified as wildlife habitat.

An unevaluated wetland was identified immediately east of the Project site. It consists of a beaver dam on the tributary of Otter Creek that creates a pond surrounded by wetland vegetation.

3. Conclusions

There are four features present within the vicinity of the Project site that will require an Evaluation of Significance in order to determine whether Environmental Impact Studies (EIS) are required. These are

- wildlife habitat of the study area
- woodland adjacent to the northern portion of the Project location
- Otter Creek Provincially Significant Wetland Complex within 120 m of the northwest corner of the Project site
- unevaluated wetland on the Tributary of Otter Creek adjacent to the Project site.

Therefore, some components of the Project are located within 120 m of a significant natural feature. As per Section 27 of the REA Regulation, an Evaluation of Significance is required to confirm that the natural features are significant. The Evaluation of Significance will determine if the wildlife habitat, woodland, Otter Creek Provincially Significant Wetland Complex and the beaver pond wetland are significant.

Appendix A7
Natural Heritage
Evaluation of Significance
Report Summary

RE Smiths Falls 6 ULC RE Smiths Falls 6 Solar Project

Summary

Natural Heritage Evaluation of Significance

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 Evaluation of Significance – Natural Heritage Features Report for the RE Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as “RE Smiths Falls 6” 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

- wildlife habitat over the Project site
- woodlands within 120 m of the Project site
- wetland located within 120 m of the Project site.

2. Results

2.1 Wildlife Habitat

The criteria and processes outlined in the Ministry of Natural Resources (MNR) Natural Heritage Reference Manual 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: seasonal concentrations of animals, rare or specialized habitats for wildlife, habitat for species of conservation concern and wildlife movement corridors. The land overlapping with the Otter Creek Provincially Significant Wetland (PSW) Complex is considered a significant wildlife habitat due to the evaluation of Otter Creek PSW as a significant natural feature.

2.2 Woodlands

The Evaluation of Significance was completed in consideration of the Evaluation Approach outlined in the NHRM. The evaluation criteria recommended in the NHRM to assess significance of a

woodland include: woodland size, ecological function, woodland interior, proximity to other woodlands or other habitats, linkages, water protection, woodland diversity, uncommon characteristics, economic and social functions. The woodland north of the Project site that contains a portion of the Otter Creek PSW met the criteria for proximity to other habitats and therefore, it is a significant woodland within 120 m of the Project site.

2.3 Wetland

The Ontario Wetland Evaluation System (OWES) was developed by the MNR to determine the significance of wetlands. The Otter Creek wetland complex is recognized as a Provincially Significant Wetland Complex as evaluated by MNR. The unevaluated beaver pond wetland was also determined to be part of the Otter Creek PSW due to the hydrological connection. Therefore, there are provincially significant wetlands on and within 120 m of the Project site.

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 Site

Natural Feature		Project Site	Adjacent Lands (within 120 m)	Notes
SIGNIFICANT	Woodland	No	Yes	The woodland north of the Project site that surrounds Otter Creek is considered to be significant
	Wildlife Habitat	No	Yes	The wetlands associated with the Otter Creek PSW are located within 120 m of the Project site and are considered to be significant
	Valleyland	No	No	
PROVINCIALY SIGNIFICANT	Wetland	Yes	Yes	The Otter Creek PSWC, including the portion of the beaver pond and tributary evaluated for this Project is located on and within 120 m of the Project site
	Earth Science ANSI	No	No	
	Life Science ANSI	No	No	

Therefore, of the natural heritage features evaluated, the wildlife habitat, the woodland north of the Project site and Otter Creek PSW (including the newly evaluated portions on and adjacent to the Project site) met the criteria of significance. These three 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 Smiths Falls 6 ULC
RE Smiths Falls 6 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 Natural Heritage Environmental Impact Study (EIS) for the RE Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as "RE Smiths Falls 6" or the "Project").

Section 38 of the REA Regulation requires proponents of Class 3 solar projects to complete an 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, one wetland and wildlife habitat associated with the wetland are within 120 m of the Project were identified as significant and therefore an EIS was completed.

2. Results

The results of the EIS on the significant natural features are summarized in Table 2.1. The woodland and wetland are made up of vegetation communities, wildlife habitat and wildlife communities.

Table 2.1 Summary of Negative Environmental Effects and Proposed Mitigation

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Vegetation Communities/Wildlife Habitat		
Construction	Removal of vegetation due to direct encroachment on the 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 stormwater 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 stormwater 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.
Construction	Decrease in groundwater table if excavations intersect with the groundwater table	Due to timing window of excavation activities (2 weeks or less) if pumping of groundwater is required it will only be a minor amount. Pumped groundwater will be treated and discharged to meet MOE requirements.
Operations	Decrease in groundwater table due to groundwater usage for maintenance purposes	Amount of water for maintenance purposes limited to 45,000 L/d. Given this relatively small amount of water to be withdrawn from the well, no significant effect on the local groundwater table is anticipated to occur.
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.
Wildlife Communities		
Construction/ Decommissioning	Auditory and visual disturbance of local wildlife populations may result in a short-term reduction of resident populations	Due to existing disturbances, it is not anticipated that wildlife disturbance will be significant; therefore, no mitigation required.

Table 4.1 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 these significant natural features. 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 site has been restored to its previous condition no long-term impacts are anticipated.

Overall, while the Project will result in some changes to the natural environment, no negative effects on the significant natural features are anticipated to occur following implementation of the mitigation and monitoring measures proposed.

Appendix A9
MNR Confirmation Letter



Ministry of Natural Resources

Kemptville District
P.O. Box 2002
10 Campus Drive
Kemptville, ON K0G 1J0

Tel.: (613) 258-8470
Fax.: (613) 258-3920

Ministère des Richesses naturelles

District de Kemptville
CP 2002
10 Campus Drive
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Tél.: (613) 258-8470
Télééc.: (613) 258-3920

July 7, 2010

Hatch
Environmental Assessment & Management
Niagara Falls, Ontario

Attention: Sean Male

RE: Information Request – Solar Project – Recurrent Energy – Smiths Falls

Our File No.: 2010_ELM-888
2010_ELM-889
2010_ELM-890
2010-DRU-882
2010_ELM-891
2010_ELM-892

Dear Mr. Male

The Ministry of Natural Resources (MNR) Kemptville District has carried out a review of the area in order to identify any potential natural resource and natural heritage values in the area of the identified six sites: Smiths Falls 1 through Smiths Falls 6.

The MNR must clearly indicate that this is an initial records review and does not form part of the MNR review and confirmation process.

2010-ELM-888

Smiths Falls 1 – Lot 3, Concession 2, Elmsley

Our records review indicates that there are some wooded areas and hedgerows that run through the property. As such, there is the potential for **Butternut (Endangered Tree Species)** to be present on site. Furthermore, the Otter Creek Provincially Significant Wetland (PSW) is found immediately adjacent to the south-east boundary of the property. There are two watercourses that are directly connected to this PSW, and serve as fish spawning areas for Large Mouth Bass, Yellow Perch and Northern Pike, according to MNR records. As such there may be approvals required from the Department of Fisheries and Oceans and the local Conservation Authority, in addition, these agencies may also have additional information pertaining to fisheries on and in the immediate area of the site. There is an additional watercourse that passes through the northern portion of the property, this may also serve as fish habitat, however MNR has no records pertaining to this watercourse.

With respect to additional values, the MNR has found no known information pertaining to the following:

- Nesting sites
- Fish nursery areas
- Wintering areas – wildlife

- Staging areas - wildlife

However the MNR recommends that these values be assessed during the Natural Heritage Assessment to ground truth and provide additional detail addressing these particular values.

Lastly, the MNR oversees the provincial Endangered Species Act (2007) and thus following a review of the information obtained from Natural Heritage Information Centre (NHIC) and a search of SAR records which exist at the MNR Kemptville District office, the MNR can advise that there is a high potential for **Butternut (Endangered)**, and **Grey Ratsnake (Threatened)**. Furthermore, while there are currently no records for **Chimney Swift (Threatened)** or **Whip-pour-will (Threatened)** the MNR recommends their consideration in your assessment. In addition, there are records for Scarlet Beebalm (S3) and Greater Redhorse (S3) which are provincially rare tracked species. While provincially tracked rare species are not protected by the Endangered Species Act, the knowledge of such species occurrence information can contribute to the development and evaluation of Significant Wildlife Habitat.

2010-ELM-889

Smiths Falls 2 – Lot 4, Concession 10, Elmsley

Our records review indicates that that Black Creek PSW is located on and adjacent to the property. Furthermore, there is a large contiguous piece of unevaluated wetland identified that appears to be hydrologically connected to the Black Creek PSW. As such, the proponent would be required to determine the significance of this wetland if development were to take place within 120 meters. The evaluation significance would be based on the Ontario Wetland Evaluation System and must be carried out by an individual with such training. Furthermore, there are substantial woodlands located on the site (northern portion) in addition to scattered hedgerows and wooded areas throughout much of the more southern portion of the site. As such, there is the potential for **Butternut (Endangered)** to be present on site. As there is a large woodland tract the MNR requires the proponent to determine the significance of this woodland feature, if development is to be proposed within 120 meters. Lastly, there is a watercourse that runs through the property which may be home to a variety of fish species. The MNR recommends contacting both the Department of Fisheries and Oceans and the local Conservation Authority to acquire additional information pertaining to fisheries for this watercourse. This watercourse is also hydrologically connected to the PSW.

With respect to additional values, the MNR has found no known information pertaining to the following:

- Nesting sites
- Fish nursery areas
- Wintering areas – wildlife
- Staging areas - wildlife

However the MNR recommends that these values be assessed during the Natural Heritage Assessment to ground truth and provide additional detail addressing these particular values.

Lastly, the MNR oversees the provincial Endangered Species Act (2007) and thus following a review of the information obtained from Natural Heritage Information Centre (NHIC) and a search of SAR records which exist at the MNR Kemptville District office, the MNR can advise that there is a high potential for **Butternut (Endangered)**, and **Grey Ratsnake (Threatened)**.

2010_ELM-890

Smiths Falls 3 – Lot 8, Concession 9, Elmsley

MNR records show that there are woodlands on this site, and thus consideration for their significance should be carried out. Furthermore, there is a large tract of unevaluated wetland located less than 600m from the Port Elmsley Wetland. As such, the MNR recommends that the determination of wetland significance be carried out if development or site alteration is proposed within 120m of this wetland. Lastly, our records also show there is a watercourse that is immediately adjacent to, if not partially on, the southern portion of the property. This watercourse may be fish habitat, while MNR has no specific information pertaining to this watercourse; we recommend you contact DFO and the local CA as they may have additional information pertaining to fisheries.

MNR's records show that the **Gray Ratsnake (Threatened)** and **Butternut (Endangered)** are likely on or immediately adjacent to the site. Furthermore, the provincially rare tracked Scarlet Beebalm (S3) is also located in the immediate area. The MNR recommends that an Ecological Site Assessment be carried out for these species, as well as consideration of and evaluation for Significant Wildlife Habitat as it relates to these species.

2010_DRU-882

Smiths Falls 4 – Lot 8, Concession 10, Drummond

This site shows predominantly agricultural lands; however there is a small patch of woodlands that could potentially be significant, as it relates to the broader environment and ecology of the area. The MNR recommends that if development is to be proposed within 120m of this site, that Significance is determined. Furthermore, there are some hedgerows throughout the property which, along with the woodland pocket, may have Butternut. There is also a small pond that drains to an evaluated wetland, and thus consideration to the aquatic ecosystem, including fisheries, should be addressed.

MNR Records show that **Grey Ratsnake (Threatened)** is located in the immediate area as well as the potential for **Butternut (Endangered)** does exist. Again, the MNR strongly encourages that an Ecological Site Assessment be carried out to determine what species may be present on site.

2010-ELM-891

Smiths Falls 5 – Lot 22, Concession 9, Elmsley

There are some small woodlands located on the property as well as hedgerows which have the potential to be habitat for a diversity of wildlife, not to mention significant woodlands. Furthermore, the potential for Butternut (Endangered) to be located within these wooded areas does exist. MNR records also show a fairly large unevaluated wetland which is located in part on the property. Thus, if work is proposed to be carried out within 120m of this wetland, a wetland evaluation for significance is to take place. Lastly, MNR has identified that a small watercourse also crosses a portion of the property (south end) which may serve as habitat for fisheries; contacting the DFO and the local CA for additional information is strongly recommended.

Our records show that **Grey Ratsnake (Threatened)** and **Butternut (Endangered)** are located in the immediate vicinity, and thus consideration for their presence on site is strongly recommended.

2010-ELM-892

Smiths Falls 6 – Lot 3, Concession 1, Elmsley

While not directly located on the property, the Otter Creek Provincially Significant Wetland is located in close proximity to the site. Thus considerations for impacts to this PSW are strongly encouraged, particularly if development is proposed onsite that is within 120m of the PSW. Furthermore, the Otter Creek contains known fish spawning areas for Large Mouth Bass, Yellow Perch and Pike, of which some of these spawning areas, exist in the small watercourse, which extends out and eventually across the lower portion of the property. As

such, the MNR strongly encourages acquiring additional information as it pertains to fisheries, habitat and the potential impacts as it relates to the proposed project. Lastly, there are a number of hedgerows located on the property, as well as woodland areas immediately abutting the property, the consideration for woodland significance is strongly recommended, as well as noting that the presence of Butternut is strongly suspected for this site.

Furthermore, MNR's internal records show element occurrence information for **Grey Ratsnake (Threatened)** and the potential for **Butternut (Endangered)** as well as a record for the provincially tracked rare species, Scarlet Beebalm. Carrying out an Ecological Site Assessment for this particular site again is strongly encouraged.

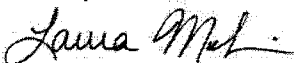
With respect to the above noted 6 sites, in particular the data associated with Species at Risk, the MNR would like to note that although this data represents the MNR's best current available information, it is important to note that a lack of occurrence at a site does not mean that there are no Species at Risk (SAR) at the location. MNR must note further, that there may not be any records currently held for newly listed Endangered and Threatened species and therefore for both above mentioned reasons, the MNR continues to encourage ecological site assessments to determine the potential for other SAR occurrences. When a SAR does occur on a proposed site, it is recommended that the proponent contact the MNR for technical advice and to discuss what activities can occur without contravention of the Act. If an activity is proposed that will contravene the Act (such as Section 9 or 10), the proponent must contact the MNR to discuss the potential for application of certain permits (Section 17) or agreement (Regulation 242/08). For specific questions regarding the Endangered Species Act (2007) or species at risk, please contact Species at Risk Biologist, Paula Norlock at paula.norlock@ontario.ca. Not only is the ecological site assessment vital for assessing those Species at Risk on and adjacent to the site, however, it can also serve as the foundation for evaluating Significant Habitat of Endangered and Threatened species within the identified study areas.

For the purposes of the required Natural Heritage Assessment report, the MNR recommends the following sources of direction and information as areas by which to begin the desktop portion of your review:

- Natural Heritage Reference Manual (2010) – the newly published NHRM is a key document for understanding the importance of and the criteria for evaluating the various Natural Heritage Values on the landscape (including Significant Woodlands). This document can be accessed via: <http://www.mnr.gov.on.ca/en/Business/LUEPS/Publication/249081.html>
- Significant Wildlife Habitat Technical Guide (1999) – this document provides further technical direction and information as it relates to Significant Wildlife Habitat: http://www.mnr.gov.on.ca/en/Business/FW/Publication/MNR_E001285P.html
- Ontario Wetland Evaluation System: http://www.mnr.gov.on.ca/en/Business/Biodiversity/2ColumnSubPage/STEL02_176756.html

If you have any questions, please do not hesitate to contact me.

Sincerely,



Laura Melvin
A/ District Planner
Resource Management Planner
laura.melvin@ontario.ca

September 21, 2010

Hatch
Suite 500, 4342 Queen Street
Niagara Falls, Ontario, L2E 7J7

Dear: Sean Male

Re: Smiths Falls 6 Solar Project – Revised Draft Natural Heritage Assessment

This letter acknowledges the receipt of your revised Draft Natural Heritage Assessment, including Records Review, Site Investigation, Evaluation of Significance and Environmental Impact Study for the Smiths Falls 6 Solar Project. Revised documents were received by Ministry of Natural Resources (MNR) staff in Kemptville District on August 31, 2010. Below are MNR's comments.

Details of Field Efforts

The total amount of time spent in the field investigating all features needs to be presented reports. Currently information about the time spent completing the wetland evaluation is not included. Any other field efforts should also be included regardless of whether Hatch or a subcontractor completed the work. This information provides greater certainty during MNR's review of the Natural Heritage Assessment that adequate amounts of time during the appropriate times of year were spent completing the site investigation and evaluation of significance.

New Project Area

The project area has been changed such that it is no longer within 120m of the significant woodland to the northwest. Therefore, site investigation and evaluation of significance for woodlands and wildlife habitat in this area are no longer required. MNR is satisfied with the proposal to set back 120m from this feature. A detailed map showing the revised project layout is required.

Significant Wildlife Habitat

Scarlet Beebalm

Suitable habitat was identified in the area along the unnamed tributary and the flood hazard area although no plants were found. It should be specifically mentioned that any occurrences of scarlet beebalm would be expected to occur within the 30m setback from the stream, and since there is no development proposed in this area, occurrences of scarlet beebalm will not be impacted. A description of proposed activities (if any) that may occur in the 30m setback needs to be included (i.e. mowing) in the EIS.

Snakes and Turtles

Species such as milksnake (special concern), ribbonsnake (special concern), and snapping turtle (special concern) should be assumed to be present. Visual daily monitoring of the project area for snakes and turtles is recommended as proposed mitigation to prevent impacts to these species.

Rock Piles as potential Snake Hibernacula

After discussions between MNR and Hatch about the size of the rock piles present on the property it was determined that they were not sizeable to be considered as significant hibernacula for snakes. Rock piles need to be large enough to provide snakes with shelter from the extreme temperature fluctuations during the winter months to prevent the snakes from freezing. Rock piles of this size were deemed not present.

Hedgerows

Hedgerows were evaluated for significance and it was determined that the hedgerows do not link two significant features and are therefore not significant. Therefore, removal of these trees is permitted. Butternut is listed as an endangered species and hedgerows should be searched for butternut prior to cutting.

Other Significant Wildlife Habitat Features

As per previous discussions with MNR, whether or not a significant wildlife habitat feature is present, it should be discussed in the report to show that it was considered, specifically for the area where clusters of trees will be removed.

Wetland Evaluation

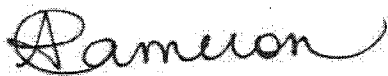
The wetland evaluation has been approved by Kemptville District Ecologist, Shaun Thompson. A 30m setback from all wetland features is required. It should be indicated in the EIS whether any mowing, tending or maintenance is planned in the 30m setback. Please contact the Conservation Authority for permitting approvals for water crossings.

Summary of Environmental Effects Monitoring Requirements (Table 4.1)

The Natural Heritage Assessment reports do not need to address endangered or threatened species listed under Ontario's *Endangered Species Act*, since these species are afforded protection under this legislation. Therefore, removal of discussion about "species at risk" should be removed from the EIS (Table 4.1) and replaced with "species of conservation concern".

If you have any questions, please do not hesitate to contact me at (613) 732-5506.

Yours Truly,



Amy Cameron

Planning Ecologist
MNR Pembroke, Kemptville, Bancroft Districts

- c. Heather Zurbrigg, Planning Ecologist, MNR Kemptville District
- c. Jim Fraser, Area Supervisor, MNR Kemptville District
- c. Erin Cotnam, MNR Southern Region Renewable Energy Coordinator

Male, Sean

From: Cameron, Amy (MNR) [Amy.Cameron@ontario.ca]

Sent: Tuesday, October 19, 2010 12:33 PM

To: Male, Sean

Cc: Cameron, Amy (MNR); Zurbrigg, Heather (MNR)

Subject: SF6 - comments

Hi Sean,

My email is not working so I'm sending some comment for the SF6 project from Amys acct. Hope you find these helpful and we can get this one moving!

As promised, some final comments on the Recurrent Smith's Falls 6 solar project report. We are preparing to send this to the district manager for sign off on the Natural Heritage Assessment and there are a few details that will need to be addressed before we do so. If you could please change these few things, we believe this should be ready.

Records review as we have previously discussed it is to our satisfaction.

Site investigation report:

- Table 2.1 on pg. 6: this table will need to be revised to reflect new project boundary... eg: no longer within 120 of a woodland, but mention Significant wildlife habitat (SWH) and the wetland (unevaluated, and the PSW). And ensure consistency through the document that there is not woodland within 120m of the site boundary.
- In paragraph below this table (pg. 6), if you could please tighten up the wording eg: no "could potentially be located"...
- On page 13, section 4.1.3: please end that paragraph after "scarlet beebalm are not found on the project location" and delete all wording after that
- Pg. 13, section 4.2: 'wildlife observations', if you could indicate whether any of these species is a declining species, as this would indicate SWH and we need to know within 120m of the site as well. Are these observations for the project site and the 120m area surrounding the site boundaries
- Pg. 19 section 4.2.1.4: if you could please mention specific animals that would be using the animal movement corridor, eg: snapping turtle and carry this through to the Evaluation of significance and the Environmental Impact Statement.
- In Section 4.3: please include a statement like "MNR does not feel the grey ratsnake will be present on this site". As per feedback from the District Ecologist

Evaluation of significance (EOS) report

- Pg. 9, Section 3.2.1: if you could provide clarification on turkey vulture roosting are. Where was this observation? Were the trees whitewashed?
- Pg. 9 Section 3.2.2: if you could please provide some clarification on landowner permission. How was the wetland evaluated? Why couldn't you observe for ribbonsnake?

Environmental Impact study (EIS) report

2/10/2011

- Re: fencing. If you could add a few things here re: fencing. 1. Explicitly state in words that there will be an unfenced corridor through the middle of the site area, allowing for animal movement, and keeping a 30m buffer around the tributary that is a part of the PSW complex. 2. There needs to be a plan for dealing with any animals that might be trapped inside the fences and this needs to be explained in the EIS. 3. On page 13, in the maintenance table fencing will need to be specifically addressed. Maintenance and method eg: timing and access. For example 'will be accessed from project site and will not be accessed from the 30m buffer around the corridor/wetland' 4. Fencing needs to be addressed in the decommissioning section 3.3.
- Last activity in table 3.1 on page 12, 'rehabilitate site' – if you could please indicate that it will be reseeded/revegetated with native seed.
- Section 4, on page 14, take out 'an significant woodlands' since there are no woodlands that are being considered here either on the site or within 120m.
- Would you please be able to clarify sediment and erosion control in section 4.1.1.1. we are in need of further explanation to understand why sediment and erosion control measures will not be required to be installed here.
- 4.1.2.5 – take out reference to Scarlet Beebalm in the first paragraph and please indicate that there will be visual monitoring of wildlife (and appropriate removal) on roads so as to avoid harm.
- Any time 'snakes and turtles' are mentioned, if it could please be replaced by 'reptiles and amphibians', you may use examples after mention if you choose.
- 4.2.2. timing and frequency of the mowing under the panels. And second sentence would be better structured as such:
 - "Mowing of vegetation beneath and around the solar panels, if required, may result in incidental take. Known occurrences of incidental take will be reported, and the species impacted will be determined. Milksnake are habitat generalists and may be impacted through incidental take."
- Summary and conclusions Section 6: add PSW to the bullet (and final sentence... is there more?)
- Table 4.1:
 - References to amphibians, should be "amphibians and reptiles"
 - In the incidental take of wildlife section we would like to see it more focussed on avoidance as the primary objective. As such we suggest the following (and any other language you feel might need to change to adhere to this):
 - Mitigation strategy: add some language around visual monitoring and appropriate removal or avoidance measures
 - Performance Objectives: make this about avoidance
 - Methodology: mention removal of wildlife
 - Frequency: add 'on a continued basis'
 - Rationale: to whom will this be reported.

Thanks Sean, we'll talk in the next few days whenever is convenient for you.

-Heather Zurbrigg

Appendix A10
Water Body
Records Review Report
Summary

RE Smiths Falls 6 ULC RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as "RE Smiths Falls 6" 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, Rideau Valley Conservation Authority (RVCA), United Counties of Leeds and Grenville, Township of Rideau Lakes and other relevant sources.

2. Results

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

- a small unnamed tributary of Otter Creek crosses the Project site
- a very small portion of the Otter Creek Provincially Significant Wetland Complex (PSWC) is located < 120 m of the Project site
- RVCA indicated that the Otter Creek Flood Hazard Zone (corresponding to the 1:100-yr flood hazard) covers approximately 10% to 15% of the Project site
- MNR indicated that Otter Creek and its tributaries contain known fish spawning habitats for Largemouth Bass (*Micropterus salmoides*), Yellow Perch (*Perca flavescens*), and Northern Pike (*Esox lucius*).

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	No lakes are located on or within 120 m 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 site.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	One small watercourse crosses the Project site. This watercourse is a tributary of Otter Creek, which is a tributary of the Rideau River.
Is the Project within 120 m of a seepage area?	No	No groundwater seepage areas were identified during the Records review.

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 Smiths Falls 6 ULC RE Smiths Falls 6 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 Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as "RE Smiths Falls 6" or the "Project").

Section 31 of the REA Regulation requires proponents of Class 3 solar projects to undertake a water 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 on or within 120 m of the Project site, and if the borders and distance of the waterbodies from the Project site are correct. A site visit was completed to obtain this information.

2. Results

A single water body was noted on or within 120 m of the Project site during the site investigation. It is described as follows:

Unnamed Tributary of Otter Creek

- is a permanent stream
- originates in an agricultural field, approximately 0.5 km east of the Project site and runs in a southwesterly direction toward the Project boundary
- flows through the Project site in a northeast-southwest direction
- leaving the Project site, the watercourse turns in a northwestern direction and flows into Otter Creek, parts of which are designated as a Provincially Significant Wetland (PSW).

A potential groundwater seepage area was observed on the edge of the riparian corridor in an area of rutting from agricultural activities. At the edge of pooled water in the one of the ruts, there was an accumulation of orange-colored flocculent, which is typical of oxidation of iron when groundwater is aerated when it emerges at the land surface.

3. Conclusions

The Unnamed Otter Creek Tributary will all require an EIS as per Sections 39 and 40 of the REA Regulation since the average annual high water mark is located between 30 and 120 m from the Project site.

Appendix A12
Waterbodies
Environmental Impact Study
Summary

**RE Smiths Falls 6 ULC
RE Smiths Falls 6 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 Waterbodies Environmental Impact Study for the RE Smiths Falls 6 Solar Project.

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as “RE Smiths Falls 6” or the “Project”).

Sections 39 and 40 of the REA Regulation requires 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 unnamed tributary of Otter Creek. It has been determined that there are no significant environmental effects to the tributary.

2. Results

The results of the EIS on the water body 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
Surface Water Runoff		
Construction	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving water body due to land grading and ditching, soil compaction, and vegetation removal.	Install flow dissipation measures near the 30-m setback from the water body. Ditches will be vegetated with appropriate grass species to aid in flow dissipation and water uptake. Enhanced vegetated swales and filter strips will be utilized where appropriate. Rock flow check dams and/or straw bale flow checks will be used in ditches to promote minor ponding in order to decrease turbidity and increase water retention. Discing or other soil loosening methods will be used on compacted areas. Long term ground cover will be planted.
Operations	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving water body due to land grading and ditching, impervious and less pervious soils, 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 will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns.
Decommissioning	Altered surface water runoff pattern and rate causing an increase in surface water runoff to the receiving water body if land grading and ditching are left in place after decommissioning.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions.
Surface Water Quality		
Construction	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving water body due to land grading and ditching, soil compaction, and vegetation removal.	Erosion and Sediment Control plan to be created and implemented. Examples of key components of the plan are: minimize size of cleared and disturbed areas, phase construction to minimize time of exposed soils, adequate supply of erosion and sediment control, divert runoff through vegetated areas, install flow velocity control measures in drainage ditches, revegetate and stabilize exposed soils, grade stockpiles to stable angle, stockpiles placed in suitable areas away from the receiving water body.
Construction/ Decommissioning	Heavy dust may impact surface water quality.	Use of dust suppressant, phased construction and decommissioning, stockpiles to be stabilized and/or covered, and avoid earthworks during windy days.
Construction/ Operations/ Decommissioning	Accidental spills contaminating surface water.	Fuelling stations and hazardous materials storage to be located outside of the 1:250-yr flooding hazard. 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

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		have spill response procedure and all workers will be properly trained on the procedure. No cement products to be placed into any watercourse. Concrete truck rinsing station at least 120 m away from any known watercourse. Cement storage to be raised and placed in a waterproof shelter.
Operations	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving water body due to land grading and ditching, and changes in vegetation.	Stormwater flow patterns will be replicated. Long-term ground cover will be planted. Impervious and less pervious soils will allow runoff into ditches or localize points and discharge into vegetation to allow flow dissipation; therefore no appreciable impact to local drainage patterns.
Operations	Water used in maintenance activities to be released on site may affect surface water quality.	Panel washing will us up to 26,000 L over a 4 to 5 day period approximately three times per year. No cleaning agents will be used and therefore no impacts to surface water quality are anticipated.
Decommissioning	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving water body due to land grading and ditching, and changes in vegetation.	All infrastructure will be removed, including access roads and drainage ditches, thereby bringing the site back to pre-construction conditions.
Aquatic Biota and Habitat		
Construction	Impacts to aquatic biota and habitat due to installation of overhead transmission line (if required).	Install overhead line when the water body is frozen if possible. Install overhead lines perpendicular to the water body to minimize length of disruption. Prevent or minimize vegetation removal. No fording. No machinery will operate on the banks of the annual high water mark. Sediment and erosion controls will be in place prior to work commencing. Revegetate disturbed areas as soon as possible.
Construction	Impacts to aquatic biota and habitat due upgrading of existing water crossing requiring in-water work.	Water crossing upgrading will occur outside the warm water timing restriction (March 15 and June 30). Prior to dewatering (if necessary) fish will be electrofished and moved. Pump will be shrouded. Disturbed banks of the creek will be revegetated and protected with erosion control matting.
Construction/ Operation/ Decommissioning	Indirect effects to aquatic biota and habitat due to changes in surface water quality, surface water runoff rate and groundwater.	Proposed mitigation for surface water quality, surface water runoff and groundwater as above anticipated to be sufficient.
Groundwater		
Construction	Recharge or seepage areas may be impacted by altered surface water runoff or excavations.	If dewatering of excavations is necessary, the effects will be minor and short term.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Construction	Impact to seepage area due to construction of access road within the 30-m buffer.	No excavations anticipated. Fill for access road will avoid seepage area.
Construction	Groundwater resources potentially affected by water withdrawals from a new on-site well during construction.	Typical withdrawals will be approximately 10,000 L/d. If additional water is 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 26,000 L over a 4 to 5 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 (Wardrop, 2010), 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 unnamed tributary of Otter Creek. 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 water body is adherence to the 30-m setback requirement. Certain construction activities may have short term minor impacts, but these would be temporary in nature. Operational activities are not anticipated to impact the water body as the Project operated remotely and maintenance is expected to infrequently 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 site has been restored to its previous condition no long term impacts are anticipated.

Overall, while the Project will result in some changes to the natural environment, no negative effects on the water body are anticipated to occur following implementation of the mitigation and monitoring measures proposed in this EIS.

Appendix A13
Stage 1 and 2
Archaeological Assessment Report
Summary

Appendix A14
MTC Confirmation Letter

Ministry of Tourism and Culture
Culture Division
Culture Programs Unit
Programs and Services Branch
400 University Avenue, 4th 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^e étage
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Téléphone: 416-314-7132
Télécopieur: 416-314-7175
Email : Jim.Sherratt@ontario.ca



September 8, 2010

Ms. Kathleen Vukovics
Hatch Limited
4342 Queen Street
Niagara Falls, Ontario
L2E 7J7

RE: RE Smith Falls 6 Solar Generation Facility, Part Lot 3, Concession 1, Township of Rideau Lakes, United Counties of Leeds and Grenville, Ontario, FIT-FUL9X6J, MTC File no. HD00485, PIF No. P040-341-2010.

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 [P040-341-2010] recommends the following:

- 1. Additional assessment or mitigative measures are only warranted for Locations 9 and 11 because they represent potentially significant Euro-Canadian homestead sites. This fieldwork will involve a Stage 3 investigation consisting of a controlled surface collection of artifacts and the hand-excavation of one-metre square units at an approximate 5-metre interval across the site.*
- 2. Additional assessment or mitigative measures are not warranted for Locations 1- 8 and 10 because they exhibit low information potential by provincial standards and precedents. The Ministry of Tourism and Culture is requested to issue a letter concurring with this recommendation.*
- 3. The above recommendation is subject to concurrence by the Ministry of Tourism and Culture. It is an offence to destroy or alter an archaeological site without approval from the Ministry of Tourism and Culture. No landscaping, grading or other activities that may result in the destruction or disturbance of any of the archaeological sites documented in this report is permitted prior to the Ministry of Tourism and Culture's approval.*
- 4. Although every reasonable effort was made to locate all archaeological resources, it is possible that some remain to be discovered within the study area. Should deeply buried archaeological material be found during construction, the Ministry of Tourism and Culture (416-314-7148) and*

Mayer Heritage Consultants Inc. in London (519-652-1818 or 800-465-9990) should be immediately notified.

5. *As on virtually any property in southern Ontario, it is possible that Aboriginal or Euro-Canadian burials could be present within the study area. In the event that human remains are encountered during construction, the proponent should immediately contact both the Ministry of Tourism and Culture, and the Cemeteries Regulation Unit of the Ontario Ministry of Consumer and Commercial Relations in Toronto (416-326-8392), as well as the appropriate municipal police, the local coroner, and Mayer Heritage Consultants Inc.*
6. *The licensee shall keep in safekeeping all artifacts and records of archaeological fieldwork carried out under this licence, except where those artifacts and records are transferred to by the licensee to Her Majesty the Queen in right of Ontario or the licensee is directed to deposit them in a public institution in accordance with subsection 66(1) of the Act.*

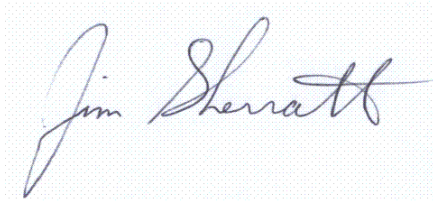
The Ministry is satisfied with these recommendations.

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. Mr. Paul O'Neal, Mayer Heritage Consultants 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

February 23, 2011

RE Smiths Falls 6 ULC
RE Smiths Falls 6 Solar Project

Heritage Resources and Protected Properties

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2. Protected Properties Error! Bookmark not defined.

3. Heritage Assessment Error! Bookmark not defined.

4. Conclusion Error! Bookmark not defined.

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1. Introduction

1.1 Project Description

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes (the “Township”) in the United Counties of Leeds and Grenville; herein referred to as “RE Smiths Falls 6” 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 renewable energy 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 an REA.

Section 19 of the REA Regulation requires proponents of Class 3 solar projects to determine whether the project location is on a property described in Column 1 of the Table to Section 19. Table 1.1 has been prepared to meet this requirement.

Section 23 of the REA requires that proponents of Class 3 solar projects, determine whether engaging in the renewable energy project may have an impact on a heritage resource described in Subsection 20 (1). Table 1.2: *The Ministry of Culture – Check Sheet for Environmental Assessments: Screening for Impacts to Built Heritage and Cultural Heritage Landscapes* has been completed to address the requirements described in Section 23.

2. Protected Properties

As discussed in Section 1.2, Table 1.1 has been prepared to address Section 19 of the REA Regulation.

3. Heritage Assessment

As discussed in Section 1.2, Table 1.2 has been prepared to address Section 23 of the REA Regulation.

4. Conclusion

Based on the information presented in Table 1.1 the proposed Project is not located on a Protected Property as described in Column 1 of the Table to Section 19. In addition, research and agency consultation undertaken as described within Table 1.2 has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation.

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Table 1.1 - Protected Properties Table
Under the Renewable Energy Approval: O. Reg. 359/09 Section 19

19. (1) A person who proposes to engage in a renewable energy project shall determine whether the project location is on a property described in Column 1 of the Table to this Section.

Property: Smiths Falls 6

Address: Property does not have a civic address. It is north of Kitley South Elmsley Townline Road at the intersection of Kitley South Elmsley Townline Road and Hutton Road, Township of Rideau Lakes, United Counties of Leeds and Grenville, ON, K7A 4F5, Part Lot 3, Concession 1, South Elmsley.

Township and County: Township of Rideau Lakes, Lanark County.

Item	Description of Property	Reference
1	A property that is subject of an agreement, covenant or easement entered into under clause 10(1)(b) of the <i>Ontario Heritage Act</i> .	See MTC Check Sheet Step 2, Item 4. The property is not designated under clause 10(1)(b) of the <i>Ontario Heritage Act</i> .
2	A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with Section 29 of the <i>Ontario Heritage Act</i> .	Consultation with the municipality, as per MTC Check Sheet Step 2, Item 8 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.
3	A property designated by a municipal by-law made under Section 29 of the <i>Ontario Heritage Act</i> as a property of cultural heritage value or interest.	Consultation with the municipality, as per MTC Check Sheet Step 2, Item 8 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.
4	A property designated by order of the Minister of Tourism and Culture made under section 34.5 of the <i>Ontario Heritage Act</i> as a property of cultural heritage value or interest of provincial significance.	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.
5	A property in respect of which a notice of intention to designate the property as property of cultural heritage value or interest of provincial significance has been given in accordance with Section 34.6 of the <i>Ontario Heritage Act</i> .	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.
6	A property that is subject of an easement or a covenant entered into under Section 37 of the <i>Ontario Heritage Act</i> .	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.
7	A property that is part of an area designated by a municipal by-law made under section 41 of the <i>Ontario Heritage Act</i> as a heritage conservation district.	The MTC 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 adjacent to such a property.
8	A property designated as a historic site under Regulation 880 of the Revised Regulations of Ontario, 1990 (Historic Sites) made under the <i>Ontario Heritage Act</i> .	The property is not designated a historic site under Regulation 880.

Table 1.2 - Ministry of Tourism and Culture – Check Sheet for Environmental Assessments
Screening for Impacts to Built Heritage and Cultural Heritage Landscapes

This checklist will help identify potential cultural heritage resources, determine how important they are and indicate whether a heritage impact assessment is required.

Property: Smiths Falls 6

Address: Property does not have a civic address. It is north of Kitley South Elmsley Townline Road at the intersection of Kitley South Elmsley Townline Road and Hutton Road, Township of Rideau Lakes, United Counties of Leeds and Grenville, ON, K7A 4F5, Part Lot 3, Concession 1, South Elmsley.

Township

and County: Township of Rideau Lakes, Lanark County.

Step 1 – Screening Potential Resources			
		Built Heritage Resources	Comments
Yes	No	Does the property contain any built structures, such as:	The following resources were assessed using Google Earth on February 22, 2010. Lands for this project appear to be on land cultivated for agricultural use. Imagery date, May 9, 2004. Latitude: 44 degrees 51' 43, 37" N and Longitude 75 degrees 59'39. 53 'W. This location was cross referenced with Google Maps on February 22, 2010. http://maps.google.com/maps?ll=44.873273,-75.998615&z=15&t=h&hl=en .
	√	Residential structures (e.g., house, apartment building, trap line shelter)	
	√	Agriculture (e.g., barns, outbuildings, silos, windmills)	
	√	Industrial (e.g., factories, complexes)	
	√	Engineering works (e.g., bridges, roads, water/sewer systems)	
Cultural Heritage Landscapes			
Yes	No	Does the property contain landscapes such as:	
	√	Burial sites and/or cemeteries	
	√	Parks	
	√	Quarries or mining operations	
	√	Canals	
√		Other human-made alterations to the natural landscape	Some lands have been cultivated for agricultural use.

Step 2 – Screening Potential Significance			
Yes	No	A property's heritage significance may be identified through the following:	Comments
			The Ministry of Tourism and Culture: Ontario Heritage Properties Database was reviewed. No heritage significance for the Smiths Falls 6 or adjacent sites was found. (Website Search: February 3, 2010)
	√	1. Is it designated or adjacent to a property designated under the Ontario Heritage Act?	See general comment above.
	√	2. Is it listed on the municipal heritage register or provincial register (e.g., Ontario Heritage Bridge List)?	See general comment above.
	√	3. Is it within or adjacent to a Heritage Conservation District?	See general comment above.
	√	4. Does it have an Ontario Heritage Trust easement or is it adjacent to such a property?	See general comment above.
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the vicinity of the Project location (Research completed Feb. 22, 2010 http://www.ontarioplaques.com/index.html). Federal plaques appear at National Historical Sites of Canada, none of which exist within the vicinity of the Project (see Item 6 below).
	√	6. Is it a National Historic Site?	National Historic Sites are included within the Ontario Heritage Properties Database (Research completed Feb. 3, 2010) In addition, no sites within the vicinity of the Project are listed on the Canadian Register of Historic Places (Research completed February 22, 2010 www.historicplaces.ca).
	√	7. Does documentation exist to suggest built heritage or cultural heritage landscape potential? (e.g., research studies, heritage impact assessment reports, etc)	
√		8. Was the municipality contacted regarding potential cultural heritage value?	The Municipal Heritage Advisory Committee of Rideau Lakes Township was contacted on April 12, 2010 to determine potential cultural heritage values associated with the property. Project information was presented during the Committee's April 15, 2010 meeting. Additionally an email from the Chairman of the Committee indicated that the Project site is not "(a) designated by the Township of Rideau Lakes under the Ontario Heritage Act nor (b) listed as sites of heritage significance."
	√	Were any concerns expressed?	No
		9. What are the dates of construction?	N/A

	√	Are the buildings and/or structures over 40 years old?	There are buildings and/or structures on the lots where the Project will be located. Consultation with Mayer Heritage has resulted in the recommendation that no Heritage value would be associated with these structures, and the no Heritage Impact Assessment would be required based on the presence of these buildings and/or structures.
√		Is it within a Canadian Heritage River watershed?	The property is located within the Rideau River Watershed, a Canadian Heritage River Watershed. It was determined through consultation with Parks Canada that the Project site is not going to present a heritage impact to the Rideau Canal and heritage impact assessment will not be required.
	√	10. Is a renowned architect or builder associated with the property?	N/A

Note: If you answer “yes” to any of the questions in Step 2, a heritage impact assessment is required.

Step 3 – Screening for Potential Impacts			
Yes	No		Comments
	√	Destruction of any, or part of any, significant heritage attribute or feature.	
	√	Alteration that is not sympathetic, or is incompatible, with the historic fabric or appearance.	
	√	Shadows created that alter the appearance of a heritage attribute or change the visibility of a natural feature or plantings, such as a garden.	
	√	Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.	
	√	Direct or indirect obstruction of significant views or vistas from, within, or to a built and natural feature.	
	√	A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces.	
	√	Land disturbances such as a change in grade that alters soils and drainage patterns that adversely affect an archaeological resource.	

Contents of a Heritage Impact Assessment

As a minimum, the following should be included in a heritage impact assessment:

1. Historical research, site analysis and evaluation
2. Identification of the significance and heritage attributes of the property
3. Description of the proposed development/ site alteration
4. Measurement of impacts
5. Consideration of alternatives, mitigation and conservation methods
6. Implementation and monitoring schedules
7. Summary statement and conservation recommendations

For more information, refer to Ministry of Culture *Info Sheet#5: Heritage Impact Assessments and Conservation Plans* as part of the Ontario Heritage Tool Kit, which is available on the Ministry's website www.culture.gov.on.ca.

Appendix A16
Noise Study Report
Summary

RE Smiths Falls 6 ULC RE Smiths Falls 6 Solar Project

Summary

Noise Assessment Report

1. Introduction

This report presents the results of the noise assessment study for the RE Smiths Falls 6 Solar Project, required under Regulation 359/09 as part of the Renewable Energy Approval Process (REA).

RE Smiths Falls 6 ULC is proposing to develop and operate a 10-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 33-hectare (ha) parcel of land located approximately 5 km southeast of Smiths Falls in the Township of Rideau Lakes in the United Counties of Leeds and Grenville (herein referred to as “RE Smiths Falls 6” 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 the MOE.

2. Results

- The main sources of noise from the solar facility will be the step-up transformer, located at the substation, and five 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 the 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 inverter units 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 1-MW inverter clusters, each of which included two 500-kW inverters. 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 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 Smiths Falls 6 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 measures, will be below MOE requirements for Class 3 areas at night time (40 dBA), and well below the limits at day time (45 dBA).