



Memo

Project No. 0983-A

To: Amy Cameron

From: Andrew Ryckman

Date: January 8, 2013

**Re: Silvercreek Solar Park
Pre-Construction Survey Results**

Natural Resource Solutions Inc. (NRSI) was retained in October 2009 by ORTECH Power, on behalf of Silvercreek Solar Park Inc., to conduct a natural heritage assessment in accordance with the Renewable Energy Approval (REA) Regulation (O. Reg. 359/09 of the Environmental Protection Act). This assessment included a records review, site investigation, evaluation of significance, and impact assessment of any potentially significant natural features at the proposed 10MW solar energy facility in Malahide Township, part of Elgin County, Ontario.

The proposed Silvercreek Solar Park is located approximately 7.5km south of the Town of Aylmer, Ontario and is proposed to consist of a total of 44 solar panel blocks forming 1 array, as well as supporting infrastructure and development activities. This includes access roads, inverters/transformers and electrical cabling, perimeter fencing, a 34.5 kV distribution line, a 115kV transmission line, and transformer substation. As identified in the REA Regulation, the proposed layout of these features is collectively referred to as the 'project location'. For the purposes of this memo, NRSI will refer to the areas within 120m of the project location as the 'project area'.

The records review, site investigation, evaluation of significance, and environmental impact study (EIS) for the Silvercreek Solar Park were completed by NRSI as part of the Natural Heritage Assessment (NHA). The Silvercreek Solar Park NHA (NRSI 2012) confirmation was granted on July 9, 2012 by the Ministry of Natural Resources' (MNR) Renewable Energy Operations Team, and was re-confirmed on November 20, 2012 following minor modifications to the project location. These letters of confirmation are provided in Appendix I. As part of this confirmation, some pre-construction commitments were identified, including the commitment for the proponent to inform the MNR of the results of pre-construction surveys conducted to confirm or deny the significance of wildlife habitats assumed significant for the purposes of the NHA.

Several candidate significant natural features, including woodlands, wetlands, valleylands, and wildlife habitats, were identified within 120m of the project location in

the site investigation. An evaluation of significance for any candidate significant natural features identified during the site investigation was completed, and mitigation measures, performance objectives, monitoring, and contingency measures were outlined for significant natural features in the Environmental Impact Study. Each of these components was completed in accordance with Section 25, 26, 27, and 38 of the REA Regulation, respectively.

In the NHA, a single candidate significant wildlife habitat was unable to be surveyed during the appropriate season for the presence of wildlife as a result of the timing of the project and submission of the reports. In order to ensure this wildlife habitat, if significant, remains protected during the construction, operation, and decommissioning of this project, it was treated as significant in the evaluation of significance report, and a commitment was made in the EIS to conduct surveys during the appropriate season prior to construction of the project to determine the significance of the wildlife habitat. Mitigation measures, performance objectives, monitoring, and contingency plans were outlined to protect this habitat, if significant, in the EIS. The purpose of this memo is to report on the results of the pre-construction survey conducted for this wildlife habitat.

Staff Roles

The requirements of the REA Regulation indicate that the name and qualifications of all staff participating in the evaluation of significance should be included. As a result, the qualifications and roles of all staff participating in the evaluation of significance of this wildlife habitat at the Silvercreek Solar Park have been outlined below.

Andrew G. Ryckman, B.Sc.

Andrew is a Terrestrial and Wetland Biologist with 8 years of environmental experience. He routinely manages the natural heritage aspects of renewable energy projects, with specific expertise relating to bats and herpetofauna. Andrew is certified in Ecological Land Classification (2010), and has successfully completed a Bat Conservation International (BCI) Acoustic Monitoring Workshop (2008).

Andrew's role in the project was to act as the project manager, overseeing all aspects of the Natural Heritage Assessment, including all associated field work and reporting. Andrew assisted with the preparation of this memo, and worked with other staff to evaluate the significance of the candidate significant wildlife habitat.

Christy Humphrey, B.E.S

Christy has more than 3 years of environmental consulting experience, working on a variety of project tasks. Her primary areas of expertise are vegetation mapping and floral inventories, but she has experience conducting bird and bat assessments, amphibian studies, and other fauna assessments. Christy is certified in both Ecological Land Classification (ELC) for Southern Ontario (2010) and Northeastern Ecological Land Classification (2010), as well as the OMNR Wetland Evaluation System (2012). She has also participated in the Ontario MNR Bat Monitoring Workshop for Wind Power Projects (2010) and has received training in Eastern Bat Acoustic Field Techniques (Bat Conservation and Management Inc. 2012).

Christy assisted with the preparation of all of the Natural Heritage Assessment reports, including this memo, and organized field work to be conducted for the evaluation of significance of the wildlife habitat.

Andrew Dean, B.E.S.

Andrew is a Terrestrial and Wetland Biologist with over 2 years of environmental consulting and not-for-profit work experience. He specializes in environmental monitoring and natural area inventories, with specific expertise in vegetation community mapping and vascular plant identification. He is certified in both the ELC for Southern Ontario (2010) the OMNR Wetland Evaluation System (2012). Andrew has experience conducting pre-construction vegetation and wildlife monitoring, including vegetation and mammal inventories.

Andrew conducted the field work for the evaluation of significance, conducting transect-based vegetation identification surveys.

Summary of Pre-Construction Survey Commitments

The candidate significant wildlife habitat requiring pre-construction commitments as identified in the Environmental Impact Study report is a small polygon identified in WOD-011 which is suitable habitat to contain the species of conservation concern, Appalachian sedge (*Carex appalachica*), and has been identified as CAAP-001. The location of the identified habitat is shown in Figure 1 below (as CSWH-001). The evaluation methods proposed for Appalachian sedge are shown in the following table, and have been approved by the MNR as part of the NHA.

Table 1. Evaluation Standards for Candidate Significant Habitat for Appalachian Sedge at the Silvercreek Solar Park

Wildlife Habitat Type	Distance to Project Location (m)	Generalized Methods	Standards of Significance
Species of Conservation Concern			
Habitat for Appalachian Sedge CAAP-001 Mapped as CSWH-001	SP – 32 AR – 40 UL – >120 OL – >120 BU – >120 BO – 28	Proposed Walking transects spaced approximately 5m apart should be conducted within the identified candidate habitat in WOD-011. Transect surveys will target observation of Appalachian sedge and last for at least 30 minutes. Start time and end time of the search should be recorded. The UTM location of any individuals or clusters encountered should be recorded, photographs taken, and a stem count conducted. Any existing damage (e.g. browse or trampling) or apparent die-back should be noted for future comparison. Survey should be conducted in May-June, prior to dormancy.	Presence of this species within the habitat identified will confirm significance.

Legend
















- SP: Solar Panel
- AR: Access Road
- UL: Underground Line
- OL: Overhead Line
- BU: Building or Inverter
- BO: Construction Activity or Balance of Operations

Figure 1
Silvercreek Solar Park
Significant Wildlife Habitats
South Section

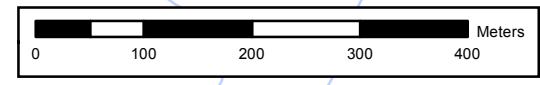
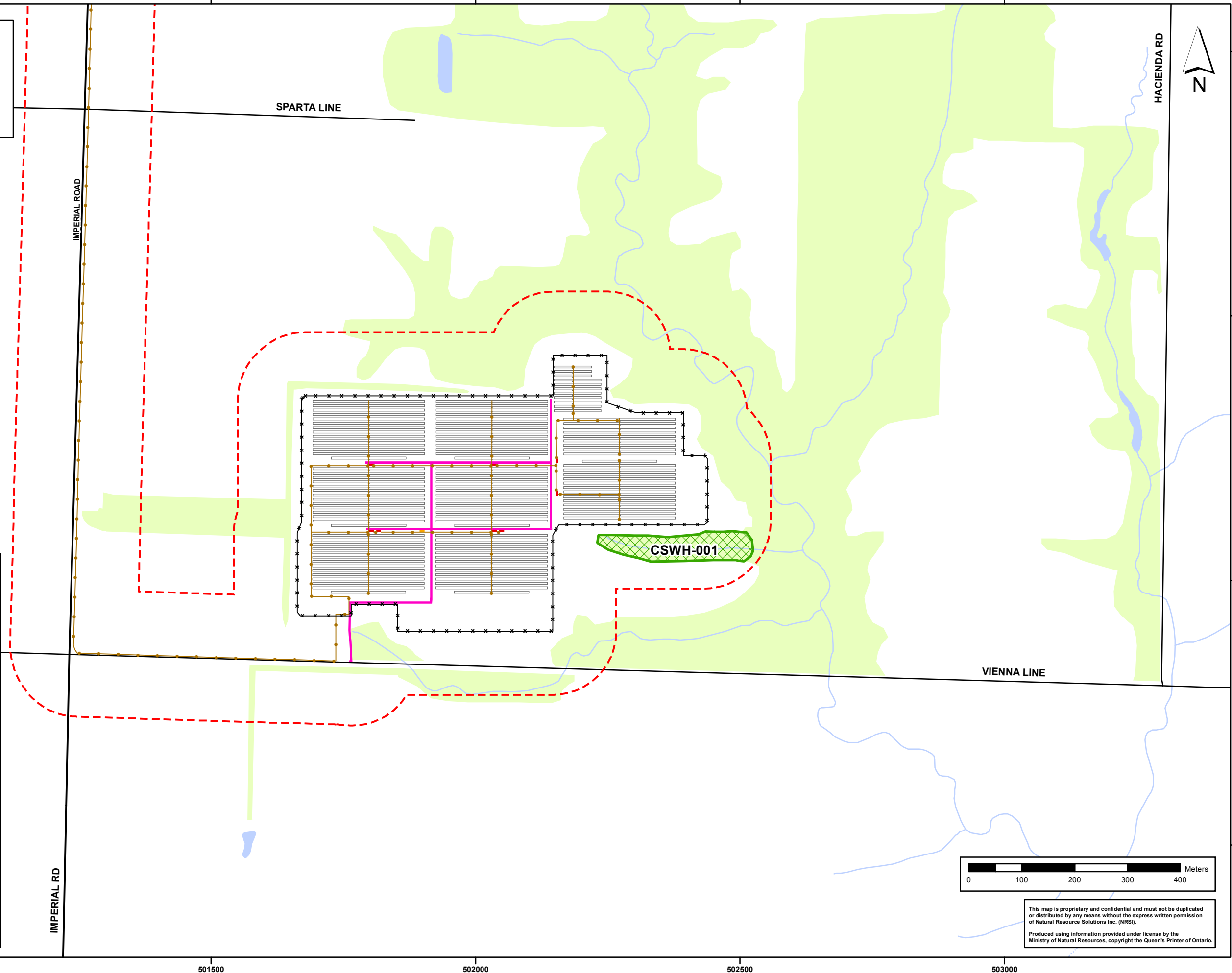
NATURAL RESOURCE SOLUTIONS INC.
 Aquatic, Terrestrial and Wetland Biologists

Date: November 21, 2012
 Project: 0983A
 NAD 83 - UTM Zone 17
 Scale: 1:5,000 (11 x 17")

Legend

-  Project Area (120m Buffer)
-  Solar Layout
-  Underground Cabling
-  Inverter
-  Building
-  Access Road
-  Fence
-  Underground Cabling
-  Primary Road
-  Local Road
-  Permanent Watercourse
-  Intermittent Watercourse
-  Waterbody
-  Generalized Candidate Significant Wildlife Habitat
-  (CSWH-001) Assumed Significant Wildlife Habitat

The distances from project components to candidate significant wildlife habitats are outlined within the body of the report in Tables 11 and 12.



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Field Methods

A field survey was undertaken to identify the target species present within its suitable habitat in order to evaluate the significance of the habitat in accordance with the REA Regulation and the specific requirements of the MNR. This site-specific field investigation focused on the vegetation species Appalachian sedge, and the results of this field investigation determines the significance of the candidate significant habitat. In accordance with the REA Regulation, NRSI recorded the date, time, duration, and weather conditions during the evaluation of significance. This information has been summarized in Table 2 below. The crew lead for the survey is indicated in bold font within the table.

Table 2. Evaluation of Significance Survey Details

Purpose	General Methods	Date(s)	Time(s) and Duration	Weather	Staff
Identification of Appalachian Sedge in CAAP-001	Walking transects within target habitat	July 9, 2012	11:20 – 12:30 1 hr 10 mins	25°C, Cloud Cover 30%, Wind 2 from SE, No precipitation.	Andrew Dean, Jeremy Bannon

Survey methods followed those approved by the MNR as part of the NHA confirmation and consisted of walking transects spaced approximately 5m apart within the habitat, searching for Appalachian sedge. While the survey was conducted in early July instead of May or June, a survey date of July 9th is still expected to yield accurate results for presence of Appalachian sedge as the species fruits in late spring to early summer (Flora of North America 2003). Stellate sedge (*Carex rosea*), a very similar sedge which fruits slightly earlier in mid- to late spring (Flora of North America 2003), was observed within this habitat still fruiting, indicating that Appalachian sedge, if present within that habitat, should also be fruiting.

NRSI recorded the following information during each survey:

- Level of effort (including date, start and end time, weather conditions, etc.),
- Name of observer(s) conducting field work,
- Results of search for Appalachian sedge
- Presence of other section Bracteosae sedges

Results

The results of the survey conducted for Appalachian sedge are presented in Table 3 below.

Table 3. Results of Pre-Construction Surveys for Appalachian Sedge at the Silvercreek Solar Park

Wildlife Habitat ID	Size (ha)	Composition and Attributes	Evaluation Results	Provincial Criteria	Significance	EIS Required (Y/N)
CAAP-001 Mapped as CSWH-001	1.31	FODM5-11 / FOD5-9 Dry-Fresh Sugar Maple – Hardwood Deciduous Forest Type	Appalachian sedge not observed	Presence of Appalachian sedge	Not Significant	No

Summary

This memo was prepared to be consistent with appropriate legislation and provincial guidelines relating to renewable energy projects, including specific details relating to the evaluation of significance of the applicable habitat. As a result of the absence of Appalachian sedge within the identified candidate significant habitat for this species, during an appropriate time of year, and completed by a biologist skilled in vascular plant identification, the habitat has been determined to be not significant, and as a result does not require the mitigation measures described in the EIS.

References

Flora of North America Editorial Committee. 2003. Flora of North America: North of Mexico Volume 23: Magnoliophyta: Commelinidae (in part): Cyperaceae. Oxford University Press. Pgs 287, 289, 290.

Appendix I

Natural Heritage Assessment Confirmation Letter

July 9, 2012

Silvercreek Solar Park Inc.
49588 Vienna Line
Aylmer, ON
N5H 2R2

RE: NHA Confirmation for Silvercreek Solar Park

Dear Dave Moerman:

In accordance with the Ministry of the Environment's (MOE's) Renewable Energy Approvals (REA) Regulation (O.Reg.359/09), the Ministry of Natural Resources (MNR) has reviewed the Silvercreek Solar Park Natural Heritage Assessment and Environmental Impact Study for the Silvercreek Solar Park near Aylmer submitted by Silvercreek Solar Park Inc. in July 2012.

In accordance with Section 28(2) and 38(2)(b) of the REA regulation, MNR provides the following confirmations following review of the natural heritage assessment:

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, if no natural features were identified.
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 study report has been prepared in accordance with procedures established by the MNR.

In accordance with Section 28(3)(c) and 38(2)(c), MNR also offers the following comments in respect of the project.

Preconstruction Monitoring

In accordance with Appendix D of MNR's NHA Guide, a commitment has been made to complete pre-construction assessment(s) of habitat use for the following candidate significant wildlife habitats: Species of Conservation Concern – Appalachian Sedge. MNR has reviewed and confirmed the assessment methods and the range of mitigative options. Pending completion of the assessments and determination of significance, the appropriate mitigation is expected to be implemented, as committed to in the environmental impact study.

Post-Construction Monitoring

If the Appalachian Sedge candidate Significant Wildlife Habitat (CAAP-001) is deemed significant through pre-construction surveys, a commitment has been made in the Environmental Effects Monitoring Plan, part of the Design and Operations Report, to conduct post-construction monitoring and if determined necessary, implement mitigation measures.

This confirmation letter is valid for the project as proposed in the natural heritage assessment and environmental impact study, 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 the NHA, MNR may need to undertake additional review of the NHA.

Where specific commitments have been made by the applicant in the NHA/EIS 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 Renewable Energy Approvals 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 or additional comments provided, please contact Amy Cameron 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
Mitch Wilson, District Manager, Aylmer District, MNR
Narren Santos, Environmental Approvals Branch, MOE
Zeljko Romic, Environmental Approvals Branch, MOE
Leah Deveaux, Environmental Assessment Specialist, ORTECH Consulting

**Ministry of
Natural Resources**

Renewable Energy Operations Team
300 Water Street
4th Floor, South Tower
Peterborough, Ontario K9J 8M5

**Ministère des
Richesses naturelles**



November 20, 2012

Silvercreek Solar Park Inc.
49588 Vienna Line
Aylmer, ON
N5H 2R2

RE: Modifications to Silvercreek Solar Park Project Location

Dear Mr. Dave Moerman,

The Ministry of Natural Resources (MNR) has received the document dated November 20, 2012 that describes modifications to the Silvercreek Solar Park project location 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 July 9, 2012 for the Silvercreek Solar Park project.

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

Sincerely,

A handwritten signature in blue ink that reads "Amy Cameron".

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
Mitch Wilson, Aylmer District Manager, MNR
Narren Santos, Environmental Approvals Access & Service Integration Branch, MOE
Zeljko Romic, Environmental Approvals Access & Service Integration Branch, MOE

Appendix II

Field Notes: Evaluation of Significance for Appalachian Sedge Habitat

Silvercreek SP (0983A)

AMD, JBB

July 9/12

①

Carex appalachica survey

sunny w/ clouds

25°C

30% C.C.

wind 2/SE

start time 1120

end time 1230

- walking transects, approximately 5m apart to search for *Carex appalachica*
- walked 2 concentric circles w/in polygon, starting @ SW corner of polygon
- slopes very steep w/in most of polygon, 5m transect spacing adhered to wherever possible
- *Carex appalachica* not observed
- *Carex rosea* observed occasionally near top of slope @ farm field edge

Silvercreek SP (0983 A)

AMD, JBB

July 9/12

(2)

incidental wildlife observations:

Song sparrow (Sm) (E of polygon)

chipping sparrow (VO) (NE of polygon)

Am. robin (VO) (irrigation pond)

goldfinch (Sm) (west of polygon)

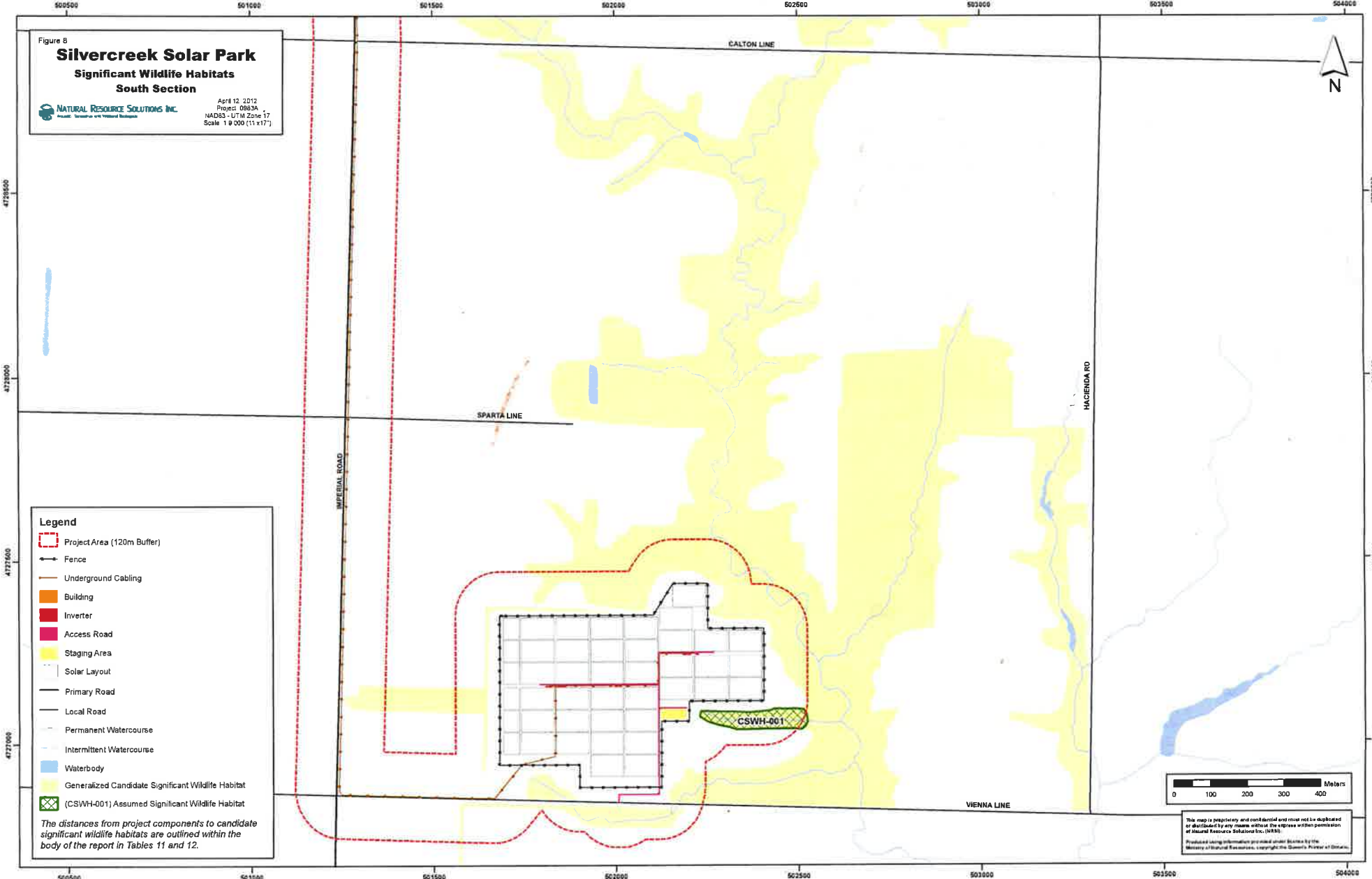
leopard frog (VO) (irrigation pond)

green frog (VO) (irrigation pond)

Figure 8
Silvercreek Solar Park
Significant Wildlife Habitats
South Section

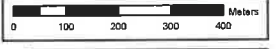
NATURAL RESOURCE SOLUTIONS INC.
Project Management and Technical Services

April 12, 2012
 Project 0983A
 NAD83 - UTM Zone 17
 Scale 1:9,000 (11 x 17")



- Legend**
- Project Area (120m Buffer)
 - Fence
 - Underground Cabling
 - Building
 - Inverter
 - Access Road
 - Staging Area
 - Solar Layout
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July 9, 2012
AMD, JBB

