



Burk's Falls West Solar Project

Modification Document – Proposed Relocation of Stormwater Diversion Channel

April 7, 2017

Report

**Modification Document - Proposed Relocation of Stormwater
Diversion Channel**

H353720-00000-121-066-0001

2017-04-07	0	Approved for Use	C. Coughlin	C. Coughlin	K. Vukovics	K. Vukovics
DATE	REV.	STATUS	PREPARED BY	CHECKED BY	APPROVED BY	APPROVED BY
				Discipline Lead	Functional Manager	Project Manager

H353720-00000-121-066-0001, Rev. 0,

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1. Introduction

The Burk's Falls West Solar Project (the "Project") was developed in 2012 by Northland Power Inc. on behalf of Northland Power Solar Burk's Falls West L.P. ("Northland") under Renewable Energy Approval No. 5665-8YFKZU on November 21, 2012, as amended April 11, 2013.

Since the completion of construction in 2014, it has been identified that a portion of the built-up electrical substation yard is experiencing settlement and subsidence down the hill upon which it is founded. Geotechnical investigations have found that the perimeter support walls retaining the fill material under the substation yard are undersized, that some of the fill material is of poor quality and that the existing perimeter stormwater diversion channel (serves the substation and access road) is too close to the support walls allowing wash-out/undercutting to occur. Continued subsidence could have serious consequences in the event of a catastrophic avalanche and would likely cause the deposition of sand and soils in the nearby watercourse.

The proposed works would see a reinforcing of the substation retaining walls and the addition of rip-rap stone as extra mass against any unintended movement (all within the approved REA boundary) and the relocation of the perimeter stormwater diversion channel further away from the substation to prevent undercutting. The relocated stormwater diversion channel will be within the 30 m set-back established from a watercourse identified during the 2011 Site Investigations (Figure 1-1). The encroachment into the setback area is proposed to be approximately 6.6 m, thereby maintaining a 23.4 m setback from the watercourse. To complete the channel, approximately 204 m² of existing soils would be shaped, stabilized with rip/rap stone and revegetated; the discharge is not within a watercourse and as such, sediment or hydrology concerns are mitigated during storm events.

The Ontario Ministry of Natural Resources and Forestry was provided an updated Natural Heritage Report as per Sections 28 and 38 of the REA Regulation, as well as an Updated Water Body Report as per Sections 39 and 40 of the REA Regulation on March 27, 2017.

This report summarizes the proposed changes to the Project that necessitate a proposed REA amendment, including the rationale for the changes and identifies the amendments to each of the supporting documents prepared for the REA application to incorporate the proposed Project changes. This report also provides further information relating to the amendments with regard to the natural heritage and water body assessment provided to the Ontario Ministry of Natural Resources and Forestry (MNRF).

2. Proposed Project Changes

Attachment 1 contains the original site plan, while Attachment 2 contains a proposed revised site plan.

Table 2-1 provides a description of each proposed change, the rationale for the change, an assessment of potential for altered environmental effects and any additional mitigation or monitoring required.

Table 2-1: Table of Proposed Changes, Rationale for Change, Altered Effects and Additional Mitigation Measures and Monitoring

Change	Rationale for Change	Altered Effect	Additional Mitigation Required	Additional Environmental Effects Monitoring
Relocation and extension of a stormwater drainage channel	To reduce surface waters entering an area of unstable soils beneath a substation that are currently shifting	Minor alteration in boundary of Project location. Potential adverse effects include encroachment into surrounding natural heritage features as well as the encroachment into a watercourse 30 m setback.	None Required. Originally proposed mitigation measures will be maintained. Attachment 3 discusses in detail.	None required

The proposed channel will be constructed and installed consistent with the original Project as identified within the Construction Plan Report and the Design and Operations Report. All mitigation identified in the original REA application (e.g., sediment and erosion controls during construction, stormwater management measures) remain valid and will be applied or modified as necessary.

As a minor alteration to the Project location, the proposed changes are considered to be a Project Design Change to the Project's existing REA.

3. Summary of Revisions to REA Supporting Documents

This section identifies the amendments to each of the supporting documents submitted with the REA application documents that are required to address the proposed Project changes. The Burk's Falls West Solar Project REA supporting documents will all have a change to the size of the Project location area, as well as changes to the Site Plan.

An amendment document completed for the Natural Heritage Assessment and Environmental Impact Study has been provided to MNR for review. The originally completed Stage 1 and 2 Archaeological Assessment Report requires no revision as the required lands for the

proposed channel were included in the original Stage 1 and 2 Archaeological Survey. Accordingly, no re-confirmation letter from MTCS is required.

The following sections identify the amendments to those REA application documents which require additional modification.

3.1 Construction Plan Report

No additional solar module, inverter or transformer installation is proposed; existing Project infrastructure will be utilized for access to the proposed channel. See Figure 1-1b (Revised Project Location) attached.

3.2 Design and Operation Report

Table 3-1 outlines the changes to the Design and Operation Report.

Table 3-1: Design and Operation Report Amendments

Page	Section	Original Text	2013 Approved Amendment	Amended Text
10	3.3.1	Based on the results of the natural heritage and water body environmental studies, as identified above, constraints to development on the Project location include: A 30-m setback from the identified seepage areas and associated watercourse.	Based on the results of the natural heritage and water body environmental studies, as identified above, constraints to development on the Project location include: A 30-m setback from the identified seepage areas and associated watercourse.	Based on the results of the natural heritage and water body environmental studies, as identified above, constraints to development on the Project location include: A 30-m setback from the identified seepage areas and associated watercourse. With the exception of the proposed diversion channel around the substation.
12	3.2.4	As stated above, drainage channels may be required along access roads to manage run-off. The design of the drainage channels/swales will be in accordance with industry standards.	As stated above, drainage channels may be required along access roads to manage run-off. The design of the drainage channels/swales will be in accordance with industry standards.	As stated above, drainage channels may be required along access roads to manage run-off. An additional channel is required around the inverter # 7 and the substation to ensure soil stability. The design of the drainage channels/swales will be in accordance with industry standards.

3.3 Decommissioning Plan Report

No Changes – see Figure 1-1b (Revised Project Location) attached.

3.4 Heritage Assessment Report

No Changes – see Figure 1-1b (Revised Project Location) attached.

3.5 Project Description Report

Table 3-2 outlines the changes to the Project Description Report.

Table 3-2: Project Description Report Amendments

Page	Section	Original Text	2013 Approved Amendment	Amended Text
9	2.10 (Table 2.1- Surface Waters)	A 30-m setback will be put in place from all water bodies in accordance with provincial requirements and regulations.	A 30-m setback will be put in place from all water bodies in accordance with provincial requirements and regulations.	A 30-m setback will be put in place from all water bodies, with the exception of the watercourse located east of the substation, in accordance with provincial requirements and regulations.
9	2.10 (Table 2.1- Aquatic Habitats/Biota)	A 30-m setback will be put in place from all water bodies in accordance with provincial requirements and regulations.	A 30-m setback will be put in place from all water bodies in accordance with provincial requirements and regulations.	A 30-m setback will be put in place from all water bodies, with the exception of the watercourse located east of the substation, in accordance with provincial requirements and regulations.
10	2.10 (Table 2.1- Vegetation)	Loss of some vegetation on site. At least a 30-m buffer for the watercourses will be retained.	Loss of some vegetation on site. At least a 30-m buffer for the watercourses will be retained.	Loss of some vegetation on site. At least a 30-m buffer for the watercourses will be retained, with the exception of the watercourse located east of the substation.

3.6 Protected Properties Assessment

No changes.

3.7 Water Assessment Report

Changes to the Water Assessment and Environmental Impact Study have been addressed by a separate letter to the MNRF, which is provided as Attachment 3.

3.8 Natural Heritage Assessment and Environmental Impact Study

Changes to the Natural Heritage Assessment and Environmental Impact Study have been addressed by a separate letter to the MNRF, which is provided as Attachment 4.

3.9 Noise Assessment Study Report

No new noise emitting equipment will be installed nor will any existing noise emitting equipment be moved as such there is no noise concerns or concerns to receptors.

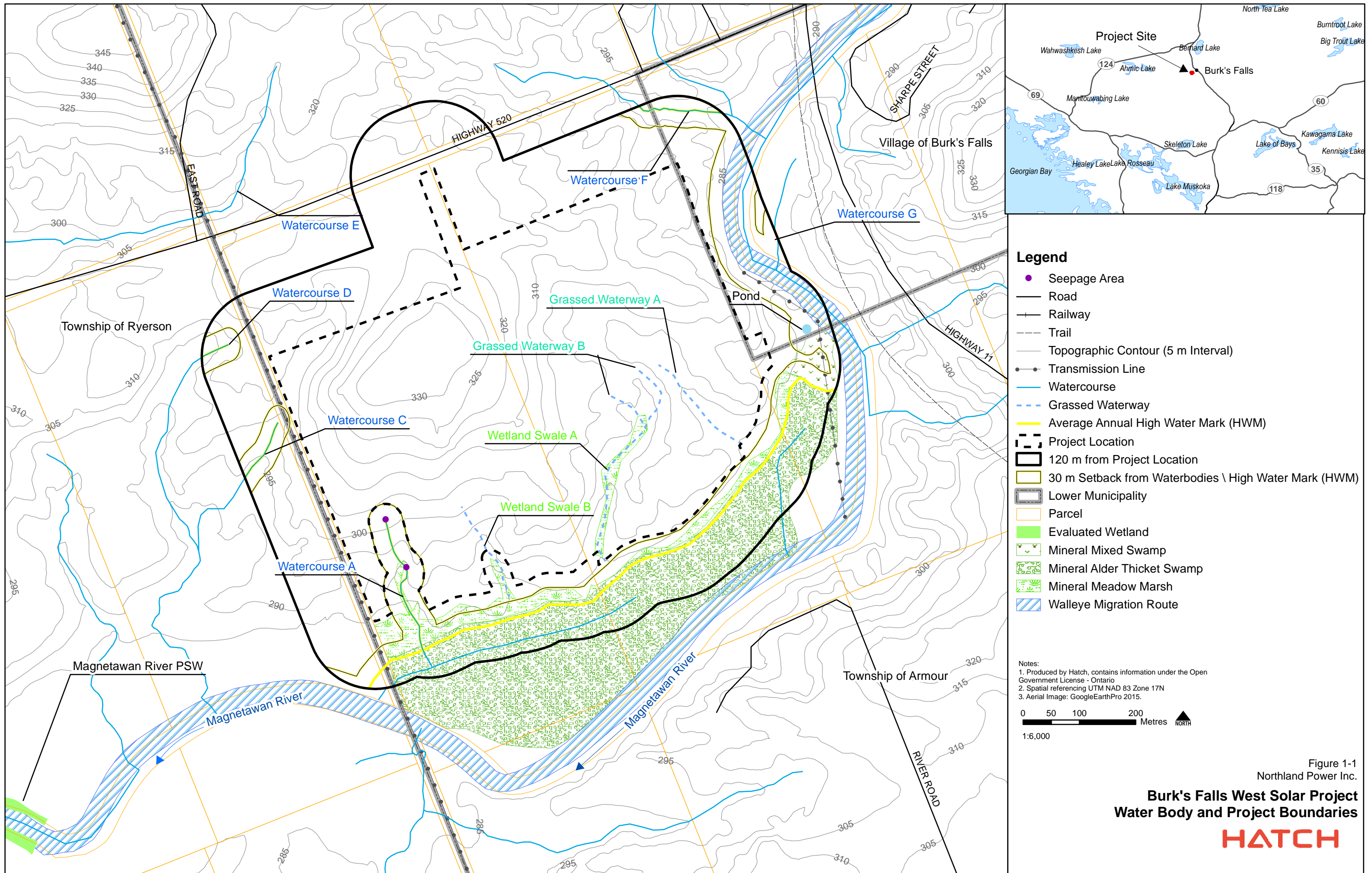
4. Conclusion

Given that the proposed changes outlined in this report result in only minor alterations in Project location, it is our assessment that these proposed changes are Project Design Changes and that a minor amendment to the existing REA for the Project will be required.

In accordance with the requirements for proceeding with a Project Design Change amendment, we will proceed with preparing the necessary stakeholder, landowner and public notifications in accordance with the requirements of Ontario Regulation 359/09. Once completed, information relating to this notification will be provided to the MOECC for consideration.

Appendix A

Original Project Location Figure



Legend

- Seepage Area
- Road
- Railway
- Trail
- Topographic Contour (5 m Interval)
- Transmission Line
- Watercourse
- Grassed Waterway
- Average Annual High Water Mark (HWM)
- Project Location
- 120 m from Project Location
- 30 m Setback from Waterbodies \ High Water Mark (HWM)
- Lower Municipality
- Parcel
- Evaluated Wetland
- Mineral Mixed Swamp
- Mineral Alder Thicket Swamp
- Mineral Meadow Marsh
- Walleye Migration Route

Notes:
 1. Produced by Hatch, contains information under the Open Government License - Ontario
 2. Spatial referencing UTM NAD 83 Zone 17N
 3. Aerial Image: GoogleEarthPro 2015.

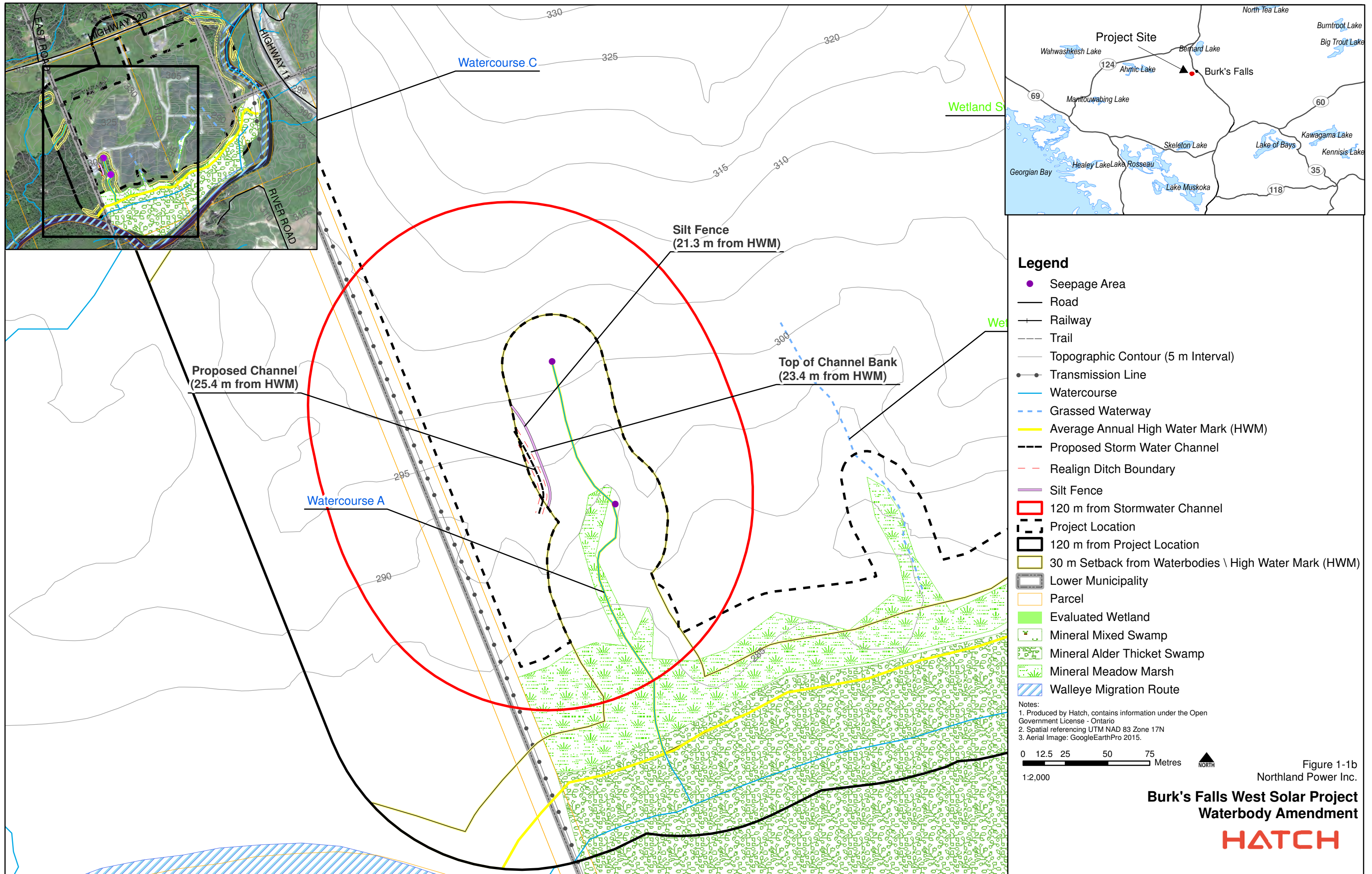
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Figure 1-1
 Northland Power Inc.
Burk's Falls West Solar Project
Water Body and Project Boundaries
HATCH

Appendix B

Revised Project Location Figure



Appendix C

Water Assessment Amendment Report

April 5, 2017

Mike Poskin
Renewable Energy Coordinator
Ontario Ministry of Natural Resources and Forestry
Regional Land Use Planning Team
4th Floor S
300 Water St.
Peterborough, On
K9J 8M5

Dear Mr. Poskin

Subject: Burk's Falls West - Amendment to the Project Location and Revisions to the Water Body Assessment Documentation

1. Introduction

The Burk's Falls West Solar Project (the "Project") was developed in 2012 by Northland Power Inc. on behalf of Northland Power Solar Burk's Falls West L.P. ("Northland") under Renewable Energy Approval (REA) No. 5665-8YFKZU on November 21, 2012, as amended April 11, 2013.

Since the completion of construction in 2014, it has been identified that a portion of the built-up electrical substation yard is experiencing settlement and subsidence down the hill upon which it is founded. Geotechnical investigations have found that the perimeter support walls retaining the fill material under the substation yard are undersized, that some of the fill material is of poor quality and that the existing perimeter stormwater diversion channel (serves the substation and access road) is too close to the support walls allowing wash-out/undercutting to occur. Continued subsidence could have serious consequences in the event of a catastrophic avalanche and would likely cause the deposition of sand and soils in the nearby watercourse.

The proposed works would see a reinforcing of the substation retaining walls and the addition of rip-rap stone as extra mass against any unintended movement (all within the approved REA boundary) and the relocation of the perimeter stormwater diversion channel further away from the substation to prevent undercutting. The relocated stormwater diversion channel will be within the 30 m set-back established from a watercourse identified during the 2011/2012 Site Investigations (Figure 1-1). The encroachment into the setback area is proposed to be approximately 6.6 m,

thereby maintaining a 23.4 m setback from the watercourse (Figure 1-1b). To complete the channel, approximately 204 m² of existing soils would be shaped, stabilized with rip/rap stone and revegetated; the discharge is not within a watercourse and as such, sediment or hydrology concerns are mitigated during storm events.

The purpose of this document is to update the 2011 Water body reports, taking into consideration a records review of the water body features documented on and within 120 m of the lands; and to provide confirmation that the existing water body features on and within 120 m of the lands are consistent to those noted in the original Water Body assessment.

1.1 Water Body Assessment Requirements and Background Information

Sections 30, and 31 of O. Reg. 359/09 require that a Water Body assessment be completed for all solar projects to determine whether there are waterbodies on or within 120 m of the Project Location; furthermore to determine if the project is located within 300 m of a Lake Trout (*Salvelinus namaycush*) Lake. Should such features be found present within the prescribed setbacks contained within the REA Regulation, Section 39 requires that an Environmental Impact Study be completed to confirm that impacts to water body features can be mitigated. With respect to the Project, the following reports were produced to satisfy these requirements:

- Burk's Falls West Solar Project – Water Body Records Review Report (Hatch Ltd., 2011a).
- Burk's Falls West Solar Project – Water Body Site Investigation Report (Hatch Ltd., 2011b).
- Burk's Falls West Solar Project – Water Body Evaluation of Significance (Hatch Ltd., 2012a).
- Burk's Falls West Solar Project – Field Study Report (Hatch Ltd. 2012) (Hatch Ltd., 2012b).

The Ontario Ministry of Natural Resources and Forestry provided a confirmation letter, as required by Sections 39 and 40 of O. Reg. 359/09, on September 2, 2011 as well as a secondary confirmation letter on November 8, 2012 regarding wetland boundaries (Attachment 1).

2. Records Review

The previously completed Water Body Records Review Report (Hatch Ltd., 2011a) completed a records review of approximately 120 m from the original Project Location. The results of the 2011 records review are summarized along with an updated review of records undertaken on March 15, 2017. The recent records review ensures any recent additions within the original 120 m search radius are incorporated and discussed in Table 1.

The review of records included

- Ontario Crown Lands Use Atlas (CLUPA) Mapping.
- Land Information Ontario database.
- Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Records.

- Department of Fisheries and Oceans (DFO) website.
- Natura Resources Canada (NRCAN) website.
- Burk’s Falls West Solar Project Water Body Records Review Report (Hatch Ltd., 2011a) hereinafter referred to as “WBRR Document.”
- Burk’s Falls West Solar Project Water Body Site Investigation Report (Hatch Ltd., 2011b) hereinafter referred to as “WBSI Document.”

An overview of the water body features are discussed in Table 1, including a summary of the WBRR Document.

Table 1 Water Body Features

Water body Feature	2011 Records Review	2017 Records Review
Is the Project in a water body?	No	No
Is the Project within 120 m of the average annual high water mark or a lake, other than a lake trout lake that is at or above development capacity?	No	No
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
Is the Project within 120 m of the average annual high water mark of a permanent or intermittent stream?	Yes; there are seven (7) permanent or intermittent streams on and within 120 m of the Project Location.	Yes; there are seven (7) 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

A review of the existing records confirmed that water body features noted in the WBRR (Hatch, 2011a), did not indicate the presence of any new features within 120 m of the Project Location nor are there any new Lake Trout Lakes within 300 m.

3. Site Investigation Methodology

3.1 Photographic Record

Northland representatives were on site September 1, 2016 and photographed the setback encroachment area for Hatch, to determine if Watercourse A (Figure 1-1) was still present and still within the same channel. Furthermore to confirm previous ecological land classifications identified in 2011.

4. Results of Site Investigation

4.1 General Site Description

The stormwater diversion channel is described as a mixture of old field meadow and cultural thicket with rip/rap material associated with the existing substation base foundation fill along the western boundary. Within 120 m of the proposed works Watercourse A (new watercourse A) was confirmed to still be present 30 m east of the Project fence.

4.2 Permanent or Intermittent Streams

The updated records review did not indicate any permanent or intermittent streams within 120 m of the Project Location. As stated during the in the Water Body Site Investigation Report (Hatch, 2011b), a watercourse not discovered during the Water Body Records Review (Hatch, 2011a) was observed in the southwestern portion of the property. It consists of a defined watercourse channel originated from several seepage zones and flowing south toward the Magnetawan River. Flow from the seepage areas was present during the 2011 and 2012 Site Investigations along with a defined channel with a variety of substrates including muck and rock (gravel and cobble). Wetland vegetation within and adjacent to the channel was predominately meadow marsh vegetation.

4.3 Lakes

During the 2011 Site Investigation, no lakes were observed on or within 120 m of the Project Location and no lake trout lakes are present within 300 m of the Project Location

4.4 Groundwater Seepage Areas

During the 2011 Site Investigation, several groundwater seepage areas were observed in the southwestern portion of the property. These seepage areas supply water to a short watercourse channel (Watercourse A – Figure 1-1), leading to the Magnetawan River.

4.5 Other Water body Features

No other water body features were observed within 120 m of the Project Location.

5. Environmental Impact Study

Section 39(1) of O. Reg. 359/09 prohibits the construction, installation or expansion of any component of a solar project within the following locations:

- a lake or within 30 m of the average annual high water mark of a lake
- a permanent or intermittent stream or within 30 m of the average annual high water mark of a permanent or intermittent stream
- a seepage area or within 30 m of a seepage area.

However, Section 39(2) allows proponents to construct Project components other than solar panels or transformers (e.g., access roads or distribution lines) within the locations noted above,

subject to the completion of an Environmental Impact Study to assess negative effects and required mitigation and monitoring measures.

Section 40(1) of O. Reg 359/09 prohibits construction, installation or expansion of any component of a solar project within the following locations:

- 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
- within 300 m of the average annual high water mark of a lake trout lake that is at or above development capacity
- within 120 m of the high water mark of a permanent or intermittent stream
- within 120 m of a seepage area.

However, Section 40(2) allows proponents to construct Project components within the locations noted above, subject to the completion of an Environmental Impact Study.

For the purpose of this amendment to the Environmental Impact Study, we will focus only on the proposed diversion channel to be located within 23.4 m of Watercourse A (Figure 1-1).

As per Sections 39 and 40 of O. Reg. 359/09 this Environmental Impact Study section will identify and assess any negative environmental effects of the Project on the waterbodies or lands within 30 m of the Watercourse A and identify and further mitigation measures with respect to any negative environmental effects not previous outlined in the Hatch 2011 Water Body Environmental Impact Study.

With the exception of the 30 m distance described in the Design and Operations Report and the Construction Plan Report all environmental effects monitoring and mitigation remains valid.

This Environmental Impact Study has been prepared to address these requirements for the construction of the diversion channel to encroach on Watercourse A 30 m setback reducing the setback to 23.4 m. Table 2 outlines proposed changes within Hatch’s 2011 Environmental Impact Study in order to facilitate this change.

Table 2 Proposed Changes within Hatch 2011 Environmental Impact Study

Section	Original Text	Amended Text
1.2	The Water Body Records Review Report (Hatch Ltd., 2011a) and Water Body Site Investigations Report (Hatch Ltd., 2011b) confirmed that the Project will be constructed between 30 and 120 m away from six watercourses and two seepage areas, as shown in Figure 1.1	The Water Body Records Review Report (Hatch Ltd., 2011a) and Water Body Site Investigations Report (Hatch Ltd., 2011b) confirmed that the Project will be constructed between 30 and 120 m away from five watercourses and two seepage areas, as shown in Figure 1.1 An exception to the 30 m setback is the

Section	Original Text	Amended Text
		encroachment of a diversion channel to within 23.4 m of Watercourse A (Figure 1-1).
4.1.1.3	No vegetation removal will be required within the 30-m buffer adjacent to any of the waterbodies.	No vegetation removal will be required within the 30-m buffer adjacent to any of the waterbodies. With the exception of the grading required for creation of the diversion channel located west of Watercourse A. (Figure 1-1).
4.2.1.1	Minimize the size of the cleared and disturbed areas at the construction site. Install limit of work devices to prevent the contractor from operating outside the defined construction area (e.g., silt fences at the edge of the 30-m setback around the waterbodies	Minimize the size of the cleared and disturbed areas at the construction site. Install limit of work devices to prevent the contractor from operating outside the defined construction area (e.g., silt fences at the edge of the applicable setbacks around the waterbodies
7	As discussed in the Water Body Records Review Report (Hatch Ltd., 2011a) and Water Body Site Investigations Report (Hatch Ltd., 2011b), some components of the Project will be located within 30 to 120 m of six watercourses and two seepage areas.	As discussed in the Water Body Records Review Report (Hatch Ltd., 2011a) and Water Body Site Investigations Report (Hatch Ltd., 2011b), some components of the Project will be located within 30 to 120 m of five watercourses and two seepage areas. With a project components (proposed channel) being 23.4 m from Watercourse
7	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.	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 in all instance with the exception of the proposed channel which maintains a setback of 23.4 m.

6. Conclusions

An updated records review on and within 120 m of the proposed channel resulted in no additional water body features being identified. No Lake Trout Lakes were identified within 300 m. In addition, Northland's 2016 site investigation/photographic record indicates watercourse A location remained unchanged. With the exception of the setback distance changing from 30 to 23.4 m, all Environmental Impact Study mitigation remains valid. The purpose of the proposed channel is to collect surface waters and discharge below the substation within the original Project Location.

7. References

- Government of Ontario. 2017. Crown Land Use Policy Atlas (CLUPA) Interactive Mapping. Available on-line at: <http://www.gisapplication.lrc.gov.on.ca/CLUPA/Index.html?site=CLUPA&viewer=CLUPA&locale=en-US>. Accessed on: March 15, 2017.
- Hatch Ltd., 2011a. Burk's Falls West Solar Project Water Body Records Review. 11 pp.
- Hatch Ltd., 2011b. Burk's Falls West Solar Project Water Body Site Investigation Report. 33 pp.
- Hatch Ltd., 2012. Burk's Falls West Solar Project Water Body Environmental Impact Study 37 pp.
- Hatch Ltd., 2012b Burk's Falls West Solar Project – Field Study Report
- Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2017. Agricultural Information Atlas. Available on-line at: <https://www.gisapplication.lrc.gov.on.ca/AIA/Index.html?viewer=AIA.AIA&locale=en-US>. Accessed March 15, 2017.
- Ontario Ministry of Natural Resources, November 2012. Natural Heritage Assessment Guide for Renewable Energy Projects. 109 pp.

We trust that you will find this information satisfactory. Should you have any questions with respect to the information contained herein, or wish to discuss these observations further, please contact the undersigned at (905) 490-0098 or caleb.coughlin@hatch.com.

Sincerely,



Caleb Coughlin
CC:lo'c

Attachments

Attachment 1 – NHA Confirmation Letters
Attachment 2 – Figure 1-1 and Figure 1-1b
Attachment 3 – Northland Photographs

Attachment 1

NHA Confirmation Letters

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.

November 8, 2012

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

RE: Modifications to Burk's Falls West Solar Project Wetland Boundaries

Dear Mr. Sean Male,

The Ministry of Natural Resources (MNR) has received the document dated November 1, 2012 which describes modifications to the Burk's Falls West Solar Project wetland boundaries made subsequent to MNR's letter confirming the Natural Heritage Assessment in respect of the project.

Upon review of the modifications, MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this letter as an addendum to the confirmation letter issued September 2, 2011 for the Burk's Falls West Solar Project.

If you wish to discuss, please contact me at amy.cameron@ontario.ca or 705-875-7481.

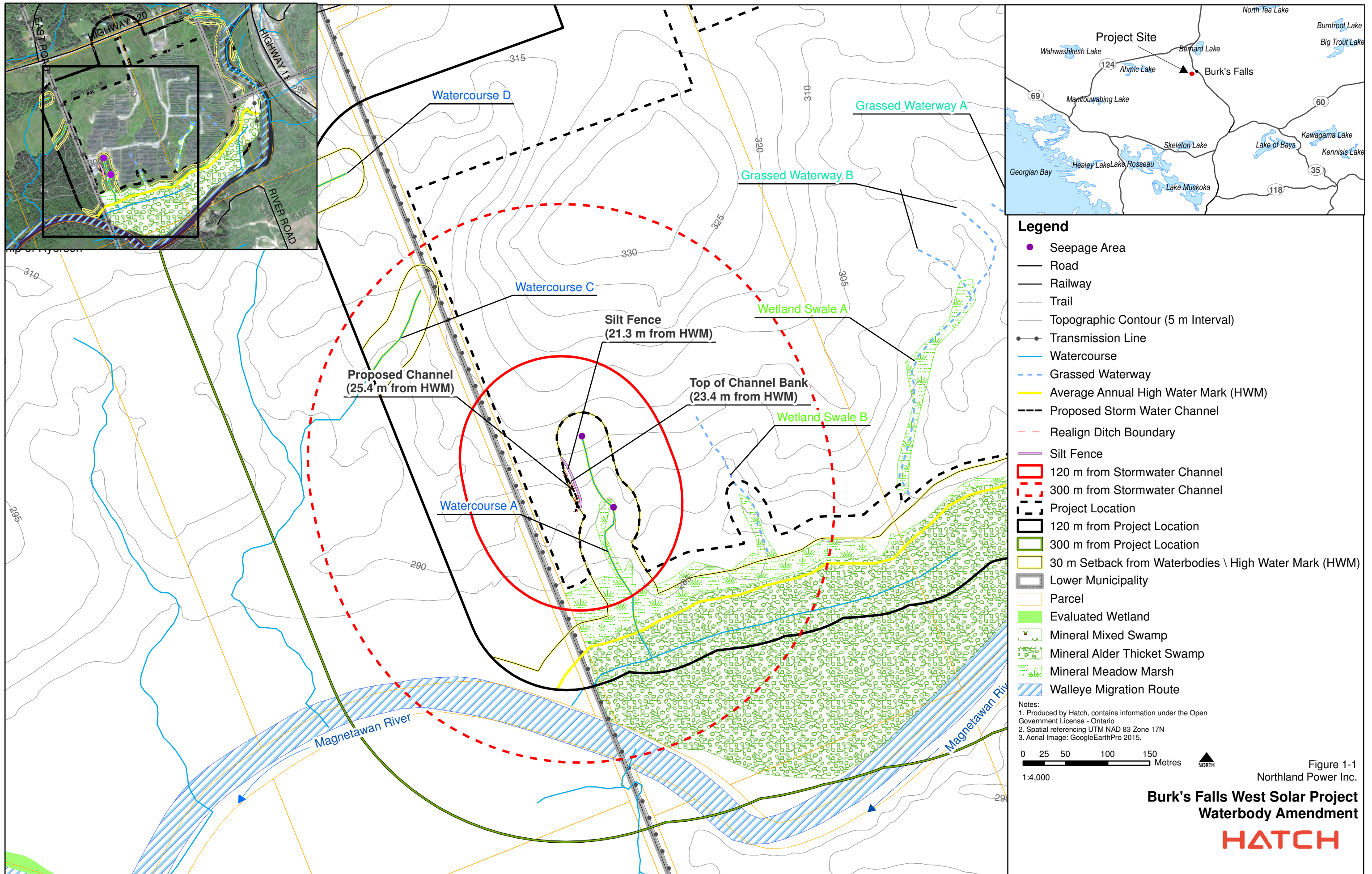
Sincerely,



Amy Cameron
Coordinator
Renewable Energy Operations Team
Southern Region MNR

cc Emily Gryck, Renewable Energy Operations Team, Project Manager, MNR
Erin Cotnam, Renewable Energy Operations Team, Project Manager, MNR
Jason Webb, Renewable Energy Operations Team, Planning Ecologist, MNR
Kathy Woeller, A/Parry Sound District Manager, MNR
Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE

Attachment 2
Figure 1-1 & 1-1b

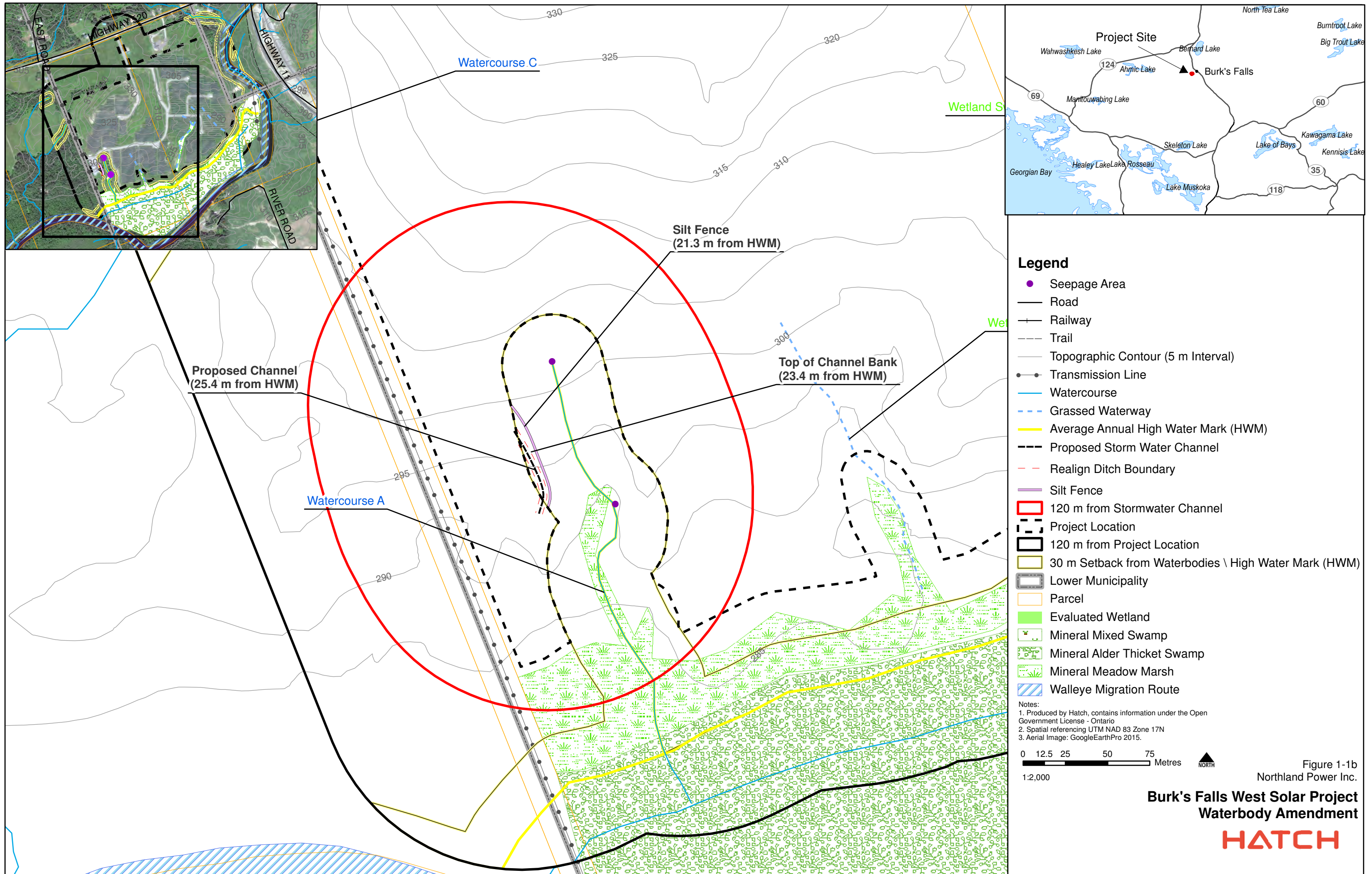


- Legend**
- Seepage Area
 - Road
 - +— Railway
 - - - Trail
 - Topographic Contour (5 m Interval)
 - Transmission Line
 - Watercourse
 - - - Grassed Waterway
 - Average Annual High Water Mark (HWM)
 - - - Proposed Storm Water Channel
 - - - Realign Ditch Boundary
 - Silt Fence
 - 120 m from Stormwater Channel
 - 300 m from Stormwater Channel
 - 120 m from Project Location
 - 300 m from Project Location
 - 30 m Setback from Waterbodies \ High Water Mark (HWM)
 - Lower Municipality
 - Parcel
 - Evaluated Wetland
 - Mineral Mixed Swamp
 - Mineral Alder Thicket Swamp
 - Mineral Meadow Marsh
 - Walleye Migration Route

Notes:
 1. Produced by Hatch, contains information under the Open Government License - Ontario
 2. Spatial referencing UTM NAD 83 Zone 17N
 3. Aerial Image: GoogleEarthPro 2015.

0 25 50 100 150 Metres
 1:4,000

Figure 1-1
 Northland Power Inc.
**Burk's Falls West Solar Project
 Waterbody Amendment**
HATCH



Attachment 3

Northland Photographs

Transect C (Photos East to West)



Figure 1 Looking Westward towards the Substation along Transect C



Figure 2 Looking Westward towards Substation along Transect C



Figure 3 Looking Westward towards Substation along Transect C



Figure 4 Looking Westward from Substation along Transect C

Transect A (Photos East to West)

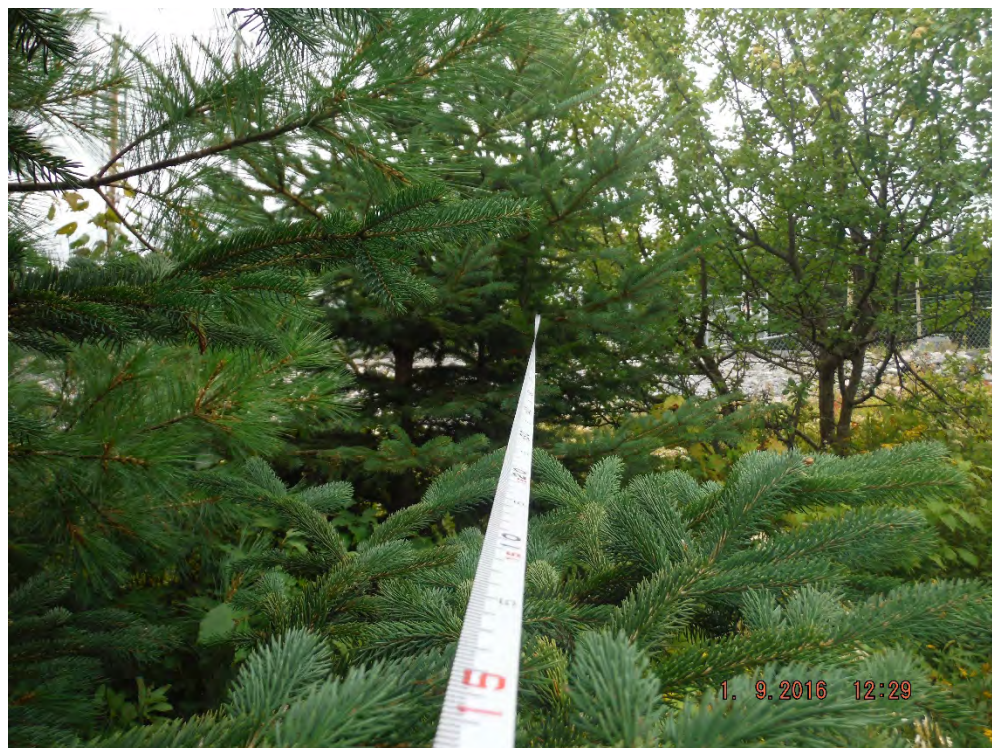


Figure 5 Looking Eastward towards Substation along Transect A



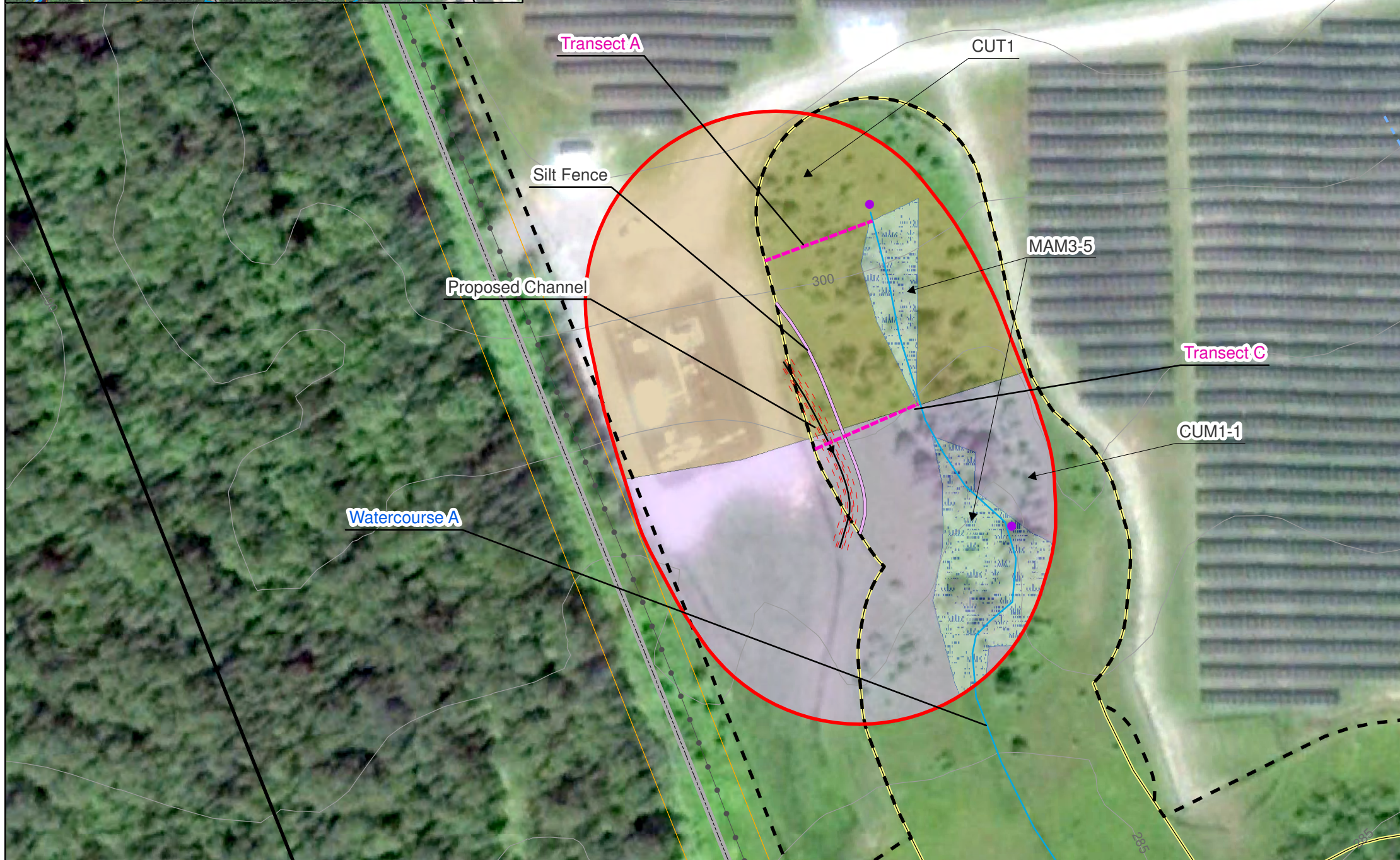
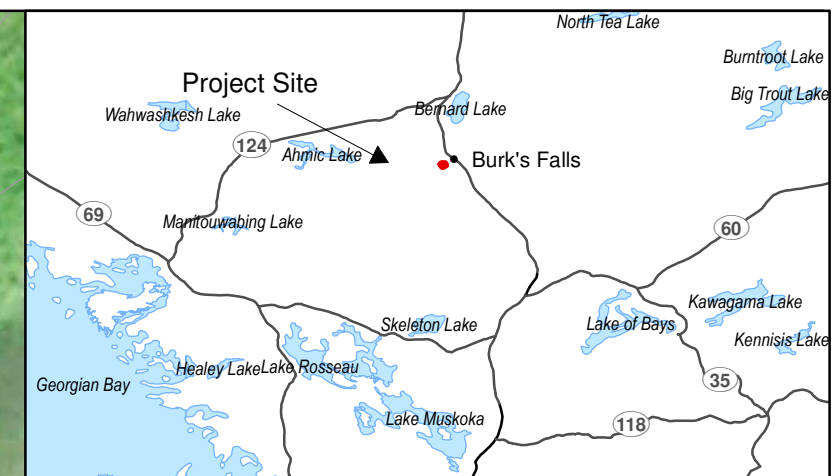
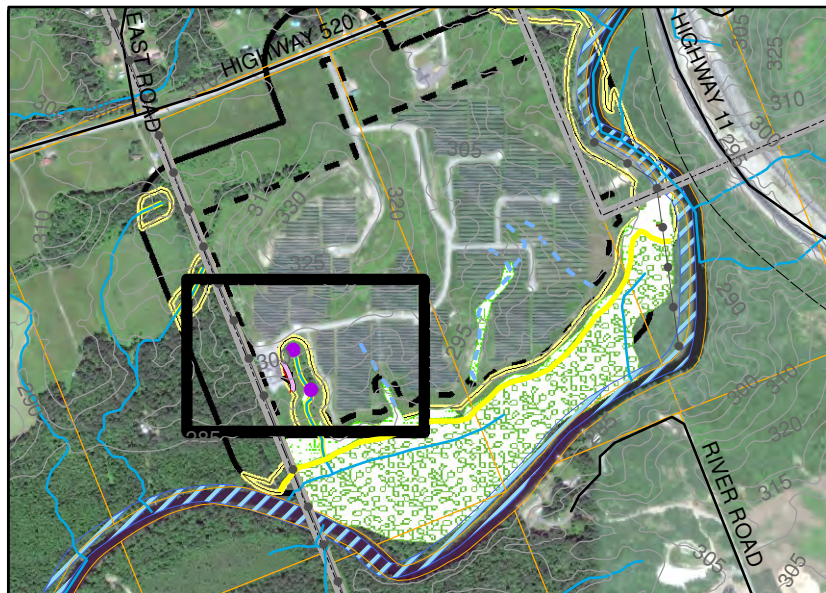
Figure 6 Looking Eastward Towards Substation Transect A



Figure 7 Looking Eastward towards Substation along Transect A



Figure 8 Looking Westwards from Substation along Transect



Legend

- Seepage Area
- Photo Transect
- Road
- +— Railway
- Trail
- Topographic Contour (5 m Interval)
- Transmission Line
- Watercourse
- Grassed Waterway
- Average Annual High Water Mark
- ▭ Stormwater Channel 50m Buffer
- ▭ Project Location
- ▭ 120 m from Project Location
- ▭ 30m Setback from Waterbodies\High Water Mark
- ▭ Lower Municipality
- ▭ Parcel
- ▭ Evaluated Wetland
- ▭ Walleye Migration Route

ELC Vegetation Communities

- ▭ CUM1-1 - Dry-Moist Old Field Meadow Type
- ▭ CUT1 - Mineral Cultural Thicket Ecosite
- ▭ MAM3-5 - Narrow Leaved Sedge Mineral Meadow Marsh

Notes:
 1. Produced by Hatch, contains information under the Open Government License - Ontario
 2. Spatial referencing UTM NAD 83 Zone 17N
 3. Aerial Image: GoogleEarthPro 2015.

0 5 10 20 30 Metres NORTH
 1:1,250

Figure A-1
 Northland Power Inc.
Burk's Falls West Solar Project
Photo Transects

Appendix D

Natural Heritage Amendment Report

April 5, 2017

Mike Poskin
Renewable Energy Coordinator
Ontario Ministry of Natural Resources and Forestry
Regional Land Use Planning Team
4th Floor S
300 Water St.
Peterborough, On
K9J 8M5

Dear Mr. Poskin:

Subject: Burk's Falls West- Amendment to the Project Location and Revisions to the Natural Heritage Assessment Documentation

1. Introduction

The Burk's Falls West Solar Project (the "Project") was developed in 2012 by Northland Power Inc. on behalf of Northland Power Solar Burk's Falls West L.P. ("Northland") under Renewable Energy Approval No. (REA) No. 5665-8YFKZU on November 21, 2012, as amended April 11, 2013.

Since the completion of construction in 2014, it has been identified that a portion of the built-up electrical substation yard is experiencing settlement and subsidence down the hill upon which it is founded. Geotechnical investigations have found that the perimeter support walls retaining the fill material under the substation yard are undersized, that some of the fill material is of poor quality and that the existing perimeter stormwater diversion channel (serves the substation and access road) is too close to the support walls allowing wash-out/undercutting to occur. Continued subsidence could have serious consequences in the event of a catastrophic avalanche and would likely cause the deposition of sand and soils in the nearby watercourse.

The proposed works would see a reinforcing of the substation retaining walls and the addition of rip-rap stone as extra mass against any unintended movement (all within the approved REA boundary) and the relocation of the perimeter stormwater diversion channel further away from the

substation to prevent undercutting. The relocated stormwater diversion channel will be within the 30 m set-back established from a watercourse identified during the 2011 Site Investigations (Figure 1-1). The encroachment into the setback area is proposed to be approximately 6.6 m, thereby maintaining a 23.4 m setback from the watercourse. To complete the channel, approximately 204 m² of existing soils would be shaped, stabilized with rip/rap stone and revegetated; the discharge is not within a watercourse and as such, sediment or hydrology concerns are mitigated during storm events.

The purpose of this document is to update the 2011 Natural Heritage Assessment (NHA) reports, taking into consideration a records review of the natural features documented on and within 120 m of the additional lands; and to provide confirmation that the existing natural features on and within 50 m of the lands are consistent to those noted in the original NHA assessment.

The Ontario Ministry of Natural Resources and Forestry provided a confirmation letter, as required by Sections 28 and 38 of the REA Regulation, on September 2, 2011 as well as secondary confirmation letter on November 8, 2012 regarding wetland boundary changes (Attachment 1).

1.1 Natural Heritage Assessment Requirements and Background Information

Sections 25, 26, and 27 of O. Reg. 359/09 require that a Natural Heritage Assessment be completed for all solar projects to determine whether there are significant or provincially significant natural heritage features on or within 50 m of the Project Location. Should such features be found present within the prescribed setbacks contained within the REA Regulation, Section 38 requires that an Environmental Impact Study be completed to confirm that impacts to the significant/provincially significant features can be mitigated. With respect to the Project, the following reports were produced to satisfy these requirements:

- Burk's Falls West Solar Project - Natural Heritage Records Review Report (Hatch Ltd., 2011a). (Note: At the time that this report was prepared the assessment requirement was within 120 m of the Project Location)
- Burk's Falls West Solar Project - Natural Heritage Site Investigation Report (Hatch Ltd., 2011b). (Note: At the time that this report was prepared the assessment requirement was within 120 m of the Project Location)
- Burk's Falls West Solar Project - Natural Heritage Evaluation of Significance (Hatch Ltd., 2011c). (Note: At the time that this report was prepared the assessment requirement was within 120 m of the Project Location)
- Burk's Falls West Solar Project – Environmental Impact Study (Hatch Ltd., 2011d). (Note: At the time that this report was prepared the assessment requirement was within 120 m of the Project Location)
- Burk's Falls West Solar Project – Field Study Report (Hatch Ltd. 2012) Wetland Evaluation

The Ontario Ministry of Natural Resources and Forestry provided a confirmation letter, as required by Sections 28 and 38 of O. Reg. 359/09, on September 2, 2011 (Attachment 1).

2. Records Review

The previously completed Natural Heritage Records Review Report (Hatch Ltd., 2011) completed a records review of approximately 120 m from the original Project Location. The results of the 2011 records review are summarized along with an updated review of records undertaken on February 27 and 28, 2017. The recent records review ensures any recent additions within the original 120 m search radius and the additional 50 m are incorporated and discussed in Tables 1 and 2.

The review of records included:

- Land Information Ontario database.
- MNRF Natural Heritage Information Centre (NHIC) and Biodiversity Explorer.
- Birds Canada - Atlas of Breeding Bird of Ontario (ABBO).
- Ontario Natures - Ontario Reptile and Amphibian Atlas (ORAA).
- Important Bird Areas Canada and National Wildlife Areas.
- Burk's Falls West Solar Project Natural Heritage Records Review Report (Hatch Ltd., 2011) hereinafter referred to as "NHA Records Review Document."
- Burk's Falls West Solar Project Site Investigation Review Report (Hatch Ltd., 2011) hereinafter referred to as "NHA Site Investigation Document."

An overview of the Natural Heritage Features is discussed in Table 1, including a summary of the NHA Records Review Document.

Table 1 Natural Heritage Features

Natural Heritage Feature	2011 Records Review	2017 Records Review
Wetlands	Unevaluated wetland within 120 m south of the project location. Magnetawan River Provincially Significant Wetland (PSW) within 1 km of the Project location.	Unevaluated wetland within 50 m south of the project location. Magnetawan River PSW within 1 km of the Project location.
Areas of Natural and Scientific Interest (ANSI)	Not Present.	Not Present.
Valleylands	Not Present.	Not Present (No longer Applicable under REA).
Woodlands	No significant Woodlands are	No significant Woodlands are

Natural Heritage Feature	2011 Records Review	2017 Records Review
	present within 120 m of the Project Location	present within 50 m of the Project Location
Provincial Parks and Conservation Reserves	Not Present.	Not Present.

The NHA Records Review Document did not identify the presence of any wildlife habitat features. Furthermore, a review of existing records does not indicate the presence of any seasonal concentration areas, rare vegetation communities, specialized habitats, or animal movement corridors. However; the review of the OBBA (Grid # 17PL25) indicated two (2) additional species of conservation concern (Table 2) potentially residing on or within 50 m of the additional lands not listed during the original 2011 records review. These species were upgraded to Special Concern as of June 24, 2014. Additional species of conservation concern from those previously outlined in the 2011 NHA Records Review Document are provided in Table 2 below.

Table 2 Newly Identified Species of Conservation Concern

Species Name	Conservation Status	
	S-Ranked	SARO
Eastern Wood Pewee (<i>Contopus virens</i>)	S4B	Special Concern
Wood Thrush (<i>Hylochichla mustelina</i>)	S4B	Special Concern

The 2016 review of ORRA (Grid # 17PL25) did not indicate the presence of any new species of conservation concern on or within 120 m of the Project Location. As of June 15, 2016, the Eastern Milksnake (*Lampropeltis triangulum*) identified in the 2011 NHA Records Review Document, is no longer designated as Special Concern and removed from the Species at Risk in Ontario.

These additional species will be considered during subsequent stages of the natural heritage assessment.

3. Site Investigation Methodology

3.1 Photographic Record

Northland representatives were on site September 1, 2016 and photographed the setback encroachment area for Hatch, to determine if any changes have occurred to the terrestrial flora since the 2011 NHA Site Investigation Document.

4. Results of Site Investigation

4.1 General Site Description

The stormwater diversion channel is described as a mixture of old field meadow and cultural thicket with rip/rap material associated with the existing substation base foundation fill along the western boundary. Photographs and measurements provided by Northland site representatives have confirmed the existing 30 m distance to the watercourse. Photographs provided in

Figure 1-1 and within Attachment 4 also confirm the Ecological Land Classification communities of Mineral Cultural Thicket and Dry-Moist Old Field Meadow (as identified in Figure 4-1) remain valid, although have progressed in succession.

4.2 Vegetation Observations

Natural vegetation communities have been identified on and within 50 m of the proposed channel and include thickets, meadows and wetlands. A discussion regarding these vegetation communities is provided below.

4.2.1 Wetland Communities

The Land Information Ontario (LIO) mapping identified an unevaluated wetland within 50 m, south of the Project Location. Hatch 2012 site visits confirmed the presence of this wetland and determined that it extends beyond the area shown on the LIO mapping. The wetland communities are described further below, and locations of communities are shown in Figure 4-1.

4.2.1.1 *Narrow-leaved Sedge Mineral Meadow Marsh (MAM3-5)*

This wetland community transitions from the alder thicket swamp to upland meadow communities. The community exists as a narrow band, 20 to 75 m wide, of vegetation between these two communities, and along the bottoms of drainage channels coming off the upland areas. Sedges dominated the vegetation community with green, beaked, awl fruited and small fruited sedges recorded. Horsetails, golden rods, and Canada blue joint grass was also present although primarily on the peripheries or any slightly higher topography areas within the marsh. Three narrow fingers extend northward within project location. The most western of the three follows a small watercourse to its origin, a seepage area located on a hill side. The other two fingers are low-lying areas which drain the project location. With no defined channel or observations of flow during any of the field visits, these are not considered either permanent or intermittent watercourses.

4.2.2 Cultural Vegetation Communities

In addition to the wetland communities described above, there are cultural vegetation communities recorded on and within 50 m of the proposed channel location. These communities are described as a Cultural Meadow (CUM) and a Cultural Thicket (CUT).

Cultural meadow areas were maintained in a cultural meadow state as a result of past agricultural use (e.g. lands actively used for production of hay/pasture of livestock). The communities have begun to transition into more thicket type habitat as a result of ceased agricultural practices however still appear to be predominantly CUM. There are scattered shrubs throughout the cultural meadow community on the proposed channel location.

The cultural thicket community exists within the northern portion of the proposed channel and 50 m setback, and consists of a mix of weedy species and immature tree species (balsam fir and poplar).

4.3 Wildlife Observations

Wildlife species observed within the Project Location during the time of the 2011 site investigation are listed in Table 3. All species are expected to have the potential to inhabit and/or utilize the proposed channel or 50 m setback, outside the existing project Location.

Table 3 Wildlife Species Observed within the Project Location

Common Name	Scientific Name	Rank		At Risk Status	
		Global (GRank)	Provincial (SRank)	COSEWIC	SARO
Mammals					
Moose	<i>Alces alces</i>	G5	S5	-	-
White-tailed Deer	<i>Odocoileus virginianus</i>	G5	S5	-	-
Skunk	<i>Mephitis mephitis</i>	G5	S5	-	-
Snowshoe Hare	<i>Lepus americanus</i>	G5	S5	-	-
Birds					
Canada Goose	<i>Branta canadensis</i>	G5	S5	-	-
Mallard	<i>Anas platyrhynchos</i>	G5	S5	-	-
Wood Duck	<i>Aix sponsa</i>	G5	S5	-	-
Ring-billed Gull	<i>Larus delawarensis</i>	G5	S5	-	-
Turkey Vulture	<i>Cathartes aura</i>	G5	S5B	-	-
American Woodcock	<i>Scolopax minor</i>	G5	S4B	-	-
Ruffed Grouse	<i>Bonasa umbellus</i>	G5	S4	-	-
Mourning Dove	<i>Zenaidura macroura</i>	G5	S5	-	-
American Crow	<i>Corvus brachyrhynchos</i>	G5	S5B	-	-
Common Raven	<i>Corvus corax</i>	G5	S5	-	-
Blue Jay	<i>Cyanocitta cristata</i>	G5	S5	-	-
Belted Kingfisher	<i>Megaceryle alcyon</i>	G5	S4B	-	-
Northern Flicker	<i>Colaptes auratus</i>	G5	S4B	-	-
Downy Woodpecker	<i>Picoides pubescens</i>	G5	S5	-	-
White-breasted Nuthatch	<i>Sitta carolinensis</i>	G5	S5	-	-
Red-eyed Vireo	<i>Vireo olivaceus</i>	G5	S5B	-	-
Willow Flycatcher	<i>Empidonax traillii</i>	G5	S5B	-	-
Swainson's Thrush	<i>Catharus ustulatus</i>	G5	S4B	-	-
Veery	<i>Catharus fuscescens</i>	G5	S4B	-	-
American Robin	<i>Turdus migratorius</i>	G5	S5B	-	-
Black-capped Chickadee	<i>Poecile atricapillus</i>	G5	S5	-	-
Cedar Waxwing	<i>Bombycilla cedrorum</i>	G5	S5B	-	-
Indigo Bunting	<i>Passerina cyanea</i>	G5	S4B	-	-
Common Yellowthroat	<i>Geothlypis trichas</i>	G5	S5B	-	-
Mourning Warbler	<i>Oporornis philadelphia</i>	G5	S4B	-	-
Black-and-White Warbler	<i>Mniotilta varia</i>	G5	S5B	-	-

Common Name	Scientific Name	Rank		At Risk Status	
		Global (GRank)	Provincial (SRank)	COSEWIC	SARO
Ovenbird	<i>Seiurus aurocapilla</i>	G5	S5B	-	-
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	G5	S5B	-	-
Black-throated Green Warbler	<i>Dendroica virens</i>	G5	S5B	-	-
American Redstart	<i>Setophaga ruticilla</i>	G5	S5B	-	-
American Goldfinch	<i>Carduelis tristis</i>	G5	S5	-	-
Common Grackle	<i>Quiscalus quiscula</i>	G5	S5B	-	-
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	G5	S4	-	-
Eastern Meadowlark	<i>Sturnella magna</i>	G5	S4B	-	-
European Starling	<i>Sturnus vulgaris</i>	G5	SE	-	-
White-throated Sparrow	<i>Zonotrichia albicollis</i>	G5	S5B	-	-
Chipping Sparrow	<i>Spizella passerina</i>	G5	S5B	-	-
Clay-Colored Sparrow	<i>Spizella pallida</i>	G5	S4B	-	-
Song Sparrow	<i>Melospiza melodia</i>	G5	S5B	-	-
Savannah Sparrow	<i>Passerculus sandwichensis</i>	G5	S4B	-	-
Amphibians					
Spring Peeper	<i>Pseudacris crucifer</i>	G5	S5	-	-
Western Chorus Frog	<i>Pseudacris triseriata</i>	G5	S3	THR	-
Northern Leopard Frog	<i>Rana pipiens</i>	G5	S5	-	-
American Toad	<i>Bufo americanus</i>	G5	S5	-	-
Gray Treefrog	<i>Hyla versicolor</i>	G5	S5	-	-
Green Frog	<i>Rana clamitans</i>	G5	S5	-	-
Wood Frog	<i>Rana sylvatica</i>	G5	S5	-	-
Acronyms/Definitions					
Global					
G5 – Very common (demonstrably secure under present conditions)					
G4 – Apparently Secure (Uncommon but not rare)					
T – Denotes that the rank applies to a subspecies or variety.					
Provincial					
S5 – Secure (Common, widespread, and abundant in the nation or state/province)					
S4 – Apparently Secure (Uncommon but not rare; some cause for long-term concern due to declines or other factors)					
B – Designation applies to a breeding population					
At Risk Status					
COSEWIC Committee on the Status of Endangered Wildlife in Canada					
SARO Species at Risk in Ontario					
THR Threatened					

4.4 Identification of Natural Heritage Features

4.4.1 Area of Natural and Scientific Interest

The NHA Records Review Document (Hatch Ltd., 2011a) and updated records review do not indicate the presence of any ANSI. Therefore, no further evaluation is required.

4.4.2 Woodlands

No additional significant woodlands were identified on or within 50 m of proposed channel location.

4.4.3 Valleylands

Though required to be assessed at the time of NHA Records Review Document, this is no longer required under O. Reg. 359/09.

4.4.4 Wetlands

No additional wetlands are identified within Hatch Ltd., 2011.

4.4.5 Wildlife Habitat

The updated records review indicates the presence of two (2) additional species of conservation concern.

Table 4 identifies these species, their habitat requirements and presence with the Project Location during the breeding bird surveys as documented in the NHA Records Review Document (Hatch, 2011a) and NHA Site Investigations (Hatch 2011b).

Table 4 Additional Species of Conservation Concern

Species Name	Habitat Characteristics	Habitat – Identified within 50 m of the Proposed Channel
Eastern Wood Pewee	Mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation. (Ontario 2015)	No
Wood Thrush	Lives in mature deciduous and mixed (conifer-deciduous) forests. These birds prefer large forests, but will also use smaller stands of trees. (Ontario 2015)	No

5. Evaluation of Significance

The mitigation measures within the Burk's Falls Solar Project - Natural Heritage Evaluation of Significance Report (Hatch Ltd., 2011d) will continue to be implemented for the proposed channel. The proposed channel is not within 50 m of any provincially significant features, and accordingly no additional mitigation is proposed.

6. Conclusions

An updated records review on and within 50 m of the proposed channel resulted in no additional natural features being identified. The updated consideration of species of conservation concern indicates no additional wildlife habitat. In addition, Northland's 2016 photographs indicate 2011 ELC communities remain unchanged. No new significant features were identified within 50 m of the proposed channel.

7. References

- Bird Studies Canada, Ontario Field Ornithologists, Environment Canada, Ontario Nature, and Ontario Ministry of Natural Resources, 2006. Ontario Breeding Bird Atlas Internet Site. Accessed on February 27, 2017. Available Online at: <http://www.birdsontario.org/atlas/index.jsp>
- Government of Ontario, 2015. *Eastern Wood Pewee*. Ministry of Natural Resources and Forestry. Peterborough, ON, Canada. Available Online at: <https://www.ontario.ca/page/eastern-wood-pewee>
- Government of Ontario, 2014. *Natural Heritage Areas Make A Map*. Ministry of Natural Resources. Accessed on February 27, 2017. Available Online at: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US
- Government of Ontario, 2015. *Species at Risk in Ontario List*. Ministry of Natural Resources and Forestry, Peterborough, ON, Canada. Available Online at: <https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>
- Government of Ontario, 2015. *Wood Thrush*. Ministry of Natural Resources and Forestry, Peterborough, ON, Canada. Available Online at: <https://www.ontario.ca/page/wood-thrush>
- Hatch Ltd., 2011a. Burk's Falls West Solar Project Natural Heritage Records Review. 22 pp.
- Hatch Ltd., 2011b. Burk's Falls West Solar Project Natural Site Investigation Report. 76 pp.
- Hatch Ltd., 2011c. Burk's Falls West Solar Project Natural Heritage Evaluation of Significance Report. 21 pp.
- Hatch Ltd., 2011d. Burk's Falls West Solar Project Natural Heritage Environmental Impact Assessment Report.
- Hatch Ltd., 2012 Burk's Falls West Solar Project Field Study Report.
- Ontario Ministry of Natural Resources, November 2012. Natural Heritage Assessment Guide for Renewable Energy Projects. 109 pp.

Mike Poskin
Renewable Energy Coordinator
Ontario Ministry of Natural Resources and Forestry
April 5, 2017

- Ontario Nature, 2016. Ontario Reptile and Amphibian Atlas Program. Accessed on February 27, 2017. Available on line at:
http://www.ontarionature.org/protect/species/herpetofaunal_atlas.php.

We trust that you will find this information satisfactory. Should you have any questions with respect to the information contained herein, or wish to discuss these observations further, please contact the undersigned at (905) 490-0098 or caleb.coughlin@hatch.com.

Sincerely,



Caleb Coughlin
CC:lo'c

Attachments

Attachment 1 – NHA Confirmation Letters
Attachment 2 – Figure 1-1
Attachment 3 – Figure 4-1
Attachment 4 – Northland Photographs

Attachment 1

NHA Confirmation Letters

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.

November 8, 2012

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

RE: Modifications to Burk's Falls West Solar Project Wetland Boundaries

Dear Mr. Sean Male,

The Ministry of Natural Resources (MNR) has received the document dated November 1, 2012 which describes modifications to the Burk's Falls West Solar Project wetland boundaries made subsequent to MNR's letter confirming the Natural Heritage Assessment in respect of the project.

Upon review of the modifications, MNR is satisfied that the Natural Heritage Assessment requirements of Ontario Regulation 359/09 have been met. Please add this letter as an addendum to the confirmation letter issued September 2, 2011 for the Burk's Falls West Solar Project.

If you wish to discuss, please contact me at amy.cameron@ontario.ca or 705-875-7481.

Sincerely,

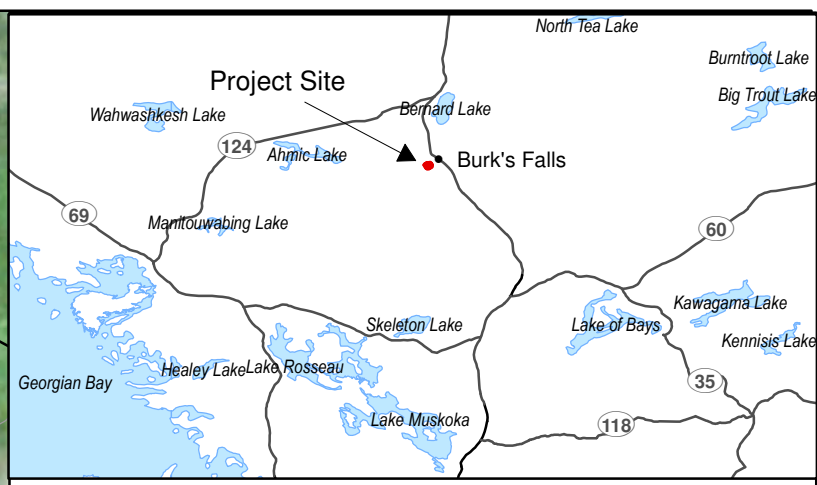


Amy Cameron
Coordinator
Renewable Energy Operations Team
Southern Region MNR

cc Emily Gryck, Renewable Energy Operations Team, Project Manager, MNR
Erin Cotnam, Renewable Energy Operations Team, Project Manager, MNR
Jason Webb, Renewable Energy Operations Team, Planning Ecologist, MNR
Kathy Woeller, A/Parry Sound District Manager, MNR
Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE

Attachment 2

Figure 1-1



Legend

- Seepage Area
- Road
- Railway
- - - Trail
- Topographic Contour (5 m Interval)
- Transmission Line
- Watercourse
- - - Grassed Waterway
- Average Annual High Water Mark
- ➔ Proposed Storm Water Channel
- - - Realign Ditch Boundary
- Silt Fence
- ▭ Lower Municipality
- ▭ Parcel
- ▭ Project Location
- ▭ 120 m from Project Location
- ▭ 30m Setback from Waterbodies/High Water Mark
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- ▭ Mineral Mixed Swamp
- ▭ Mineral Alder Thicket Swamp
- ▭ Mineral Meadow Marsh
- ▭ Walleye Migration Route

Notes:
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 2. Spatial referencing UTM NAD 83 Zone 17N
 3. Aerial Image: GoogleEarthPro 2015.

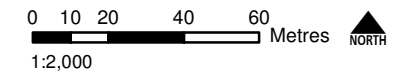
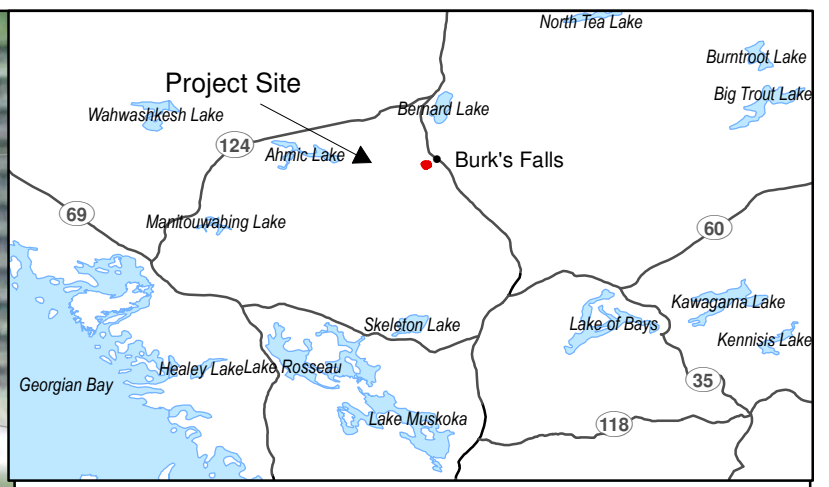
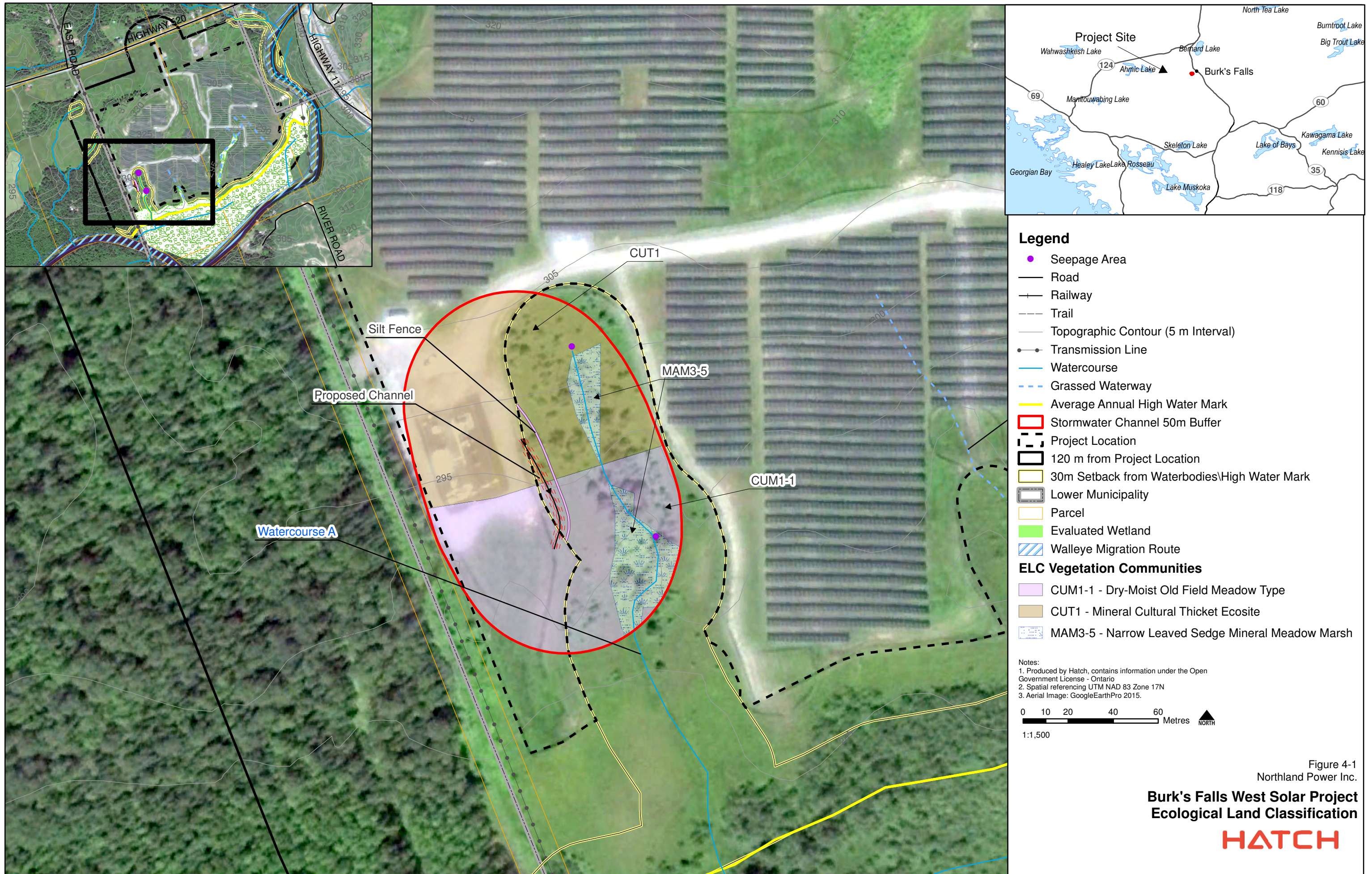


Figure 1-1
 Northland Power Inc.
Burk's Falls West Solar Project
Proposed Stormwater
Channel Realignment
HATCH

Attachment 3

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- Legend**
- Seepage Area
 - Road
 - +— Railway
 - - - Trail
 - Topographic Contour (5 m Interval)
 - Transmission Line
 - Watercourse
 - - - Grassed Waterway
 - Average Annual High Water Mark
 - ▭ Stormwater Channel 50m Buffer
 - ▭ Project Location
 - ▭ 120 m from Project Location
 - ▭ 30m Setback from Waterbodies\High Water Mark
 - ▭ Lower Municipality
 - ▭ Parcel
 - ▭ Evaluated Wetland
 - ▭ Walleye Migration Route
- ELC Vegetation Communities**
- ▭ CUM1-1 - Dry-Moist Old Field Meadow Type
 - ▭ CUT1 - Mineral Cultural Thicket Ecosite
 - ▭ MAM3-5 - Narrow Leaved Sedge Mineral Meadow Marsh

Notes:
 1. Produced by Hatch, contains information under the Open Government License - Ontario
 2. Spatial referencing UTM NAD 83 Zone 17N
 3. Aerial Image: GoogleEarthPro 2015.

0 10 20 40 60 Metres NORTH
 1:1,500

Figure 4-1
 Northland Power Inc.
**Burk's Falls West Solar Project
 Ecological Land Classification**
HATCH

Attachment 4

Northland Photographs

Transect C (Photos East to West)



Figure 1 Looking Westward towards the Substation along Transect C



Figure 2 Looking Westward towards Substation along Transect C



Figure 3 Looking Westward towards Substation along Transect C



Figure 4 Looking Westward from Substation along Transect C

Transect A (Photos East to West)

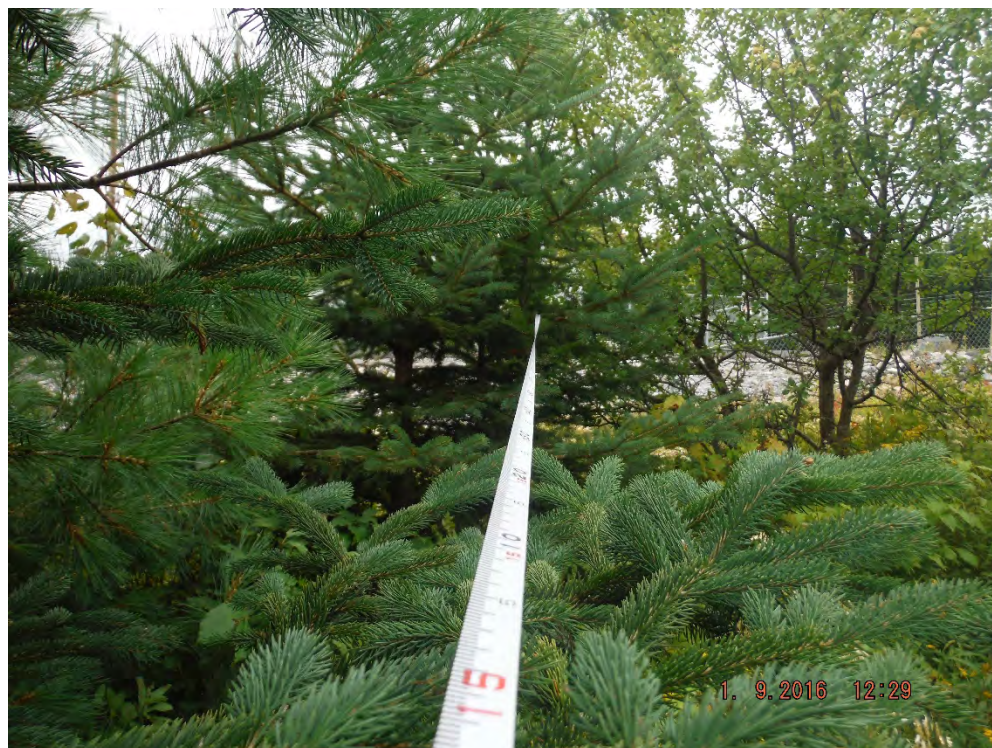


Figure 5 Looking Eastward towards Substation along Transect A



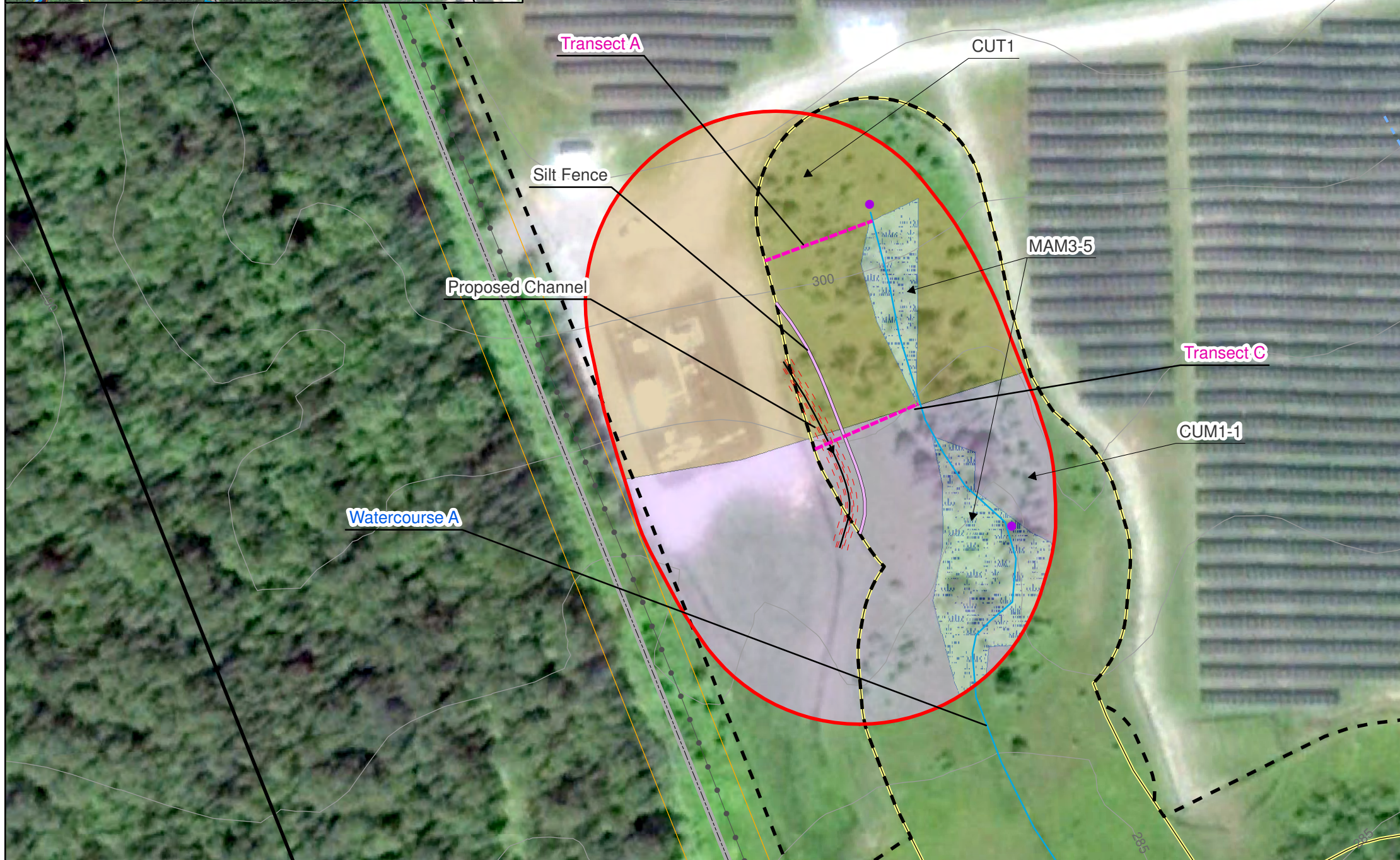
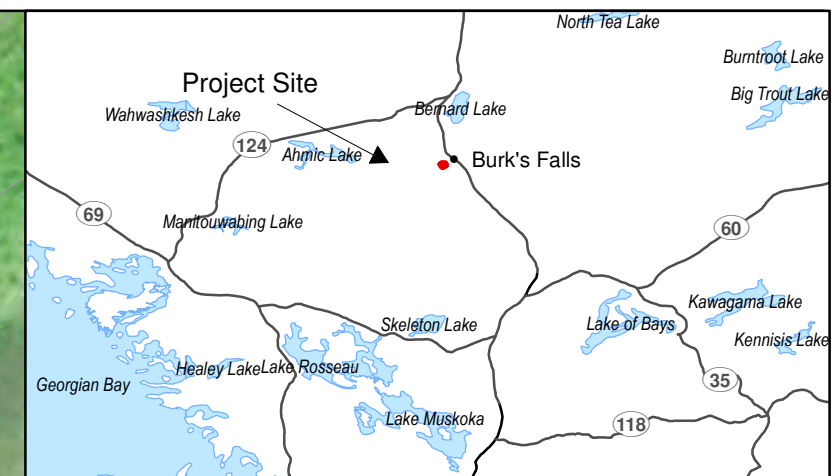
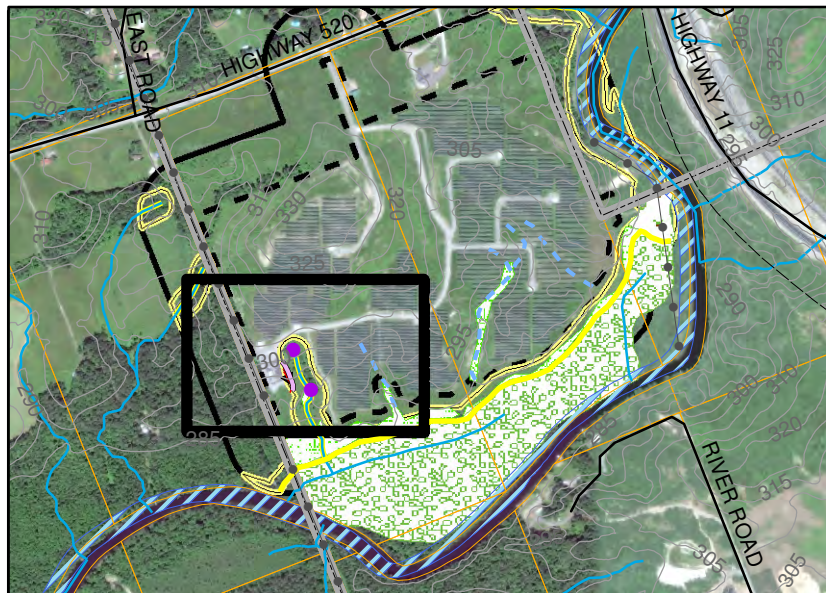
Figure 6 Looking Eastward Towards Substation Transect A



Figure 7 Looking Eastward towards Substation along Transect A



Figure 8 Looking Westwards from Substation along Transect



Legend

- Seepage Area
- Photo Transect
- Road
- + Railway
- Trail
- Topographic Contour (5 m Interval)
- Transmission Line
- Watercourse
- Grassed Waterway
- Average Annual High Water Mark
- Stormwater Channel 50m Buffer
- Project Location
- 120 m from Project Location
- 30m Setback from Waterbodies\High Water Mark
- Lower Municipality
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- Evaluated Wetland
- ▨ Walleye Migration Route

ELC Vegetation Communities

- CUM1-1 - Dry-Moist Old Field Meadow Type
- CUT1 - Mineral Cultural Thicket Ecosite
- MAM3-5 - Narrow Leaved Sedge Mineral Meadow Marsh

Notes:
 1. Produced by Hatch, contains information under the Open Government License - Ontario
 2. Spatial referencing UTM NAD 83 Zone 17N
 3. Aerial Image: GoogleEarthPro 2015.

0 5 10 20 30 Metres

1:1,250

Figure A-1
 Northland Power Inc.
Burk's Falls West Solar Project
Photo Transects
HATCH