NORTHLAND POWER

Renewable Energy Approval Documents

Burk's Falls West Solar Project

Draft Executive Summary

September 7, 2011

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Executive Summary

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1. Introduction

The Burk's Falls West Solar Project (hereinafter referred to as the "Project") is a proposed 10-megawatt (MW) solar farm in the Township of Armour, Ontario. The Project is being developed by Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland"). As required, Northland is commencing with the Renewable Energy Approval (REA) described in Ontario Regulation 359/09 under the *Environmental Protection Act*.

Northland is the proponent of the Project. The contact information is as follows:

Tom Hockin
Development Manager - Renewables
Northland Power Inc.
30 St. Clair Ave. West, 17th Floor
Toronto, ON
M4V 3A1

Tel: 647-288-1046
Fax: 416-962-6266
Email: Tom.Hockin@Northlandpower.ca

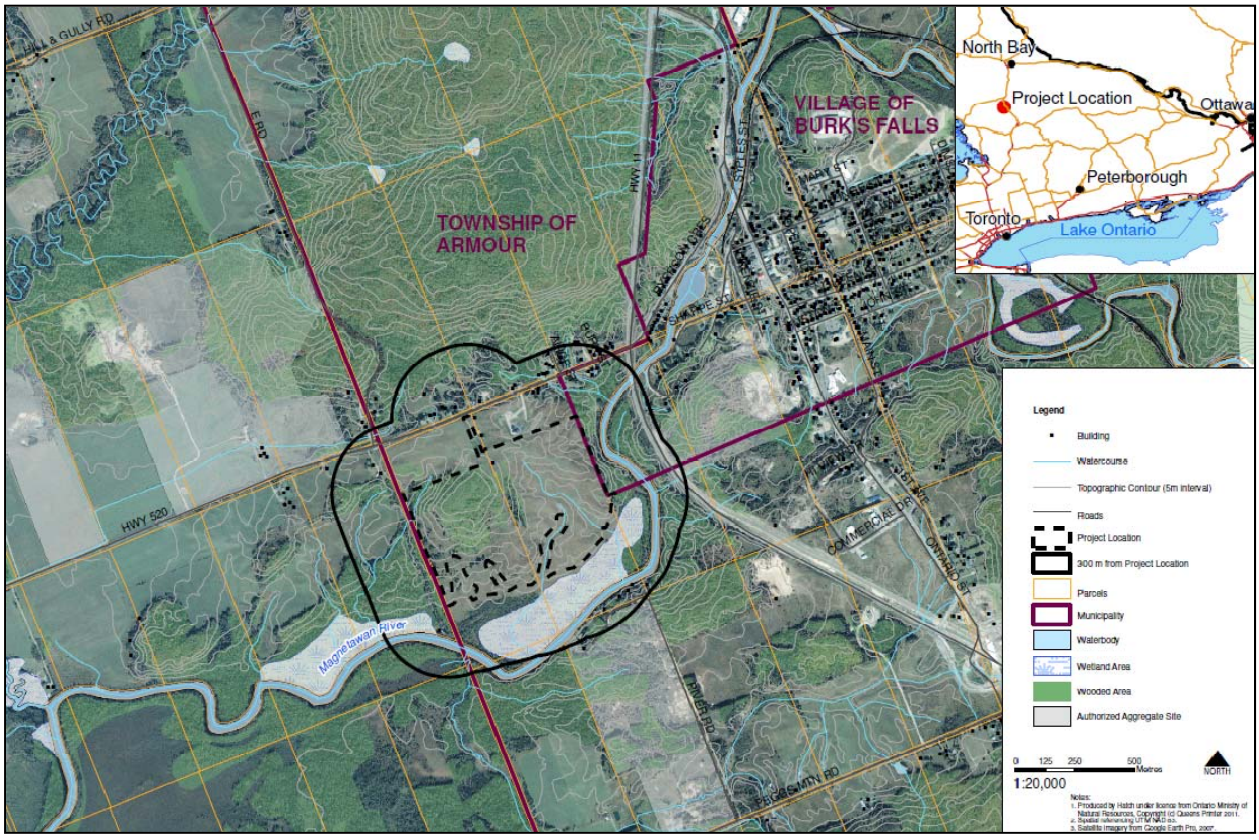
Northland has retained Hatch Ltd. (Hatch) to assist Northland in meeting the REA requirements. Contact information for Hatch is as follows:

Sean Male, MSc
REA Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON
L2E 7J7

Tel: 905-374-0701, Ext. 5280
Fax: 905-374-1157
Email: smale@hatch.ca

1.1 Project Location

The Project is located in the Township of Armour, immediately west of the Village of Burk's Falls. The Project location is approximately 40 hectares (ha) in size and located south of Highway 520.



1.2 Project Proponent

Northland Power develops and operates clean and green power generation projects, mainly in the provinces of Ontario and Quebec, with Saskatchewan being added to that list shortly. Our facilities produce about 900 MW of electricity. Northland has been in business since 1987, and has been publicly traded on the Toronto Stock Exchange since 1997.

Sustainability is a core value at Northland Power. All of their development efforts and operational practices focus on ensuring the ability to provide long-term benefits to their customers, investors, employees, communities and partners.

Sustainability has many dimensions for Northland Power.

- Environmental: Northland Power was founded on the belief that clean and green energy sources are vital to the future of our planet. Northland Power produces nothing else. Their construction and operational practices are engineered to meet the highest environmental standards, even in jurisdictions where lower standards are legislated.
- Health and Safety: Northland Power ensures that their staff has the knowledge, tools and time to work safely. This is Northland's first priority. Their culture of safety, respect and independence helps to ensure they attract and retain the people that they need to perform.
- Operational: Northland Power maintains and reinvests constantly in their operating assets to achieve maximum efficiency and economic life.
- Community: Northland Power takes an active interest in its host communities, to ensure they remain vibrant, healthy places to live.
- Financial: Northland Power consistently chooses long-term success over short-term gain. Northland Power only pursues projects that meet strict return thresholds and have creditworthy customers. As a result, they have paid stable monthly dividends since 1997.

Northland's business model is to develop, finance, construct, own and operate its facilities for the duration of the project's useful life. As such, Northland considers itself to be a member of the local community in which it operates and has a track record of being a good neighbour.

1.3 Project Benefits

Green Energy Act and Feed-in-Tariff (FIT) Program

The Ontario Government passed the "Green Energy and Green Economy Act" into law on May 14, 2009. The Act is expected to boost investment in renewable energy projects and increase conservation, creating green jobs and economic growth.

The Ontario Government lists the following objectives for the Ontario Green Energy Act:

- Spark growth in clean and renewable sources of energy such as solar, wind, hydro, biomass and biogas in Ontario.
- Create the potential for savings and better managed household energy expenditures through a series of conservation measures.
- Create 50,000 jobs for Ontarians in its first 3 years.

The FIT program was launched on October 1, 2009 to encourage use of renewable energy sources, and promote growth within the environmental industry. The Green Energy and Green Economy Act (2009) enabled the creation of the FIT program. Taken from the Program's website, the FIT program will create new jobs, boost economic activity and further the development of renewable energy technology and expertise in Ontario, while helping to phase out coal-fired electricity generation by 2014.

The Ontario Power Authority awarded 184 FIT contracts to renewable power developers in Ontario on April 8, 2010. Northland Power was awarded a total of 13 ground mount solar contracts for proposed development throughout the province. These projects are currently proceeding through the REA process.

Advantages of Solar Energy

Solar power has a multitude of advantages compared to fossil fuel powered energy plants. Most simplistically, the fuel is free. As many fossil fuels are expected to increase in price, having solar energy on the grid at a set price will give greater stability to future energy prices. Another key benefit is the lack of polluting emissions. With solar PV there are no emissions; this ensures that the surrounding local community will not have to live with poor air quality, disruptive sounds or noxious odours. Also, since solar PV is modular, it is well suited to distributed generation, meaning the power can be produced close to where it will be consumed. In addition, the solar PV systems are comprised of safe, common materials that will not affect the lands on which they are located, allowing for easy remediation upon decommissioning, unlike the vast majority of power plants.

As a source of electricity, solar PV has even more advantages when compared to other types of electricity generation. Peak power production with solar PV coincides with peak demand, during the middle of the day, reducing the need for gas fired peaking power plants.

Solar PV does not require any moving parts or water, unlike most other generation technologies, which greatly reduces its impact on the environment, its maintenance costs and its noise levels.

1.4 Project Description

Northland proposes to install ground mounted stationary photovoltaic panels which, when exposed to sunlight, will generate direct current (DC) electricity. The DC electricity will be conveyed through underground cabling to an inverter which converts the DC electricity to alternating current (AC) electricity. The electricity will then be conveyed to a single substation which will increase the voltage to 44 kV and a short transmission line will transfer the electricity to a connection tie-in point with the local distribution grid. The tie-in point is located immediately west of the Project location. The construction period is estimated to be approximately 6 to 8 months in duration, with Project commissioning anticipated by the end of 2012.

2. REA Process

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. The Project is considered to be a Class 3 facility, as it is ground mounted and has a nameplate capacity greater than 10 kW, and therefore requires a REA.

The REA Regulation details the required activities and reports to be completed and submitted in order to obtain the REA. The activities include Aboriginal, public, municipal and agency consultation in order to provide information on the Project to these groups and obtain feedback. Upon completion of these activities, they will be documented in the Consultation Report and submitted to the Ontario Ministry of the Environment (MOE) as part of the REA application.

The REA Regulation requires the preparation of reports, including:

- Project Description Report
- Construction Plan Report
- Design and Operations Report
- Decommissioning Plan Report
- Noise Report
- Natural Heritage Records Review, Site Investigations, Evaluation of Significance and Environmental Impact Study Reports
- Water Body Records Review, Site Investigation and Environmental Impact Study Reports
- Stage 1 and 2 Archaeological Assessment Reports.

As per Sections 16 and 17 of the REA Regulation, these draft documents are to be made available to the Aboriginal communities greater than 60 days from the second Public Meeting and to the public at least 60 days from the second Public Meeting. In addition, a summary of each document is to be prepared and sent to the Aboriginal communities.

In addition, a Letter of Confirmation is to be obtained from the Ontario Ministry of Natural Resources based on their review of the Natural Heritage Reports and is to be provided to the same groups aforementioned, at the same time as the draft documents. Similarly, a Letter of Confirmation is to be obtained from the Ontario Ministry of Tourism and Culture based on their review of the Stage 1 and 2 Archaeological Assessment Report and provided to the same groups and at the same time as the draft documents.

Also, as per section 20 of the REA Regulation, a determination is to be made as to whether or not a heritage resource is located on the Project site and whether an assessment is required.

Therefore, this package has been prepared to meet these requirements and the reports as listed above are contained within. For clarity and ease of understanding, the Natural Heritage and Water Body Reports should be read in the order in which they appear in the list above.

2.1 Brief Summary of the Burk's Falls West Solar Project REA Reports

A brief summary of some of the Burk's Falls West Solar REA Reports is provided below. A description of the purpose of each of the REA Reports is provided in Figure 2, while Figure 3 provides the location of the complete summary of each REA report, along with the required confirmation letters and report on heritage considerations.

The Natural Heritage and Water Body reports have been prepared to identify potential negative environmental effects the Project may have on existing significant natural features or waterbodies, respectively.

Environmental Impact Studies have been prepared to identify potential negative environmental effects that all phases of the Project may have on the significant natural features and waterbodies. 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 to an acceptable level.

A Confirmation Letter from the Ontario Ministry of Natural Resources is included in Appendix O that confirms that the Natural Heritage reports satisfy the REA Regulation criteria.

An archaeological assessment has been conducted on the Project location which included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2-km radius of the Burk's Falls West Solar Project location. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands on the property.

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings.

Research and agency consultation undertaken has not identified the need for a heritage impact assessment under Section 23 of the REA Regulation. A noise study has also been undertaken and identifies mitigation measures the project will incorporate in order to meet MOE requirements.

3. Next Steps

A second Public Meeting will be held for the Project on Wednesday, November 9, 2011 from 6:00 pm to 8:00 pm at the Armour, Ryerson and Burk's Falls Memorial Arena/Community Centre, 220 Centre Street, Burk's Falls, Ontario. Everyone is welcome to attend this meeting and they are also welcome to ask questions about the Project during this 60-day comment period. Questions or concerns related to these reports should be sent to:

Sean Male, MSc
REA Coordinator
Hatch Ltd.
4342 Queen Street, Suite 500
Niagara Falls, ON
L2E 7J7

Tel: 905-374-0701, Ext. 5280
Fax: 905-374-1157
Email: smale@hatch.ca

Once the comments have been received, a Consultation Report will be prepared to show how those comments have been addressed and included in the design of the Project.

After the second Public Meeting, all the Reports and a REA Application Form will be sent to MOE for review and processing. The MOE has 6 months to review and make a decision on the Project. The MOE's decision will be posted for a 15-day review period on the Environmental Registry. Provided

no appeal requests have been submitted, the Project will commence, pending receipt of all other required permits and approvals.

Figure 1: Site Layout

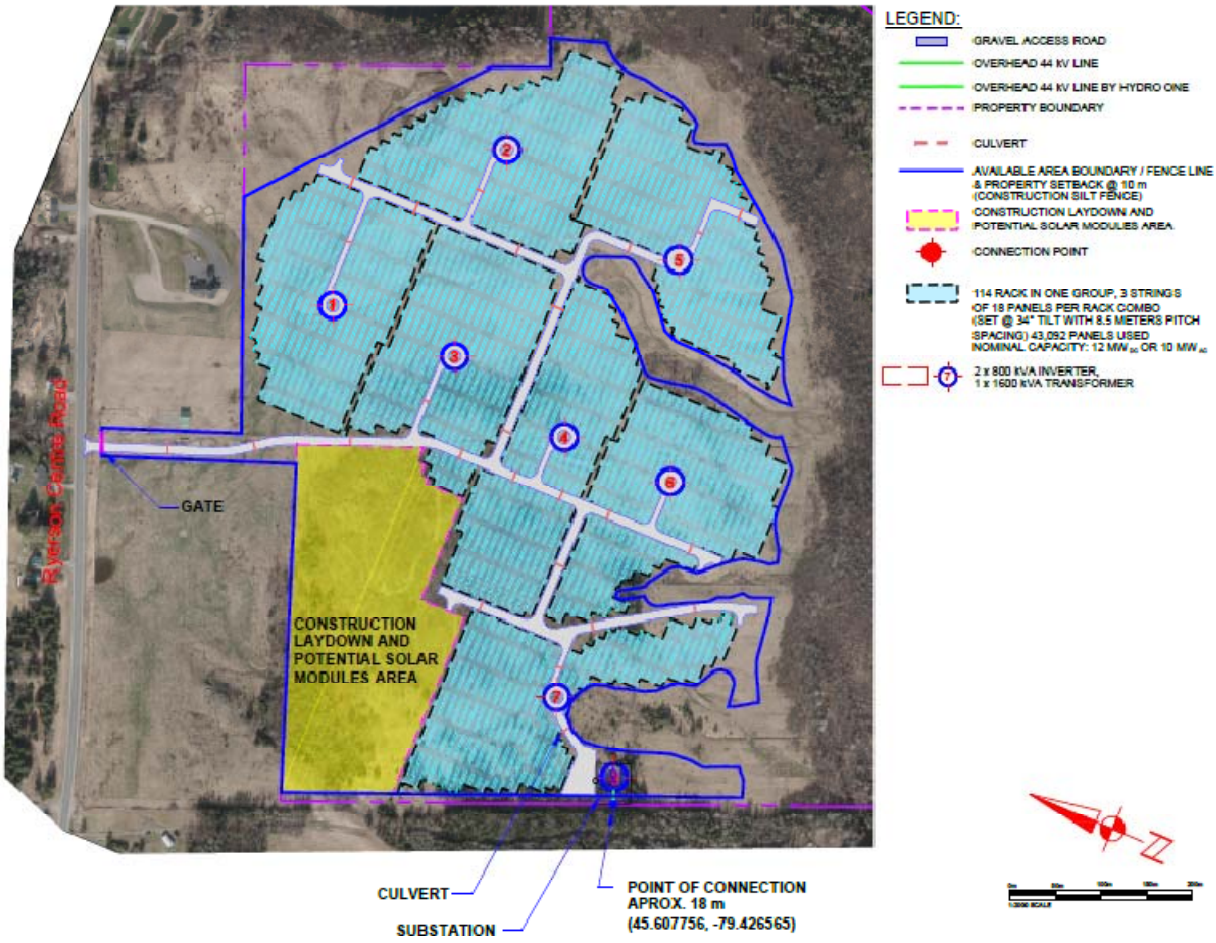


Figure 2: Report Name and Purpose

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	Provides details on the construction activities, timelines, materials, temporary uses of land and waste materials generated and environmental effects, mitigation and monitoring during construction.
Design and Operations Report	Provides the site layout plan, Project components, operations and maintenance activities, communications and emergency response plan, and environmental effects monitoring plan.
Decommissioning Plan Report	Provides the activities to be undertaken during decommissioning and restoring the Project site.
Natural Heritage Records Review Report	Provides information from existing documentation on natural heritage features including 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, proposes mitigation measures to prevent or minimize adverse effects and provides monitoring program.
Water Body Records Review Report	Provides information from existing documentation 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, proposes mitigation measures to prevent or minimize adverse effects and provides monitoring program.
Stage 1 and 2 Archaeological Assessment Report	Documents the results of the Stage 1 assessment which is a desktop study identifying any archaeological potential and the Stage 2 assessment which is a site investigation confirming the archaeological potential.
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.

Figure 3: Appendices of Project Report Summaries

Contained as appendices to this Executive Summary are as follows:

- Appendix A: Project Description Report Summary
- Appendix B: Construction Plan Summary
- Appendix C: Design and Operations Report Summary
- Appendix D: Decommissioning Plan Summary
- Appendix E: Natural Heritage Records Review Report Summary
- Appendix F: Natural Heritage Site Investigation Report Summary
- Appendix G: Natural Heritage Evaluation of Significance Report Summary
- Appendix H: Natural Heritage Environmental Impact Study Summary
- Appendix I: Water Body Records Review Report Summary
- Appendix J: Water Body Site Investigation Report Summary
- Appendix K: Water Body Environmental Impact Study Summary
- Appendix L: Stage 1 and 2 Archaeological Assessment Report Summary
- Appendix M: Noise Study Summary
- Appendix N: Protected Properties and Heritage Resource Information
- Appendix O: Letter of Confirmation – Ontario Ministry of Natural Resources
- Appendix P: Letters of Confirmation – Ontario Ministry of Tourism and Culture

Appendix A

Project Description
Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West 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 Burk's Falls West Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

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. Summary of Project

The proposed Project consists of a 10-MW Class 3 solar facility, constructed on privately owned land in the Township of Armour. Burk's Falls West Solar Project has entered into a lease agreement with the private landowner for the duration of operation. Burk's Falls West Solar Project 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.

Construction of the proposed facility would occur over a 4- to 8-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 (every 2 to 3 months) through the year, with primary activities including inspection the structures, and interconnections. The proposed facility would not consume any fuels nor produce any waste as a result of generation activities.

3. Potential Environmental Effects

The PDR summarized the existing environmental features on the Project site. The site primarily consists of agricultural land and a woodlands. The Magnetawan River runs south of the Project location, while watercourses which drain into the Magnetawan River occur nearer the Project location.

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

- potential erosion and sedimentation due to construction activities
- temporary loss of agricultural lands due to facility installation and operation
- removal of tree species in the woodland on the Project site
- 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.

Appendix B

Construction Plan
Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Construction Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Construction Plan Report for the Burk's Falls West Solar Project.

Northland Power Solar Project Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) (AC) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located south of Highway 520 at the border of Armour and Ryerson Townships, in the single tier municipality of Armour Township.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of 7 arrays, each of 1.6 MW (DC). Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The interconnection point will be to the existing distribution line which runs along the western boundary of the Project location.

2. Construction

The construction process of the Project consists of four phases:

- Phase 1 – Site Preparation
- Phase 2 – Construction and Installation of Plant
- Phase 3 – Testing and Commissioning
- Phase 4 – Site Restoration.

The site work is scheduled to start in early summer of 2012 and have an estimated 6-month construction period.

2.1 Phase 1 - Site Preparation

Site preparation refers to all necessary activities prior to the construction of foundations, substation, and installation of the PV modules. It includes surveying/staking, site clearing and grubbing,

construction of access roads and drainage systems, installation of security gate and fencing, and construction of a staging area.

The site preparation work is forecasted to take place in August 2012.

2.2 Phase 2 - Construction and Installation of Plant

Construction and installation of the facility consists of building foundations, trenches for cabling, structural support and finally installation of the panels on the structural support. The substation and associated electrical equipment will also be installed. This includes the underground and above ground cabling on the Project site. In addition, an overhead distribution line to transmit power from the Project substation to the local distribution network will be installed.

The construction and installation of the plant is forecasted to take place from August 2012 to October 2012.

2.3 Phase 3 – Testing and Commissioning

Testing and commissioning will be performed on the installation prior to start-up and connection to the power grid. Solar modules, inverters, collection system, and substation will be checked for system continuity, reliability, and performance standards. If problems or issues are identified, modifications will be made prior to start-up.

The testing and commissioning is forecasted to take place in December 2012.

2.4 Phase 4 – Site Restoration

Site restoration will be applicable for the entire Project location. The main objective will be to re-instate the area to the original pre-construction condition, such as the ecosystem, vegetation, and drainage. All construction material, equipment, temporary facilities, and waste will be removed from the site. Topsoil will be backfilled where required, including landscaping to achieve proper drainage. Revegetation will include planting of native plants and hydro-seeding where required.

The revegetation where possible is forecasted to take place in October 2012.

3. Environmental Effects

Environmental effects and proposed mitigation measures are summarized in the table below.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Soils	Negative effects on soil quality, loss of soils due to erosion and soil compaction.	Erosion and sedimentation control measures will be implemented and soil loosening measures could be applied, if necessary.
Groundwater	Pumping of groundwater could lower water table locally.	Limited impacts due to the duration of pumping (e.g., only during excavations). Any pumped water will be treated.
Surface Water Quality	Surface water quality could be impacted by erosion/ sedimentation of excavated or exposed soils, erosion caused by increased runoff from impervious or less pervious areas, or deposition of fugitive dust.	Erosion and sedimentation control measures, spill prevention and response plan, air quality measures will all mitigate impacts

Environmental Feature	Anticipated Impact	Proposed Mitigation
Aquatic Habitat and Biota	Limited impacts, as a 30-m setback from all watercourses.	N/A
Vegetation	Removal of vegetation and trees from a wooded area to occur. Dust deposition and spills could also impact vegetation.	In order to minimize potential losses from surrounding vegetation communities, areas where clearing is required will be well marked, and workers will be instructed not to enter areas of natural vegetation.
Wildlife	Impacts to wildlife could occur as a result of loss of habitat, disturbance from construction activities, or incidental mortality as a result of collision with construction vehicles.	In order to minimize the potential for habitat loss, work areas will be demarcated in order to ensure that the contractor does not work beyond those bounds. In order to minimize potential for disturbance or incidental take of wildlife, major construction activities (such as land grading and woodland clearing) will be timed outside of the breeding bird period (generally May through July), wherever possible. Vegetation ground cover to be used on the Project location will be selected in consideration of promotion of wildlife features.
Air Quality and Noise	Dust may become airborne from vehicular traffic, heavy machinery use, and soil moving activities. Dust in the air can have a range of effects including, but not limited to: impacts on human health as a result of irritation to lungs, eyes, etc, which could impact construction workers or nearby residents, impacts on surface water quality and aquatic habitat if the dust is deposited into waterbodies, impacts on vegetation if heavy dust loads build up on photosynthetic surfaces, thereby resulting in mortality of the plants.	These mitigation measures are to include, as required, use of dust suppression (i.e., water) on exposed areas including access roads, stockpiles and work/laydown areas as necessary, hard surfacing (addition of coarse rock) of access roads or other high-traffic work areas, phased construction, where possible, to limit the amount of time soils are exposed, avoid earth-moving works during excessively windy weather. Stockpiles to be worked (e.g., loaded/unloaded) from the downwind side to minimize wind erosion, stockpiles and other disturbed areas to be stabilized as necessary (e.g., taped, mulched, graded, revegetated or watered to create a hard surface crust) to reduce/prevent erosion and escape of fugitive dust, dust curtain to be used on loaded dump trucks delivering materials from off site).
Noise	Construction and installation activities have the potential to result in increased noise levels on and within the vicinity of the Project location.	Construction and installation activities that produce a large amount of noise will be limited to daylight hours. Vehicles will also be regularly checked for properly working mufflers or other noise reducing equipment, and all construction equipment will meet MOE emission standards.

Environmental Feature	Anticipated Impact	Proposed Mitigation
Traffic	Increased traffic volumes and equipment delivery to the Project location and temporary disruption along routes utilized by construction vehicles may result in occasional delays to local community traffic flow during the construction period.	Mitigation measures include: designated transportation routes will be utilized; a police or security escort will be utilized to guide or accompany major equipment deliveries to the Project location if necessary; flagmen will be utilized as required to facilitate traffic flow and control if necessary; construction vehicles will be driven in a proper manner with respect for all traffic laws, signage providing any detour directions will be prominently displayed, vehicle imprints or erosion gullies will be repaired or regraded as necessary.
Roadways	The use of local roadways by construction vehicle traffic may result in some minor damage to roadways during the construction of the Project, given their proximity to the Project location.	Mitigation measures include: designated and appropriate transportation routes will be utilized; construction vehicles will be driven in a proper manner with respect for all traffic laws; roadways will be photographed prior to construction and damage to local roadways, above and beyond normal wear and tear, will be repaired as necessary.
Public and Construction Site Safety	Construction of the proposed development poses potential public and construction site safety concerns in the vicinity of the Project location.	Mitigation measures include: public access to the construction area will be prevented through the use of fences, gates, and security procedures; signage will be posted to notify the public of construction in the area; workers will be required to adhere to prescribed safety procedures; proper procedures for construction traffic will be developed, where required.
Waste Management	Construction activities will likely result in the generation of recyclable material, as well as construction and sanitary waste.	Mitigation measures include, construction waste will be properly stored on site prior to disposal off site at local, registered disposal facilities, all sanitary waste is to be contained and hauled off site by a designated hauler throughout the construction period, hazardous wastes will be properly stored in secure containers inside impervious berms or other containment areas until disposal off site at a registered facility, reuse and recycling will be practiced wherever possible.
Land Use	Lands within the Project location will be removed from agricultural production upon Project construction.	Land use could be retained upon completion of the Project.
Protected Properties	No protected properties, as defined in Section 19(1) of O. Reg. 359/09, exist in the vicinity of the Project location.	N/A

Environmental Feature	Anticipated Impact	Proposed Mitigation
Built Heritage and Cultural Heritage Landscapes	No negative effects to built heritage and cultural heritage landscapes are anticipated as no potential impacts to the resources were identified.	N/A
Archaeological Resources	A Stage 1 and 2 Archaeological Assessment was conducted for the Project location. A single Euro-Canadian findspot was identified.	The Project location will be setback from the findspot, or a Stage 3 assessment will be completed.
Spills	Spills of petroleum hydrocarbon materials from vehicles/ equipment operating on site, such as fuel or hydraulic oils, or spills of concrete materials from concrete trucks, could occur during the construction process.	Best management practices shall be implemented, including but not limited to: all refuelling and equipment maintenance activities will be conducted at specified locations; equipment is to be monitored to ensure it is well maintained and free of leaks; spill containment and clean-up supplies are to be maintained on site at all times; spills will be cleaned up immediately and reported accordingly.

4. Conclusion

Weekly inspections will ensure conformance with environmental mitigation measures. Overall, no adverse impact to the environment is anticipated when the mitigation measures are implemented.

Appendix C

Design and Operations Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Design and Operation Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Design and Operation Plan Report for the Burk's Falls West Solar Project.

Northland Power Solar Project Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located south of Highway 520 at the border of Armour and Ryerson Townships, in the single tier municipality of Armour Township.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of 7 arrays, each of 1.6 MW (DC). Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The interconnection point will be on the existing distribution line along the western boundary of the Project location.

2. Facility Components

Facility components consist of security gate, fencing and lighting, access roads, drainage systems, foundations, trenches for cabling and instrumentation control, structural support and temporary construction staging area. The Project is designed to generate 10 MW (AC) by using seven arrays of photovoltaic modules. Each array has a nominal capacity of 1.6MW (DC) and is comprised of two sub-arrays, each with one inverter with a nominal capacity of 800kW. The modules, inverters, intermediate transformers, AC switch, main step-up transformer, and the equipment control and monitoring system are the main electrical components of a solar facility.

3. Facility Operation Plan

The Project does not require any permanent on-site operator as it will be operated remotely. For general monitoring and maintenance purposes, two part-time or full-time local personnel may be hired and will be dispatched from a central operations office as needed. Any damage or faults with

the PV modules and electrical systems will be alerted to staff remotely and repaired (or replaced) by facility staff or qualified professionals. Access to the site will be limited to Project personnel.

3.1 Maintenance

The weather conditions, such as the quantity and frequency of rain and snow at the Project location will determine the frequency of cleaning. At the very most, it is expected that the modules will require cleaning quarterly, but it is possible cleaning the modules will not be necessary at all. If required, water trucks will bring water to the site to supply the water required. No chemicals would be used for cleaning.

The transformers will be visually inspected on a monthly basis and their status recorded. Any leaks will be repaired immediately. Spill response equipment will be left on site or in the maintenance trucks should leaks be observed.

3.2 Environmental Effects Monitoring Plan

The Project Environmental Effects Monitoring Plan will be implemented through all phases of the Project. The purpose of the plan is to ensure that performance objectives and mitigation measures are working as designed to mitigate negative impacts. As well, it provides additional measures, if primary measures are not functioning. Table 5.2 in the Design and Operations Report provides the details of the proposed monitoring plan to monitor the impacts to the natural and social environments.

3.3 Emergency Response Plan

The Project Emergency Response Plan will be implemented through all phases of the Project. The purpose of the plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. The Plan provides the emergency response and communications procedures to be used in response to these three potential emergency scenarios (i.e. fire, personal injury and spills).

All Project personnel will be trained in emergency response and communications procedures.

Appendix D

Decommissioning Plan
Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Decommissioning Plan Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Decommissioning Plan Report for the Burk's Falls West Solar Project.

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

The proposed Project will use solar photovoltaic technology to generate electricity. The solar modules will be mounted on fixed steel supports and arranged in the form of 7 arrays, each of 1.6 MW. Electricity generated by solar photovoltaic modules from each array will be converted from direct current (DC) to alternating current (AC) by an inverter, and subsequently stepped up from a medium voltage to 44 kV in order to connect to the nearby distribution line. The interconnection point will be immediately west of the Project location.

As required, two scenarios were taken into consideration for the Decommissioning Plan which includes decommissioning after ceasing operation and decommissioning during construction should the Project be cancelled/abandoned during construction. The following provides the activities to be completed for the former scenario. For the latter scenario, the decommissioning activities depend on when the construction has ceased; however, the following provides a complete list of potential decommissioning activities under the latter scenario.

It is anticipated that the Project will have a useful lifetime of at least 20 years, which can be extended with proper maintenance, component replacement and repowering. It is assumed that the Project will be decommissioned after the 20-yr power purchase agreement with the Ontario Power Authority concludes.

2. Decommissioning Activities

2.1 Equipment Dismantling and Removal

All decommissioning of electrical devices, equipment, and wiring/cabling will be in accordance with local, municipal, provincial and federal agencies standards and guidelines. Any electrical decommissioning will include obtaining the required permits and following lockout/tag out

procedures before de-energizing, isolating, and disconnecting electrical devices, equipment and wiring/cabling.

2.2 Site Restoration

The proposed Project area will be restored to its pre-development state, subject to environmental requirements and the wishes of the landowner. The following will be undertaken:

- any trenches/drains excavated will be filled with suitable materials and leveled
- any roads or embankments will be removed completely, filled with suitable sub-grade material and leveled
- any compacted ground will be tilled, mixed with suitable sub-grade materials and leveled
- any damage to any existing tile drainage system caused by the Project will be repaired/restored
- prepared soil, with all the nutrients required by the crop to grow, will be spread wherever necessary.

2.3 Management of Waste and Excess Materials

All waste and excess materials will be disposed of in accordance with municipal, provincial and federal regulations. Waste that requires disposal will be disposed of in a provincially licensed facility by a provincially licensed hauler. Although hazardous waste is not anticipated on site (with the exception of the aforementioned transformer oil), any hazardous waste will be removed from site and disposed of in accordance with federal, provincial and municipal requirements.

2.4 Emergency Response

The Project Emergency Response Plan will be implemented through all phases of the Project. The purpose of the plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. The Plan provides the emergency response and communications procedures to be used in response to these three potential emergency scenarios (i.e., fire, personal injury and spills).

All Project personnel will be trained in the emergency response and communications procedures.

3. Restoration of Land Negatively Affected by the Project

Following decommissioning of the Project, if any lands or water features are negatively affected by the Project, Northland is committed to restoring the site as close to its pre-construction state as feasible. This would be subject to environmental requirements and wishes of the landowner.

Appendix E

Natural Heritage
Records Review Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West 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 Burk's Falls West Solar Project.

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

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, Township of Armour, Southeast Parry Sound District Planning Board and other relevant sources.

2. Results

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

- Magnetawan River within 120 m south of the Project location, and tributaries on the Project location.
- There are several forested areas located on and within 120 m of the Project site.
- There is an unevaluated wetland located within 120 m south of the property boundary. The Magnetawan River Provincially Significant Wetland is located more than 120 m from the Project location.
- There are no ANSIs on or within 1 km of the Project Site
- Ranges of several species of conservation concern, including species of birds, amphibians and reptiles, overlap the Project area and suitable habitat may be found.

3. Conclusions

Table 3.1 summarizes the results of the records review.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in or within 120 m of a provincial park or conservation reserve?	No	The nearest such features are located more than 120 m away from the Project location.
Is the Project in a natural feature?	No	There are no natural features identified on the Project location
Is the Project within 50 m of an ANSI (earth science)?	No	There is not an ANSI within 50 m of the Project area.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There is an unevaluated wetland within 120 m of the Project location

Therefore, depending on the layout of the proposed Project, some components could potentially be located within 120 m of a natural feature. As per Section 26 of the REA Regulation, a site investigation will be required to confirm the features identified during this records review. The site investigation will i) identify if any corrections to the information presented herein are required, ii) determine whether any additional natural features exist on or adjacent to the Project 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.

Appendix F

Natural Heritage
Site Investigation Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West 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 Burk's Falls West Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

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 majority of the Project site is comprised of agricultural lands used for a livestock operation, with occurrences of cultural thicket and sugar maple-deciduous forest. Within 120 m of the Project location, there are also occurrences of balsam fir coniferous forest and poplar deciduous forest, as well as meadow marsh, mixedwood swamp, and swamp thicket wetland communities.

The Significant Wildlife Habitat Technical Guide (SWHTG) (MNR, 2000) identifies four main types of wildlife habitat that can be classified as significant:

- habitat for seasonal concentrations of animals
- rare or specialized habitats for wildlife
- habitat for species of conservation concern
- wildlife movement corridors.

Several candidate significant wildlife habitats were identified on and within 120 m of the Project location, including:

- habitat for species of conservation concern (Milksnake, Western Chorus Frog, Snapping Turtle, Northern Map Turtle)
- seasonal concentration areas (waterfowl stopover and staging area, waterfowl nesting area, raptor winter feeding and roosting area)
- specialized habitat for wildlife (raptor nesting habitat, woodland supporting amphibian breeding habitat, wetlands supporting amphibian breeding habitat, turtle over-wintering sites and seepage areas)
- animal movement corridors.

3. Conclusions

Therefore, some components of the Project are located within 120 m of a natural feature (i.e., wildlife habitat and wetlands). As per Section 27 of the REA Regulation, an Evaluation of Significance is required to determine if these natural features are significant.

Appendix G

Natural Heritage
Evaluation of Significance
Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West 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 for the Burk's Falls West Solar Project.

Northland Power Inc. on behalf of Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

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:

- Wetlands
- Wildlife habitat, including:
  - habitat for species of conservation concern (Milksnake, Western Chorus Frog, Snapping Turtle, Northern Map Turtle)
  - seasonal concentration areas (waterfowl stopover and staging area, waterfowl nesting area, raptor winter feeding and roosting area)
  - specialized habitat for wildlife (raptor nesting habitat, woodland supporting amphibian breeding habitat, wetlands supporting amphibian breeding habitat, turtle over-wintering sites and seepage areas)
  - animal movement corridors.

2. Results

2.1 Wildlife Habitat

Raptor Winter Feeding and Roosting Habitat

Based on the low relative importance of this site and the nearby disturbances, this feature is determined to be not significant.

Waterfowl Nesting Area

Given that a single nest was observed, and the minimum requirement for significant waterfowl nesting is three nests, this habitat is determined to be not significant.

Waterfowl Stopover and Staging Areas

Based on the size, quality, and relative importance of the site, the Magnetawan River, with portions located within 120 m of the Project location, is considered to be a significant waterfowl stopover and staging area.

Specialized Raptor Nesting Habitat

Breeding raptor surveys failed to detect any breeding raptors on or within 120 m of the Project location. Therefore, as there is no active raptor nesting occurring on or within 120 m of the Project location, this wildlife habitat is not occupied and therefore there it is not significant raptor nesting habitat.

Wetlands Supporting Amphibian Breeding Habitat

Amphibian breeding surveys were conducted within this habitat type, with five species detected, though for only one of these species was more than 20 individuals recorded. Given that the minimum numbers of the four listed species were not detected during baseline investigations, this feature does not meet the criteria for a significant wetland supporting amphibian breeding habitat.

Woodlands Supporting Amphibian Breeding Habitat

Amphibian breeding surveys were conducted within this habitat type, with four species detected, though for none of these species was more than 20 individuals recorded. As the minimum number of individuals of the three listed species was not detected during baseline surveys at the pond, the woodlands supporting amphibian breeding habitat are determined to not be significant.

Turtle Over-wintering Sites

There are no criteria within the SWHTG for turtle over-wintering areas. As the Magnetawan River is a major watercourse within this portion of Ontario, it is presumed that this feature is of high relative importance for over-wintering turtles, and is therefore determined to be a significant wildlife habitat feature.

Seepage Areas

As there were only 2 seepage areas observed, the seepage areas are surrounded by agricultural land and not in a woodland, and no rare or uncommon species were identified in association with the seepage areas, these features are not considered to be significant.

Habitat for Western Chorus Frog, a Species of Conservation Concern

Western Chorus Frog were recorded breeding within the pond within the woodland within 120 m east of the Project location. Based on the small size of the habitat and population within the feature, it is determined that this is not significant wildlife habitat.

Habitat for Milksnake, a Species of Conservation Concern

Given that Milksnake are habitat generalists, the entire Project site was considered to be suitable habitat for Milksnake. Milksnake are identified as a species of Special Concern on the ESA, and therefore though use is unconfirmed, the area is treated as significant wildlife habitat.

Habitat for Northern Map Turtle/Snapping Turtle, Species of Conservation Concern

Suitable habitat was noted within the Magnetawan River and associated wetlands located within 120 m of the Project location. While no occurrences of these species was recorded during the site investigations, as these species are identified as Special Concern species, these features will be treated as significant wildlife habitat.

Animal Movement Corridors

Significant animal movement corridors were determined to be present in the Magnetawan River and associated wetland and shoreline/riparian habitats.

2.2 Wetlands

The wetland community within 120 m south of the Project location is assumed to be complexed to the Magnetawan River Provincially Significant Wetland, and therefore is assumed to be a provincially significant wetland.

3. Conclusions

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

Therefore, of the natural heritage features evaluated, the wildlife habitat features and wetlands will require an Environmental Impact Study as per Section 38 of the REA Regulation.

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

Natural Feature		Project Site	Adjacent Lands (within 120 m)
SIGNIFICANT	Wildlife Habitat	Yes	Yes
PROVINCIALLY SIGNIFICANT	Wetland	No	Yes (assumed)
	Earth Science ANSI	No	No
	Life Science ANSI	No	No

Appendix H

Natural Heritage Environmental Impact Study Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Natural Heritage Environmental Impact Study

1. Introduction

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

Northland Power Inc. on behalf of Northland Power Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site is approximately 40 hectares (ha) in size and is located on Highway 520 in the Township of Armour.

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

The natural heritage features that were classified as significant are significant wildlife habitat that included

- habitat for species of Conservation Concern (Milksnake, Northern Map Turtle, Snapping Turtle)
- Magnetawan River (including shoreline/riparian areas), and adjacent wetlands, within 120 m of the Project location as a significant animal movement corridor,
- Magnetawan River as a significant waterfowl stopover and staging area, and turtle overwintering sites
- wetland within 120 m of the Project location is treated as a Provincially Significant Wetland.

2. Results

The results of the EIS on the significant natural features 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
Construction/ Decommissioning	Loss of Milksnake habitat/ Disturbance of wildlife species	It is not possible to mitigate this effect, however sufficient alternate habitat exists and loss is temporary
Construction/ Operation/ Decommissioning	Incidental take of Milksnake	Speed limits on access roads to be restricted. Daily visual monitoring of work areas and machinery prior to start of work. Wildlife observation/response protocol to be developed prior to construction. Vegetation management to be conducted during late fall, if only once per year, or after June during middle of day if required sooner.
Construction/ Operation/ Decommissioning	Erosion and sedimentation from Project location	Sediment and erosion control and stormwater management plans to be prepared.
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, avoid earthworks during windy days
Construction/ Operation/ Decommissioning	Accidental spills	Construction best management practices, such as inspection of equipment, location of refuelling, etc., to be followed to minimize potential for spills. The spills response and contingency protocol to be followed in the event of a spill.
Construction/ Operation/ Decommissioning	Impacts to wetland community and wildlife using wetlands	Minimum setbacks from the wetland community have been established to minimize the potential for impact
Construction	Effects on groundwater and wetland community	Inverters to be located at least 30 m from wetland community. Discharged groundwater to be directed to areas with 30 m vegetated buffers around watercourses/wetlands, or onto a dispersal pad.
Construction/ Operation	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	Grading will occur and take into consideration current land grade to replicate present storm water flow pattern. Discing or other soil loosening methods will be used on compacted areas. Long-term ground cover will be planted
Construction	Removal of vegetation due to direct encroachment on the woodland	Work areas will be clearly flagged and trees will be felled into cleared areas. No woodland clearing will occur within 30 m of the high water mark of watercourses or wetland communities, and an animal movement corridor will be maintained around the site. Compensation planting will occur, and a shelter belt will be planted. The remnant woodland will maintain significant characteristics.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		There will be no construction within 5m of the wetland areas within agricultural areas.
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.

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 the significant natural feature. 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 to an acceptable level.

Appendix I

Water Body
Records Review Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Water Body Records Review Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario 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 Burk's Falls West Solar Project.

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located south of Highway 520 at the border of Armour and Ryerson Townships, in the single tier municipality of Armour Township.

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, Southeast Parry Sound District Planning Board, Armour Township, and other relevant sources.

2. Results

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

- Three unnamed waterbodies on the Project location (Watercourses A, B and C)
- An additional four unnamed waterbodies within 120 m of the Project location (Magnetewan River, Watercouse D and E)
- MNR indicated that the Magnetawan River, which is located within 120 m of the eastern side of the Project location is classified at Type 1 fish habitat since it provides specialized spawning, nursery and feeding habitat for fish species
- Fisheries and Oceans Canada (DFO) referenced Lake Sturgeon as potentially found in the Magnetawan River, although their proximity to the Project location is unknown

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	The Project will not located 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 present within 120 m of the Project location.
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 within 300 m of the Project location.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There are seven permanent or intermittent streams on and within 120 m of the Project location.
Is the Project within 120 m of a seepage area?	No	No seepage areas are known to be present on or within 120 m the Project location.

As per Section 31 of the REA Regulation, a site investigation 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 J

Water Body
Site Investigation
Report Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Water Body Site Investigations Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Ontario 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 Burk's Falls West Solar Project.

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located south of Highway 520 at the border of Armour and Ryerson Townships, in the single tier municipality of Armour Township.

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 and identifies any knowledge gaps, 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

Seven waterbodies, including the Magnetawan River, were identified on and within 120 m of the Project site.

Grassed Waterway A (noted as Watercourse A in Records Review)

- The site investigation determined that this feature is a temporary drainage route consisting of a low lying area between adjacent rolling topographical features. There is no defined channel and there was no flow observed during the site investigation
- The predominant function of this drainage route would be to convey overland flow during precipitation and runoff events toward the Magnetawan River
- Given the vegetation community within the area, it is evident that the duration of the presence of water is limited, since the vegetation community is not dominated by hydrophilic species.
- This feature does not meet the definition of a waterbody in the REA Regulation. Therefore, no setback is required around this feature and no Environmental Impact Study (EIS) is necessary.

Grassed Waterway B/Wetland Swale A (Noted as Watercourse B in the Records Review)

- The site investigation determined that this feature is a temporary drainage route consisting of a low lying area between adjacent rolling topographical features. There is no defined channel and there was no flow observed during the site investigation
- The predominant function of this drainage route would be to convey overland flow during precipitation and runoff events toward the Magnetawan River. Given the meadow marsh type vegetation community within the area, it is evident that water or saturated soils are present at times throughout the year in sufficient duration to support this type of community.
- This feature does not meet the definition of a waterbody in the REA Regulation. Therefore, no setback is required around this feature and no Environmental Impact Study (EIS) is necessary.

Tributary C

- The site investigation did not find any evidence of a watercourse (i.e., presence of a channel or wetland vegetation that may indicate saturated soils, or evidence of overland flow through presence of debris or flattened vegetation) on the Project location.
- The site investigators did not have permission to access the portion of Watercourse C located on the adjacent private property. Therefore, to be conservative, it has been assumed that Watercourse C does meet the definition of a waterbody in the REA Regulation just beyond the property boundary (the Site Investigators saw no evidence of a waterbody within approximately 10 m of the property, based on a visual reconnaissance from the edge of the property).
- The average annual high water mark has been assumed to be 4 m wide at the top of bank and a 30-m setback has been applied. This setback does not encroach onto the Project location, however it is located within 120 m of the Project location. Therefore, an Environmental Impact Study will be required to assess the potential adverse effects on land on and within 30 m of Watercourse C.

Magnetewan River

- The Magnetawan River arises on the western slopes of Algonquin Park and runs for approximately 196 km before draining into Lake Huron.
- The river comes within 120 m of the eastern boundary of the Project location. It then flows south of the Project location, approximately 150 to 50 m away from the Project boundary. The river is relatively large, being approximately 50 m wide throughout the reach adjacent to the Project.
- The average annual high water mark for the Magnetawan River, based on observations made during the site investigation was determined to be the top of bank immediately adjacent to the main channel of the river.
- The average annual high water mark is located between 30 and 120 m from the Project location. Therefore, the potential adverse effects of the Project on the Magnetawan River and surrounding land will be assessed in the EIS.

Tributary D

- As noted in the Records Review this watercouse arises approximately 50 m west of the Project location. It flows in a westerly direction away from the Project location and drains into the Magnetawan River approximately 300 m west of the southern end of the Project location.

- Permission was not obtained to access this watercourse from the owner of the private property on which this watercourse is located, therefore, it was not directly observed. It has been assumed that the watercourse does meet the definition of a permanent or intermittent stream in the REA Regulation.
- The average annual high water mark has been assumed to be at the top of bank. Since the Project location is approximately 50 m away from the average annual high water mark, the potential effects of the proposed development on this watercourse and land within 30 m will be assessed in the EIS.

Tributary E

- As noted during the Records Review this watercourse begins approximately 250 m northwest of the Project location, and flows in a general southwesterly direction, approaching to within approximately 200 m of the northwestern corner of the Project location. It flows in a westerly direction away from the Project location and drains into the Magnetawan River several kilometers away.
- Permission was not obtained to access this watercourse from the owner of the private property on which this watercourse is located. It has been assumed that the watercourse does meet the definition of a permanent or intermittent stream in the REA Regulation.
- However, given that it is separated from the Project location by Highway 520, the average annual water mark does not come within 120 m of the Project location. Therefore, this watercourse will not be carried through into the EIS.

Tributary F

- As noted during the Records Review this watercourse originates approximately 250 m north of the Project location, and flows in a general southwesterly direction, approaching to within approximately 170 m north and northeast m of the Project location. It flows in a southeasterly direction and comes within approximately 100 m of the Project location, before draining into the Magnetawan River approximately 150 m east of the northeastern corner of the Project location.
- Permission was not obtained to access this watercourse from the owner of the private property on which this watercourse is located. It has been assumed that the watercourse does meet the definition of a permanent or intermittent stream in the REA Regulation.
- Since the Project location is approximately 100 m away from the average annual high water mark, the potential effects of the proposed development on this watercourse and land within 30 m will be assessed in the EIS.

Tributary G

- As noted during the Records Review this watercourse is located approximately 115 m east of the Project location, on the opposite side of the Magnetawan River.
- Permission was not obtained to access this watercourse from the owner of the private property on which this watercourse is located. It has been assumed that the watercourse does meet the definition of a permanent or intermittent stream in the REA Regulation.

- Since the Project location is within 120 m of the average annual high water mark, the potential effects of the proposed development on this watercourse and land within 30 m will be assessed in the EIS.

Wetland Swale B

- During the site investigation this feature was observed as originating in the southern portion of the property.
- It was determined that this feature is a temporary surface drainage route consisting of a low lying area between adjacent rolling topographical features. There is no defined channel and there was no flow observed during the site investigation
- The predominant function of this drainage route would be to convey overland flow during precipitation and runoff events toward the wetland and the Magnetawan River. Given the meadow marsh type vegetation community within the area, it is evident that water or saturated soils are present at times throughout the year in sufficient duration to support this type of community.
- However, given that there is no defined channel to convey surface flows, this feature does not meet the definition of a waterbody in the REA Regulation. Therefore, no setback is required around this feature and no Environmental Impact Study (EIS) is necessary.

Watercourse A

- This watercourse was observed in the southwestern portion of the property. It consists of a defined watercourse channel originating from several seepage zones and flowing south toward the Magnetawan River.
- Flow from the seepage areas was present during the site investigation and there was a defined channel with a variety of substrates including muck and rock (gravel and cobble).
- The project location is within 120 m of the average annual high water mark, therefore an EIS is required to consider to the potential adverse effects and mitigation requirements to protect this feature.

Pond

- A pond was observed approximately 100 m east of the Project location, within a wooded area with a small camping location adjacent to the Magnetawan River.
- The pond may have been man-made at one point, although if it was, it has been naturalized over time and does not have a man-made appearance at the present time. It may also be a low-lying depression adjacent to the Magnetawan River that is supplied by surface drainage (precipitation or snow melt) and is not hydraulically connected to the river itself. The pond may also intersect the local groundwater table.
- Given that it was not possible to determine if this is a dug pond, which would not be a water body under the REA Regulation, it has been assumed that this pond does meet the REA Regulation definition of a waterbody.

3. Conclusions

Corrections to Water Body Records Review Report are summarized below.

Water Body Feature	Results of Records Review	Correction Required Following Site Investigation
Permanent or Intermittent Streams	Watercourse A was mapped on the Project location	Watercourse A (now noted as Grassed Waterway A) does not meet the REA Regulation definition of a permanent or intermittent stream and therefore, is not identified as a water body requiring a setback.
	Watercourse B was mapped on the Project location	Watercourse B (now noted as Grassed Waterway B and Wetland Swale A) does not meet the REA Regulation definition of a permanent or intermittent stream and therefore, is not identified as a water body requiring a setback.
	Watercourse C was mapped on the Project location	Watercourse C does not meet the REA Regulation definition of a permanent or intermittent stream on the Project location and therefore, is not identified as a water body requiring a setback, on the Project location. It has been assumed to be a watercourse on the adjacent property.
	No other watercourses noted on the Project location during the Records Review.	Watercourse A in this Site Investigation Report was not noted during the Records Review but is present and will require a 30-m setback and consideration in the EIS.
Groundwater Seepage Areas	No groundwater seepage areas were noted during the Records Review	Two groundwater seepage areas, providing flow to the Seepage Watercourse were observed during the site investigation.

Based on the results of the site investigation and the proposed Project location shown in Figure 1.1, some components of the Project will be located between 30 and 120 m of the average annual high water mark of the Magnetawan River, Watercourses A, C, D, F and G and two seepage areas. Therefore, an EIS will be required to assess the potential effects of the Project and the required mitigation measures to prevent or minimize adverse effects on these waterbodies.

Appendix K

Waterbodies Environmental Impact Study Summary

September 7, 2011

Northland Power Inc.
Burk's Falls East Solar Project

Summary

Water Body 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 Waterbodies Environmental Impact Study for the Burk's Falls West Solar Project.

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located south of Highway 520 at the border of Armour and Ryerson Townships, in the single tier municipality of Armour Township.

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

This EIS was completed on the impact to (i) surface water runoff (patterns and rates), (ii) surface water quality, (iii) aquatic and riparian habitat and biota and (iv) groundwater from the presence of the Project.

2. Results

The results of the EIS on the water bodies 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 waterbodies due to land grading and ditching, soil compaction, and vegetation removal	Install flow dissipation measures near the 30-m setback from the waterbodies. Ditches will be vegetated with appropriate grass species to aid in flow dissipation and water uptake. Enhanced vegetation swales will be used in roadside ditches to promote ponding in order to decrease turbidity and

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		increase water retention. Vegetated filter strips will be used where runoff enters agricultural lands or where the ditches discharge in close proximity to watercourses. 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 waterbodies 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 waterbodies from changes to land grading and ditching and vegetation communities	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 waterbodies due to land grading and ditching, soil compaction, spills 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, hard surfaces for access roads, 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 1:100-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 have spill response procedure and all workers will be properly trained on the procedure. No cement products to be placed into any

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
		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 waterbodies due to land grading and ditching, and changes in vegetation	Storm water 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	Maintenance activities	Maintenance activities will only occur if rainfall and snow are not sufficient to clean the panels. If extra water is required to be brought on site for panel cleaning purpose, it is anticipated that volumes will be relatively low and less than that which would occur during a normal precipitation event. No cleaning agents (e.g., detergents) will be used to clean panels.
Operations	Accidental Spills	Use of fuels, lubricants and other potentially hazardous materials during the operations phase will be limited to those materials brought on site during periodic maintenance activities. All maintenance vehicles will be equipped with a spill kit and a spill contingency and response plan will be in place for the duration of the operational period. Given this mitigation, and the limited quantity of material on site and the limited frequency and duration that it will be on site, no adverse effects due to accidental spills are anticipated to occur.
Decommissioning	Increase soil erosion and sedimentation may cause an increased in turbidity in the receiving waterbodies due to land grading and ditching, and changes in vegetation	Standard construction site erosion and sedimentation control measures will be installed during the decommissioning process, since heavy equipment may be needed, which will result in some vegetation and ground disturbance and therefore, exposure of bare soil. Once the field is returned to its existing agricultural condition, erosion rates will be similar to existing conditions.
Aquatic Biota and Habitat		
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, is anticipated to be sufficient.

Project Phase	Potential Negative Environmental Effect	Proposed Mitigation Measure
Groundwater		
Construction	Recharge or seepage areas may be impacted by altered surface water runoff or excavations	The amount and duration of dewatering for excavations will be minimized to the extent possible.
Construction/ Operations/ Decommissioning	Groundwater contamination due to accidental spills	See mitigation measures above for accidental spills contaminating surface water.

Table 5.1 in the EIS summarizes the proposed monitoring plan.

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

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

3. Conclusions

The EIS has been prepared to identify potential negative environmental effects that all phases of the Project may have on waterbodies. 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 waterbodies is adherence to the 30-m setback requirement. Monitoring measures have been proposed to confirm that mitigation measures are having the intended effect and that performance objectives are being met.

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

Appendix L

Stage 1 and 2
Archaeological Assessment Report
Summary

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Summary

Stage 1 and 2 Archaeological Assessment Report

1. Introduction

As per Section 17 of the Renewable Energy Approvals (REA) Regulation (O. Reg. 359/09) under Part V.0.1 of the *Environmental Protection Act*, the following is a summary of the Archaeological Assessment Report, prepared by Archaeological Research Associates for the Burk's Falls West Solar Project.

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

Section 22 of the REA Regulation requires proponents of Class 3 solar projects to undertake an Archaeological Assessment where there is a concern that an undertaking could impact archaeological resources. The purpose of the present assessment was to confirm the presence or absence of significant archaeological resources that could represent potential constraints for the proposed Burk's Falls West Solar Project. The assessment included a Stage 1 background study of past archaeological investigations and known archaeological sites within a 2 km radius of the Burk's Falls West Solar Project site. It also included a systematic 5-m interval Stage 2 archaeological survey of all of the Leased Lands in the property.

2. Results

The background study determined that the results of the Stage 1 assessment indicated areas of archaeological potential within the study area which had clear potential for Pre-Contact and Euro-Canadian era archaeological sites. During the Stage 2 assessment, one Euro-Canadian findspot (Findspot 1), broadly dating from the early 19th to early/mid-20th century, was identified. This findspot was determined to possess sufficient Cultural Heritage Value or Interest such that the Project should be setback from the feature, or a Stage 3 assessment undertaken.

3. Conclusions

The office of the Ministry of Tourism and Culture has reviewed the Archaeological Assessment Report in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18, and accepted its findings.

Appendix M

Noise Assessment Study Report Summary

September 7, 2011

Northland Power Inc

Burk's Falls West Solar Project

Summary

Noise Assessment Report

1. Introduction

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

Northland Power Solar Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project site will be located on approximately 40 hectares (ha) of land, located in the Township of Armour.

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

2. Results

- The main sources of noise from the Project will be seven inverter clusters, each one containing two inverters and one medium-voltage transformer, and a substation containing the main step-up transformer.
- The Project will be located in a Class 3 Area. Class 3 area means a rural area with an acoustical environment that is dominated by natural sounds, having little or no traffic, such as an agricultural area.
- Seven inverter clusters will be installed as part of the Project. Each cluster comprises of two SMA Sunny Central 800CP inverters and one medium voltage transformer. A 1.6-MVA transformer used to step-up the 360-V power from the inverters to 27.6 kV will be located in proximity to the inverters. One 10-MVA/44-kV substation transformer will step-up the 27.6-kV power collected from the inverter clusters to 44-kV prior to being sent to the existing local distribution line. Since the transformer make and model have not been selected at this point, the sound power levels resulting from the operation of the transformer were evaluated using data from NEMA TR 1-1993.

- At night time the facility will not operate. Under these conditions the inverters do not produce noise. The transformers (at the substation and clusters) are energized and make some magnetostrictive noise at a reduced level, but no cooling fans are in operation.
- The sound pressure levels at the points of reception have been estimated using the CADNA-A model, based on ISO 9613-2. The performance limits used for comparison correspond to Class 3 areas, with 45-dBA during day time (7:00 a.m. to 7:00 p.m.) and 40-dBA during night time. It has been determined that no mitigation measures are needed for the Project operation.

3. Conclusions

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

Appendix N

Protected Properties and Heritage Resource Information

Project Report

September 7, 2011

Northland Power Inc.
Burk's Falls West Solar Project

Protected Properties and Heritage Resources

Table of Contents

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1. Introduction

1.1 Project Description

Northland Power Solar Project Burk's Falls West L.P. (hereinafter referred to as "Northland") is proposing to develop a 10-megawatt (MW) solar photovoltaic project titled Burk's Falls West Solar Project (hereinafter referred to as the "Project"). The Project will be located on approximately 40 hectares (ha) of land, located south of Highway 520 at the border of Armour and Ryerson Townships, in the single tier municipality of Armour Township**.**

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, as a result of the consideration mentioned in subsection 20, determine whether engaging in the renewable energy project may have an impact on a heritage resource described in subsection 20 (1). 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.

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: Burks Falls West Solar Project (i.e., the layout)
Address: longitude & latitude: 79°25'8.92"W & 45°36'39.68"N
Township and County: Township of Armour

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 *Ontario Heritage Act*.	According to the Ontario Heritage Trust website (www.heritagefdn.on.ca) no easement properties are located in the vicinity of the property. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26July11) The property is not designated under clause 10(1)(b) of the *Ontario Heritage Act*.
2	A property in respect of which a notice of intention to designate the property to be of cultural heritage value or interest has been given in accordance with section 29 of the *Ontario Heritage Act*.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that a notice of intention to designate has been given. In addition, The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Township of Armour. (Website Search: 26July11). 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 *Ontario Heritage Act* as a property of cultural heritage value or interest.	Consultation with the municipality, as per MCL Check Sheet Step 2, Item 8 has not determined that the Project is located on a property designated by a municipal by-law. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Township of Armour. (Website Search: 26July11). 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 Culture made under section 34.5 of the *Ontario Heritage Act* as a property of cultural heritage value or interest of provincial significance.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Township of Armour. (Website Search: 26July11). 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	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. According to the MCL Ontario Heritage Properties

	provincial significance has been given in accordance with section 34.6 of the *Ontario Heritage Act*.	Database there is no heritage property located within the Township of Armour. (Website Search: 26July11). 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 *Ontario Heritage Act*.	The MCL Ontario Heritage Properties Database includes properties designated under Part IV of the *Ontario Heritage Act*. 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 *Ontario Heritage Act* as a heritage conservation district.	The MCL Ontario Heritage Properties Database includes properties designated under Part V of the *Ontario Heritage Act*. In addition, none of Ontario's Heritage Conservation Districts are located within the Township of Armour according to the MCL's current list. 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 *Ontario Heritage Act*.	National Historic Sites are included within the Ontario Heritage Properties Database (Research completed 26July11). In addition, no sites within the Township of Armour are listed on the Canadian Register of Historic Places (Research completed 26July11). 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 cultural heritage impact assessment is needed.

Property: Burks Falls West
A**ddress:** longitude & latitude: 79°25'8.92"W & 45°36'39.68"N
Township and County: Township of Armour

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 6.0.2.2074 on September 1, 2011
	√	Residential structures (e.g. house, apartment building, trap line shelter)	There are no residential structures on the Project location.
	√	Agriculture (e.g. barns, outbuildings, silos, windmills)	
	√	Industrial (e.g. factories, complexes)	
	√	Engineering works (e.g. bridges, roads, water/sewer systems)	Highway 520 is adjacent to the northern boundary of the Project location.
		Cultural heritage landscapes	
Yes	**No**	Does the property contain landscapes such as:	
	√	Burial sites and/or cemeteries	
	√	Parks	
	√	Quarries or mining operations	
	√	Canals	There are small water bodies within 120 m of the Project location, but no man-made canals.
√		Other human-made alterations to the natural landscape	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:**	**Reference** According to the MCL Ontario Heritage Properties Database there is no heritage property located within the Township of Armour.
	√	1. Is it designated or adjacent to a property designated under the Ontario Heritage Act?	
	√	2. Is it listed on the municipal heritage register or	According to the MCL Ontario Heritage Properties Database there is no heritage property

		provincial register (e.g. Ontario Heritage Bridge List)?	located within the Township of Armour. (Website Search: 26July2011)
	√	3. Is it within or adjacent to a Heritage Conservation District?	None of Ontario's Heritage Conservation Districts are located within the Township of Armour according to the MCL's current list. (Research completed 26July11)
	√	4. Does it have an Ontario Heritage Trust easement or is it adjacent to such a property?	According to the Ontario Heritage Trust website no easement properties are located in the vicinity of the property. In addition, the Ontario Heritage Properties Database did not reveal any easement properties. (Research completed 26July2011)
	√	5. Is there a provincial or federal plaque?	There are no provincial plaques located in the Township of Armour (Research competed 26July2011. 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 26May10) In addition, no sites within the Township of Armour are listed on the Canadian Register of Historic Places (Research completed 26July2011.
	√	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?	
	√	Were any concerns expressed?	The township of Armour has not expressed any concerns regarding the potential heritage impacts from the Project.
		9. What are the dates of construction?	N/A
	√	Are the buildings and/or structures over 40 years old?	
	√	Is it within a Canadian Heritage River watershed?	The property is not located within a Canadian Heritage River Watershed (Research completed 26July11).
	√	10. Is a renowned architect or builder associated with the property?	

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**		**Reference**
	√	Destruction of any, or part of any, significant heritage attribute or feature.	Excavations during Project construction may result in the discovery of archaeological resources. Archaeological assessments will be conducted to determine potential. Potential heritage resources will be determined as per the requirements of the Ministry of Culture.
	√	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.	Current land use will be discontinued within the Project footprint. Installation of the Project will result in a change to the local landscape.
	√	Land disturbances such as a change in grade that alters soils and drainage patterns that adversely affect an archaeological resource.	Reductions in soil quality/loss of soils as a result of accidental spills, erosion, soil compaction during construction. Archaeological assessments has been conducted and this determined the setback requirements from the one findspot.

Appendix O

Letter of Confirmation – Ontario Ministry of Natural Resources

Ministry of Natural Resources

Parry Sound District
7 Bay Street
Parry Sound, Ontario P2A 1S4

Ministère des Richesses naturelles

Telephone: (705) 746-4201
Facsimile: (705) 746-8828

Ontario

September 2, 2011

Sean Male,
Terrestrial Ecologist, Environmental Assessment & Management
HATCH
4342 Queen Street, Suite 500
Niagara Falls, Ont.,
L2E 7J7

Dear Mr. Male:

SUBJECT: Burk's Falls West Solar Project: Natural Heritage Reports

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the natural heritage assessment and environmental impact study submitted by Northland Power for the Burk's Falls West Solar Project located in Armour Township. These reports are dated August 25, 2011 and submitted to MNR on August 31, 2011.

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

1. The MNR confirms that the determination of the existence of natural features and the boundaries of natural features was made using applicable evaluation criteria or procedures established or accepted by MNR.
2. The MNR confirms that the site investigation and records review were conducted using applicable evaluation criteria or procedures established or accepted by MNR.
3. The MNR confirms that the evaluation of the significance or provincial significance of the natural features was conducted using applicable evaluation criteria or procedures established or accepted by MNR.
4. The MNR confirms that the project location is not in a provincial park or conservation reserve.
5. The MNR confirms that the environmental impact assessment report has been prepared in accordance with procedures established by the MNR.

In accordance with Sections 28(3)(c) and 38(2)(c) of the REA regulation, MNR also offers the following comments in respect of the above reports:

a) Figure 4.1 of the Site Investigation Report should be revised to reflect only the agreed upon setbacks identified on p.22 of the Environmental Impact Study.

Continued on Page 2 ...

b) The preliminary layout at the back of the Environmental Impact Study should be revised to reflect the agreed upon setbacks and road restrictions identified on p.22 of that report.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, dated August 25, 2011, including those sections describing the Environmental Effects Monitoring Plan and Construction Plan Report. Should any changes be made to the proposed project that would alter these reports, MNR may need to undertake additional review of the reports.

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

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

Please be aware that your project may be subject to additional legislative approvals as outlined in the Ministry of Natural Resources' *Approvals and Permitting Requirements Document*. These approvals are required prior to the construction of your renewable energy facility.

If you wish to discuss any part of this confirmation letter or the additional comments provided, please contact Dorothy Shaver, District Planner (telephone: 705-773-4231; or e-mail: dorothy.shaver@ontario.ca).

Sincerely,

Andy Heerschap
District Manager
Parry Sound District

cc. Jim Beal, Renewable Energy Provincial Field Program Coordinator, Regional Operations Division, MNR;
Andrea Fleischhauer, Southern Region Planning Unit, MNR;
Narren Santos, Environmental Assessment and Approvals Branch, MOE;
Tom Hockin, Northland Power, Toronto.

Appendix P

Letter of Confirmation – Ontario Ministry of Tourism and Culture

Ministry of Tourism and Culture

Culture Programs Unit
Programs and Services Branch
Culture Division
435 S. James St., Suite 334
Thunder Bay, ON P7E 6S7
Tel.: 807 475-1632
Fax: 807 475-1297

Ministère du Tourisme et de la Culture

Unité des programmes culturels
Direction des programmes et des services
Division de culture
Bureau 334, 435 rue James sud
Thunder Bay, ON P7E 6S7
Tél.: 807 475-1632
Téléc.: 807 475-1297

Ontario

August 31, 2011

Mr. Tom Hockin
Northland Power
30 St. Clair Ave. West, 17th Floor
Toronto, ON M4V 3A1

RE: Burk's Falls West Solar Project

Lots 1 - 3, Concession 8, Township of Armour, Parry Sound District.

FIT#: FIT-FUDV9JL

IRIMS: HD00640
PIFs: P007- 336-2011, P007-337-2011

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(s) 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 or the 2011 Standards and Guidelines for Consultant Archaeologists (whichever apply). Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the Report(s).*

The report(s) recommends the following:

Report for PIF P083-085-2010, entitled "Stage 1 and 2 Archaeological Assessments Burk's Falls West Solar project, FIT-FUDV9JL, Town of Burk's Falls, Armour Township, Parry Sound District, Ontario" dated August 12, 2011, received by MTC Toronto Office August 15, 2011, recommends:

> Findspot 1, located just east of the proposed access road in the north of the project lands, consist[s] of a scatter of 883 Euro-Canadian artifacts. This archaeological site, named Burk's Falls West 1, has been assigned Borden number BjGu-16. Based on the criteria set out in section 2.2 of the *Standards and Guidelines for Consulting Archaeologists*, this site was found to possess sufficient CHVI [cultural heritage value or interest] to warrant a Stage 3 Site-Specific Assessment or avoidance through appropriate setbacks.
>
> Subsequent to ARA's Stage 2 assessment at Burk's Falls West, it was realized that the original project mapping had been revised. This revision involved the reduction and reconfiguration of the overall study area. Although all of the new project limits were included in the Stage 2 property assessment, the majority of Findspot 1 now extends beyond the limits of the project lands and will be free from impact. Only nine positive test pits (an area of approximately 220m2) of Findspot 1 remain within the project lands. Based on these findings, ARA recommends that the portion of Burk's Falls West 1 (BjGu-16that falls within the revised project limits be subjected to a Stage 3 – Site Specific Assessment or avoidance through appropriate setbacks.

Implicit in the recommendations made is the understanding that there are no further archaeological concerns for the balance of the subject property, illustrated in Maps 19 and 20 of the report reviewed by the Ministry. 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,

Andrew Hinshelwood
Archaeology Review Officer

cc. Paul Racher
Archaeological Research Associates Ltd.
97 Gatewood Road
Kitchener, ON N2M 4E3

** 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.