



**NORTHLAND
POWER**

Burk's Falls West Solar Project Water Body Records Review Report

November 16, 2011



Northland Power Inc.
on behalf of
Northland Power Solar
Burk's Falls West
Toronto, Ontario

Water Body
Records Review Report

Burk's Falls West Solar Project

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Project Report

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

Water Body Records Review Report

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1. Introduction

1.1 Project Description

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 (Figure 1.1).

1.2 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. Per Section 4 of the REA Regulation, ground mounted solar facilities with a nameplate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and require a REA.

Section 30 of the REA Regulation requires proponents of Class 3 solar projects to undertake a water body records review to identify "whether the project is

1. in a water body
2. 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
3. within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity
4. within 120 m of the average annual high water mark of a permanent or intermittent stream, or
5. within 120 m of a seepage area." (O. Reg. 359/09, s. 30, Table).

Subsection 30(2) of the REA Regulation requires the proponent to prepare a report "setting out a summary of the records searched and the results of the analysis" (O. Reg. 359/09). This Water Body Records Review Report has been prepared to meet these requirements.

2. Methodology and Results

This Records Review Report is based on a review of published and unpublished information on waterbodies identified on or in close proximity to the Project location. The background documents reviewed were obtained from various sources, including provincial and federal government agencies.

Records covering areas within a minimum distance of 1 km from the Project location were searched, with specific focus of the area within 120 m of the Project location (and up to 300 m if lake trout lakes are present within this zone). Results are discussed below in relation to the distances specified between the Project and water body features as defined in Section 30 of the REA Regulation (see Section 1.2).

The following sections document the records that were searched and analyzed and the results of the analysis, with the focus on identifying whether or not the Project was located within or adjacent to

any of the water body features listed in Section 1.2 of this report. The sections are organized as identified in Column 1 of the Table to Section 30 of the REA Regulation.

There are no conservation authorities, local roads boards or local services boards with jurisdiction over the Project location. Also, the Project location is not located within the Niagara Escarpment Commission Plan Area. Therefore, records review for these governing bodies was not conducted.

Municipal Planning Authorities are discussed in relation to the Township of Armour and the Southeast Parry Sound District Planning Board.

2.1 Ministry of Natural Resources Records

2.1.1 Methodology

The following Ministry of Natural Resources (MNR) on-line records were reviewed:

- Ontario Crown Lands Use Atlas Mapping (<http://crownlanduseatlas.mnr.gov.on.ca/clupa.html>)
- Ontario Base Maps and natural feature layers from Land Information Ontario (LIO) (<http://www.geographynetwork.ca/website/obm/viewer.htm>)

A request for information regarding natural heritage and water body features was also made to the MNR's Parry Sound District Office.

2.1.2 Results

Ontario Crown Land Use Atlas Mapping

A review of the Crown Land Use Policy Atlas interactive map, accessed on July 14, 2011, indicated that the Project location is on privately owned land, and that there are three watercourses on the Project location (noted as Watercourses A, B and C in Figure 1.1) and an additional four watercourses within 120 m of the Project location (noted as the Magnetawan River and Watercourses D, F and G in Figure 1.1). The Magnetawan River is a relatively large, permanent river, that drains into Georgian Bay on Lake Huron. The permanency of the other watercourses noted on and within 120 m of the Project location is unknown.

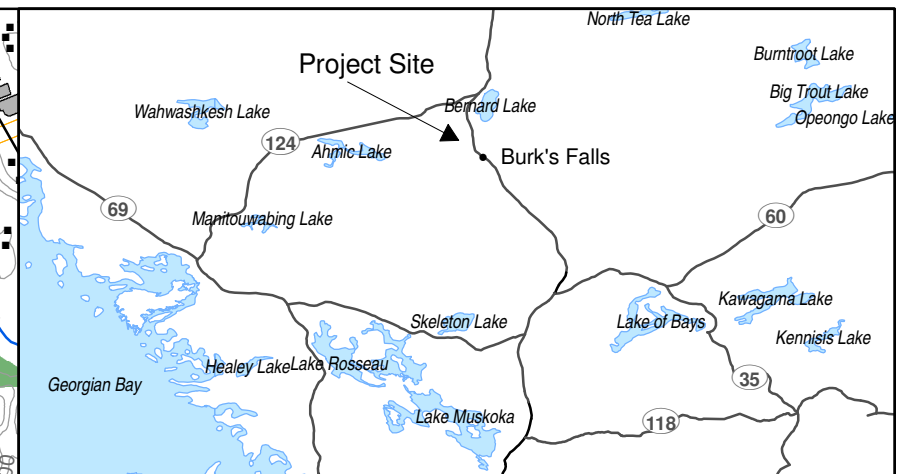
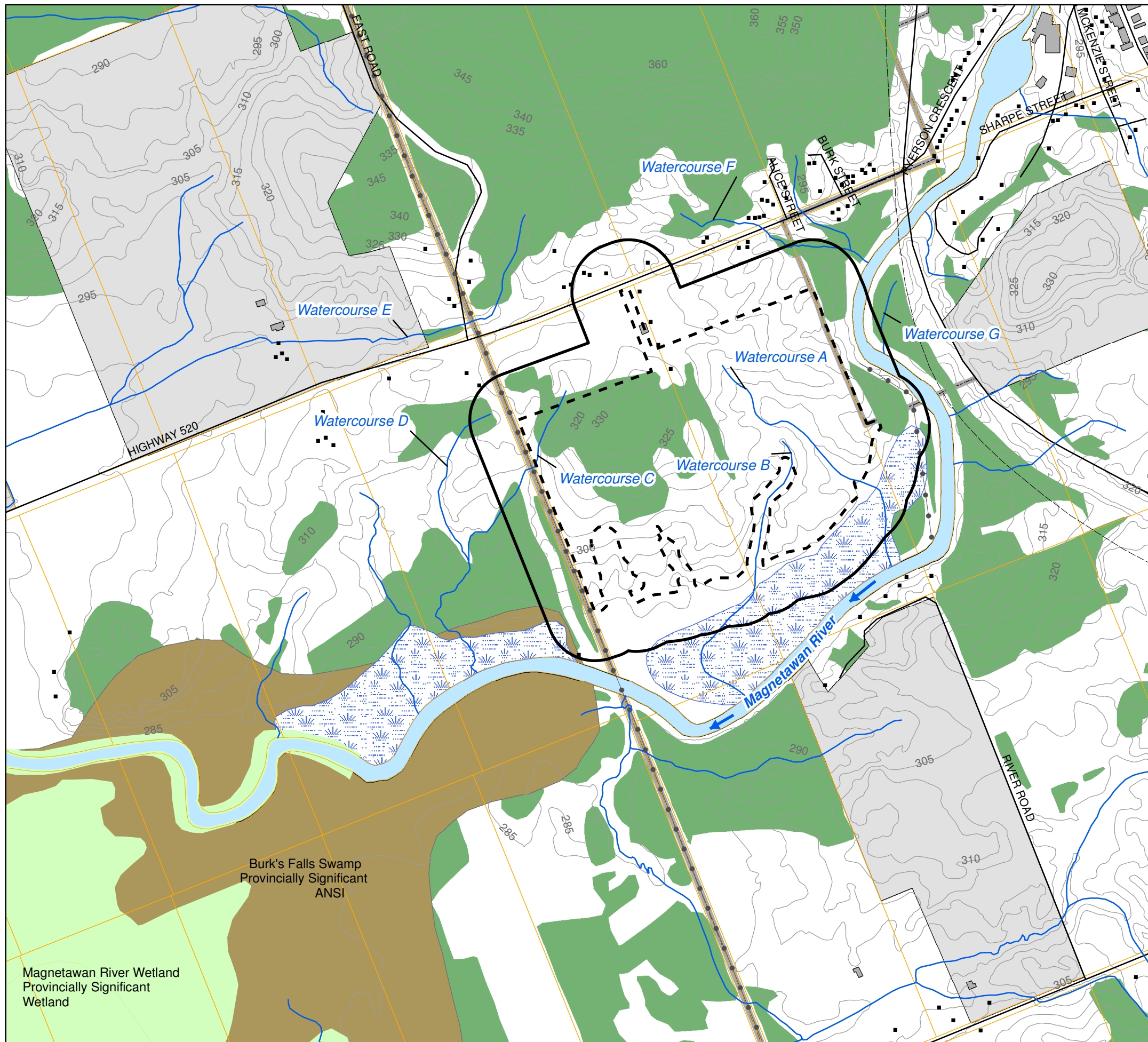
No lakes or seepage areas were noted in the Ontario Crown Land Use Atlas Mapping.

MNR LIO Mapping

Mapping data provided by LIO identified the same watercourses noted in the Crown Land Use Atlas mapping, as shown on Figure 1.1. In addition, LIO mapping also an unevaluated wetland within 120 m south of the Project location and the Magnetawan River Provincially Significant Wetland (PSW) is located within 1 km of the Project location.

MNR Response to Natural Heritage Information Request

MNR Parry Sound District Office provided information regarding the water body features of the site, particularly with respect to the flood level of the Magnetawan River. MNR indicated that the wetland shown on Figure 1.1 as being south of the Project location, would likely be within the 1:100-yr floodplain, although the exact elevation and precise location of the floodplain are unknown.



- Legend**
- Building
 - Road
 - +— Railway
 - - - Trail
 - Transmission Line
 - Topographic Contour (5 m Interval)
 - Watercourse
 - ▭ Parcel
 - - - Project Location
 - ▭ 120 m from Project Location
 - ▭ Authorized Aggregate Site
 - ▭ Unevaluated Wetland
 - ▭ Evaluated Wetland
 - ▭ Waterbody
 - ▭ Woodland
 - ▭ Candidate ANSI, Life Science



Notes:
 1. Base and Environmental data downloaded from LIO, Feb 18, 2011.
 2. Produced by Hatch under licence from Ontario Ministry of Natural Resources, Copyright (c) Queens Printer 2011.
 3. Spatial referencing UTM NAD 83.

Figure 1.1
 Northland Power Inc.
Burk's Falls West Solar Project
Water Body Features

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.

MNR also provided several photographs of the site taken from an airplane in June 2010. One of these photographs, depicting the southern end of the Project location, the wetland to the south and the Magnetawan River, is shown in Figure 2.1.



Figure 2.1 Photograph of Project Location, Unevaluated Wetland and Magnetawan River South of the Project Location

2.2 Ontario Ministry of Agriculture, Food and Rural Affairs Records

2.2.1 Methodology

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) on-line Agricultural Information Atlas (http://www.lio.ontario.ca/imf-ows/imf.jsp?site=aia_en) was reviewed on July 14, 2011 to determine if drainage features, including constructed drains, municipal drains and tile drains are present on or within 120, and if Fisheries and Oceans Canada (DFO) drain aquatic habitat classification information is available for any of the waterbodies.

2.2.2 Results

The Agricultural Information Atlas mapping showed the same watercourses discussed in Section 2.1. No new water body features were noted in the mapping. No tile drains are located on or within

120 m of the Project site. No DFO drain classification information was available for any of the watercourses on or within 120 m of the Project location.

2.3 Federal Government Records

2.3.1 Methodology

The following federal government websites were reviewed to determine if any records regarding water features on or within 120 m of the Project location were available:

- DFO website (<http://www.dfo-mpo.gc.ca/index-eng.htm>)
- Natural Resource Canada (NRCan) (http://ess.nrcan.gc.ca/mapcar/index_e.php).

2.3.2 Results

The review of the DFO website and Species at Risk distribution mapping resulted in several references to Lake Sturgeon (*Acipenser fulvescens*) potentially being found in the Magnetawan River, although their proximity to the Project location is unknown (DFO, 2008). No specific information was found for the portion of the river within 120 m of the Project location.

Mapping on the NRCAN website did not provide any additional information regarding water features on or within 120 m of the Project location.

2.4 South East Parry Sound District Planning Board

The South East Parry Sound District Planning Board was contacted to obtain any records they had regarding waterbodies on or within 120 m of the Project location.

2.4.1 Results

Representatives from the Planning Board indicated that they did not have any information regarding waterbodies on or within 120 m of the Project location and recommended that the Township and MNR be contacted.

2.5 Armour Township

The Project location is within Armour Township, a single-tiered municipality. A review of the official Township website (<http://www.armourtownship.ca/>) was undertaken. Information relating to waterbodies was requested during a meeting with the clerk of the township on July 9, 2010.

2.5.1 Results

The Township website did not have any further information regarding waterbodies on or within 120 m of the Project location. No records relating to waterbodies were available from the Township.

3. Summary of Results and Next Steps

3.1 Summary of Results

Table 3.1 summarizes the results of the records review according to the features identified in Section 1.2. A map depicting the identified water features on and in proximity to the site is provided in Figure 1.1.

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 be 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 of 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.

4. References

Fisheries and Oceans Canada (DFO). 2008. Recovery Potential Assessment of Great Lakes and St. Lawrence River Watersheds (Designatable Unit 8) Lake Sturgeon (*Aspenser fulvescens*) Populations. Canadian Science Advisory Secretariat, Science Advisory Report 2008/042.

Ministry of Agricultural, Food and Rural Affairs (OMAFRA). 2010. Agricultural Information Atlas. Available on-line at http://www.lio.ontario.ca/imf-ows/imf.jsp?site=aia_en. Accessed July 14, 2011.

Natural Resource Canada (NRCAN). Available on-line at http://ess.nrcan.gc.ca/mapcar/index_e.php. Accessed May 11, 2011.

Ontario Base Maps and Natural Feature Layers from Land Information Ontario (LIO). Available on-line at www.geographynetwork.ca. Accessed May 12, 2011.