



**NORTHLAND
POWER**

Belleville South Solar Project Draft Water Body Records Review Report

March 18, 2011



Northland Power Inc.
on behalf of
Northland Power Solar
Belleville South L.P.
Toronto, Ontario

DRAFT Water Body
Records Review Report

Belleville South Solar Project

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Project Report

March 18, 2011

**Northland Power Inc.
Belleville South Solar Project**

DRAFT Water Body Records Review Report

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1. Introduction

1.1 Project Description

Northland Power Solar Belleville South L.P. (hereinafter referred to as “Northland”) is proposing to develop a 10-megawatt (MW) solar photovoltaic (PV) Project titled Belleville South Solar Project (hereinafter referred to as the “Project”). The Project site will be located on approximately 40 hectares (ha) of land, located in the single-tier municipality of the Corporation of the County of Prince Edward.

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 name plate capacity greater than 10 kilowatts (kW) are classified as a Class 3 solar facility and, therefore, 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 2 of Section 30 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

The following sections document the records that were reviewed and analyzed and the results from this analysis. The focus of the assessment was identifying whether or not the Project was located within or adjacent to any of the water features listed above in Section 1.2. The sections are organized as identified in Column 1 of the Table in Section 30 of the REA Regulation.

Records were searched within a minimum distance of 1 km from the Project site. The results are discussed below in relation to the distances specified between the Project and water features as defined in Section 30 of the REA Regulation (see Section 1.2).

There are no planning boards, municipal planning authorities, local roads boards or local services boards within the jurisdiction of the Project area. Also, the Project site is not located within the Niagara Escarpment Commission Plan Area. Therefore, records from these agencies were not reviewed.

2.1 Ministry of Natural Resources Records

2.1.1 Methodology

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

- Ontario Base Maps and natural feature layers from Land Information Ontario (LIO) (www.geographynetwork.com)
- Natural Heritage Information Centre (NHIC) biodiversity explorer (<https://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/mainSubmit.do>).

2.1.2 Results

The MNR natural features layer from the LIO website indicates the presence of two tributaries of Consecun Creek (Watercourse A and Watercourse B in Figure 3.1) within 120 m of the southern section of the Project site. Watercourse A originates in Consecun Creek Marsh Locally Significant Wetland (LSW) south of the Project site and flows in a westerly direction. A small portion of the LSW is located within 120 m of the Project site. Watercourse B consists of a short reach (approximately 300 m in length) originating adjacent to the Project boundary and flowing into Watercourse A. LIO mapping also shows a small open pond immediately adjacent to the southeastern corner of the Project site, on the opposite side of Highway 62.

Another watercourse drains the Crofton Marsh LSW, approximately 250 m north of the Project (Watercourse C). This watercourse flows into the Bay of Quinte on Lake Ontario, approximately 1.2 km north of the Project site.

Shelby Creek Headwater Swamp Provincial Significant Wetland (PSW) is located approximately 250 m to the east of the Project site.

The MNR also had a biodiversity explorer interactive map available on line. No additional water features were noted on the map.

2.2 Ontario Ministry of Agriculture, Food and Rural Affairs Records

2.2.1 Methodology

The following Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) on-line records were reviewed:

- rural drainage mapping (http://www.lio.ontario.ca/imf-ows/imf.jsp?site=ads_en).

2.2.2 Results

Rural drainage mapping identified the two watercourses noted in Section 2.1.2 and the small pond. No other watercourses or drains were present within 120 m of the Project area. The drainage of the majority of the Project area is considered poor, with only a small portion being fair in the middle of the Project site. The aerial photography layer of the map displays a sparsely wooded area, with the remains of past agricultural fields on the Project site.

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 adjacent to the property were available:

- Fisheries and Oceans Canada (DFO) website (<http://www.dfo-mpo.gc.ca/index-eng.htm>)
- Natural Resource Canada (NRCan) (http://ess.nrcan.gc.ca/mapcar/index_e.php)
- DFO Species at Risk Distribution Map (<http://www.conservation-ontario.on.ca/projects/DFO.html>).

2.3.2 Results

The review of the DFO website resulted in several references to the significant fish community of the Bay of Quinte, but no specific references to water features within 120 m of the Project site were found.

The NRCan mapping review resulted in a general environment map showing only one of the two watercourses previously discussed. It shows one watercourse moving from west to east to the south of the Project site. It did not provide any new information on water features other than those discussed in Section 2.1.2.

No aquatic species at risk are noted in the Project area on the DFO Species at Risk Distribution Map.

2.4 Conservation Authority Records

2.4.1 Methodology

The Project is situated within the jurisdiction of the Quinte Conservation Authority (QCA). QCA had available an on-line map entitled "Prince Edward Region Watershed". As well, QCA has commissioned a groundwater survey with maps displaying groundwater discharge and recharge areas and wetlands (QCA, 2009).

2.4.2 Results

The QCA watershed map clearly shows Watercourses A and B, as previously described in Section 2.1.2. It does not show the small pond. The groundwater survey (QCA, 2009) indicates that the Project area could be on or within 120 m of a potential groundwater discharge area (i.e., a seepage area).

2.5 Municipal Records

2.5.1 Methodology

The Project is located within the single-tier municipality of the Corporation of the County of Prince Edward. The Township website (<http://www.pecounty.on.ca/index.php>) was examined to find any records that may identify water features in the Project area. The Official Plan for the County of Prince Edward (2008) was available on line. Schedule A of this plan incorporated environmentally sensitive areas.

2.5.2 Results

A review of the Official Plan map classifies the general area as rural and shows the two watercourses as previously described in Section 2.1.2. Schedule A of the Official Plan displays environmentally sensitive areas, in the County, but no features are identified within 120 m of the Project site.

3. Summary of Results and Next Steps

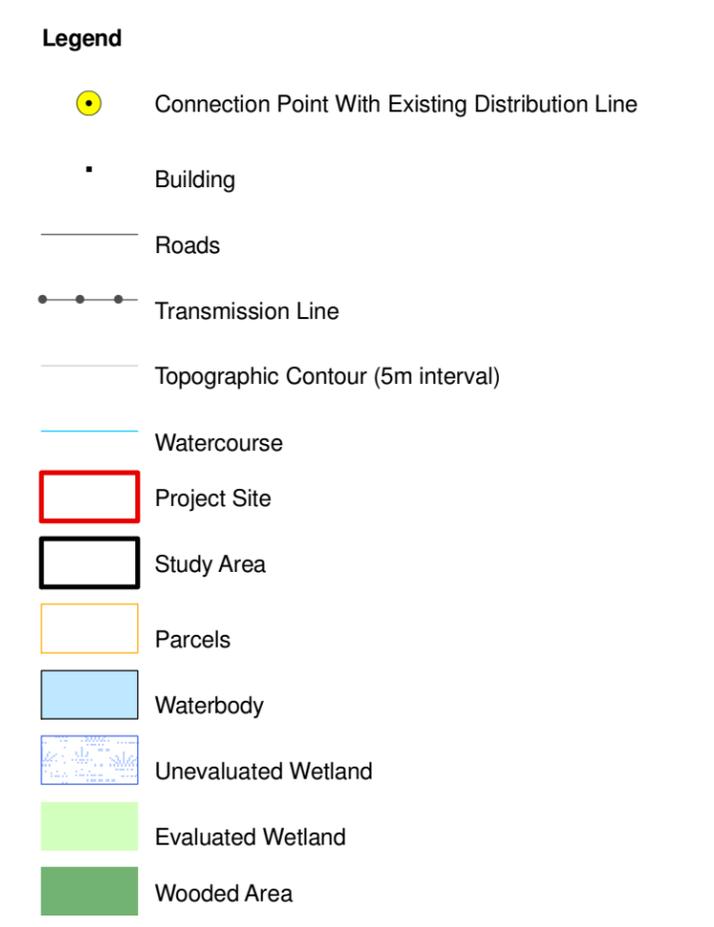
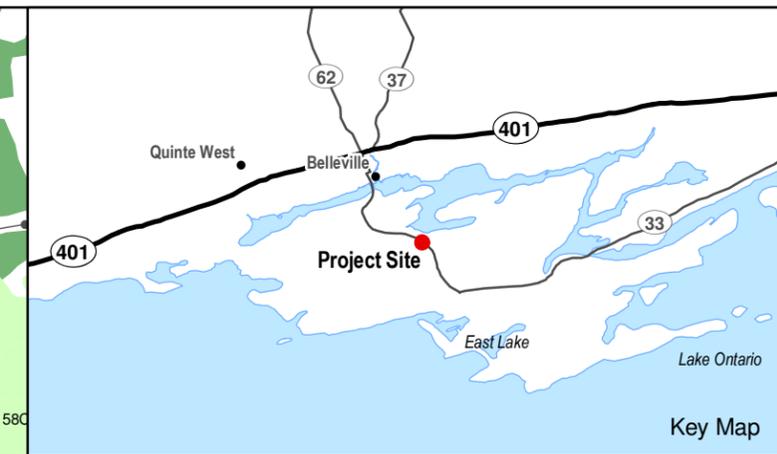
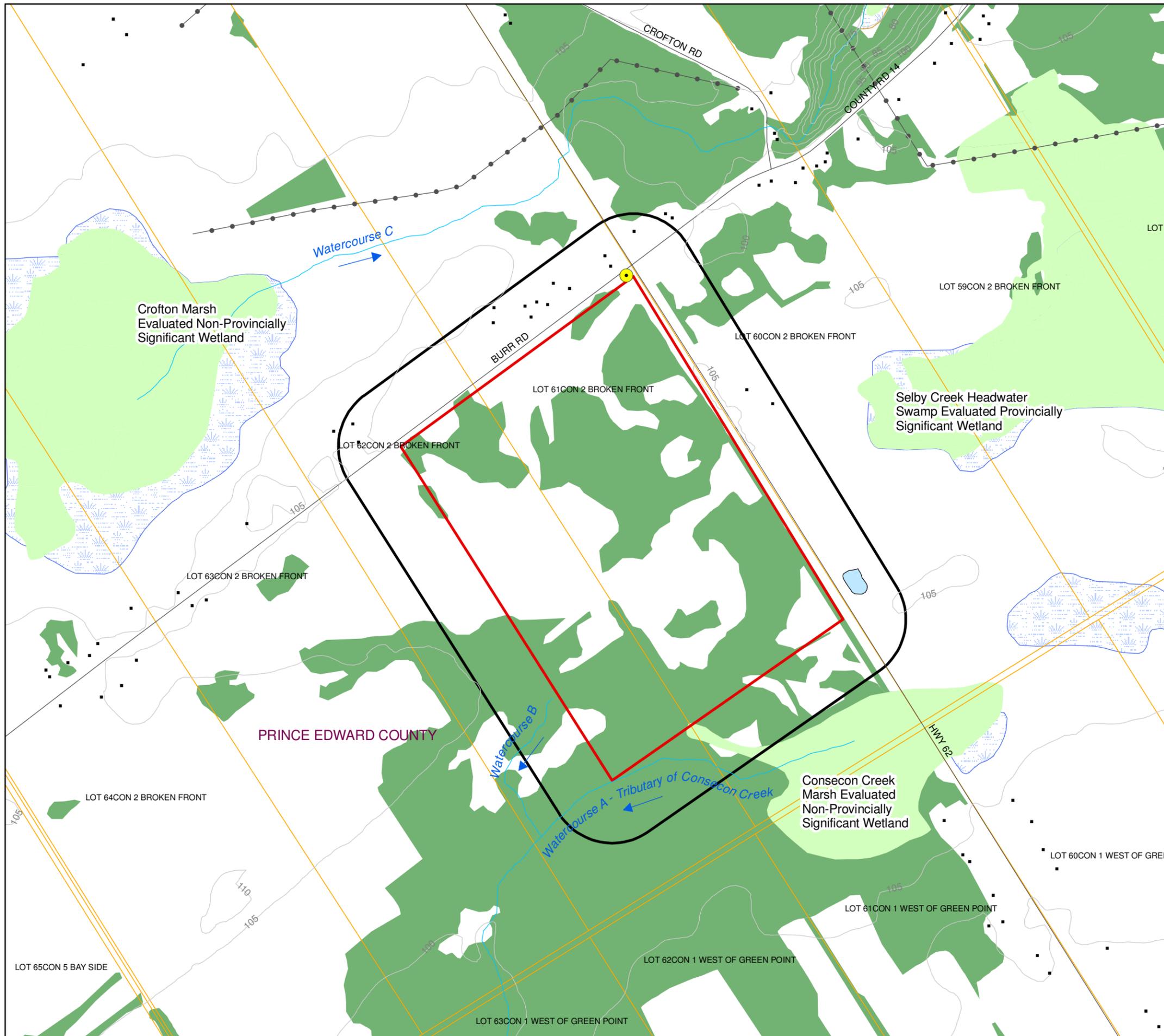
3.1 Summary of Results

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 3.1.

Table 3.1 Summary of Records Review Determinations

Determination to be Made	Yes/No	Description
Is the Project in a water body?	No	No part of the Project will be constructed within a waterbody.
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	There are no lakes located within 120 m of the Project site.
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 in the study area.
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes	There are two watercourses within 120 m of the Project area.
Is the Project within 120 m of a seepage area?	Yes	There is a potential groundwater discharge area on or within 120 m of the Project.

Therefore, depending on the facility layout, some components of the Project could potentially be located within 120 m of the average annual high water mark of two tributaries of Consecon Creek. As well, the Project could be on or within 120 m of a groundwater discharge (seepage) area.



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Notes: OBM and NRVIS data downloaded from LIO, with permission. UTM NAD 83, February 2010.

Figure 3.1
 Northland Power Inc.
 Belleville South Solar Project
 Water Body Features

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3.2 Next Steps

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

4. References

County of Prince Edward. 2008. Official Plan. Available on-line at http://www.pecounty.on.ca/government/planning_services/planning.php. Accessed May 14, 2010.

Quinte Conservation Authority. 2009. Groundwater Study. Available on-line at http://quinteconservation.ca/web/index.php?option=com_content&task=view&id=100&Itemid=85 Accessed May 14, 2010.