

# RE MIDHURST 6 SOLAR PROJECT

Natural Heritage  
Site Investigations Report

March 18, 2011

RECURRENT  
ENERGY





RE Midhurst 6 ULC

Natural Heritage  
Site Investigations Report

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Project Report

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**RE Midhurst 6 ULC**  
**RE Midhurst 6 Solar Project**

**Natural Heritage Site Investigations Report**

**Table of Contents**

**1. Introduction ..... 3**

    1.1 Project Description ..... 3

    1.2 Legislative Requirements..... 3

**2. Summary of Results of Records Review..... 4**

**3. Site Investigation Methodology ..... 7**

    3.1 Date, Time, and Duration of Site Investigation ..... 7

    3.2 Weather Conditions During Site Investigation ..... 7

    3.3 Name and Qualifications of Person Conducting Site Investigation..... 7

    3.4 Survey Methods ..... 8

**4. Results of Site Investigation..... 8**

    4.1 Valleylands ..... 8

    4.2 Wetlands..... 9

    4.3 Wildlife Habitat ..... 9

        4.3.1.1 Habitats of Seasonal Concentrations of Animals ..... 9

        4.3.1.2 Rare Vegetation Communities or Specialized Habitat for Wildlife..... 11

        4.3.1.3 Habitat of Species of Conservation Concern ..... 13

        4.3.1.4 Animal Movement Corridors ..... 14

    4.4 Woodlands ..... 14

**5. Conclusions..... 14**

**6. References..... 15**

**Appendix A Site Investigation Field Notes**

## List of Tables

Table 2.1	Summary of Records Review Determinations .....	4
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## List of Figures

Figure 1.1	Project Components and Natural Heritage Features .....	5
Figure 4.1	Rock Pile within 120 m of the Project Location .....	11

## 1. Introduction

### 1.1 Project Description

RE Midhurst 6 ULC is proposing to develop and operate a 9-megawatt (MW) solar photovoltaic (Solar PV) facility, on an approximately 30-hectare (ha) parcel of land located about 10 km north of Barrie and approximately 700 m north of the Midhurst Settlement Area, in the Township of Springwater in the County of Simcoe (Figure 1.1); herein referred to as “RE Midhurst 6” or the “Project”.

### 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. As per Section 4 of the REA Regulation, ground mounted solar facilities with a name plate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and do require an REA.

Section 26 of the REA Regulation requires proponents of Class 3 solar projects to undertake a natural heritage site investigation for the purpose of determining

- a) whether the results of the analysis summarized in the [Natural Heritage Records Review] report prepared under subsection 25 (3) are correct or require correction, and identifying any required corrections
- b) whether any additional natural features exist, other than those that were identified in the [Natural Heritage Records Review] report prepared under subsection 25 (3)
- c) the boundaries, located within 120 metres of the project location, of any natural feature that was identified in the records review or the site investigation
- d) the distance from the project location to the boundaries determined under clause (c).

Natural Features are defined in Section 1.1 of the REA Regulation to be all or part of

- a) an area of natural and scientific interest (ANSI) (earth science)
- b) an ANSI (life science)
- c) a coastal wetland
- d) a northern wetland
- e) a southern wetland
- f) a valleyland
- g) a wildlife habitat, or
- h) a woodland.

Subsection 3 of Section 26 of the REA Regulation requires the proponent to prepare a report setting out the following:

1. A summary of any corrections to the report prepared under subsection 25 (3) and the determinations made as a result of conducting the site investigations under subsection (1)
2. Information relating to each natural feature identified in the records review and in the site investigations, including the type, attributes, composition and function of the feature.
3. A map showing
  - i. the boundaries mentioned in clause (1) (c)
  - ii. the location and type of each natural feature identified in relation to the project location
  - iii. the distance mentioned in clause (1) (d)
4. The dates and times of the beginning and completion of the site investigation.
5. The duration of the site investigation.
6. The weather conditions during the site investigation.
7. A summary of methods used to make observations for the purposes of the site investigation.
8. The name and qualifications of any person conducting the site investigation.
9. Field notes kept by the person conducting the site investigation.

This Natural Heritage Site Investigations Report has been prepared to meet these requirements.

## 2. Summary of Results of Records Review

Table 2.1 summarizes the results of the records review (Hatch Ltd., 2010).

**Table 2.1 Summary of Records Review Determinations**

Determination to be Made	Yes/No	Description
Is the Project in a natural feature?	Yes	A portion of a woodland occurs on the Project location.
Is the Project within 50 m of an ANSI (earth science)?	No	The nearest earth science ANSI is located several kilometres from the Project location.
Is the Project within 120 m of a natural feature that is not an ANSI (earth science)?	Yes	There are woodlands located within 120 m of the Project location.

Since the completion of the Records Review, the layout of the proposed Project has been finalized such that there are no longer woodlands on the Project location. Therefore, based on the Records Review, there are no natural features identified on the Project location. This is a correction to the Records Review Report (Hatch, 2010a).

The records review also identified the potential for the following species of conservation concern and species at risk to occur on the Project location, with efforts to be made to determine presence/absence during the site investigation:



- [back](#)

- Red-headed Woodpecker (*Melanerpes erythrocephalus*)
- Olive-sided Flycatcher (*Contopus cooperi*)
- Common Nighthawk (*Chordeiles minor*)
- Canada Warbler (*Wilsonia canadensis*)
- Golden-winged Warbler (*Vermivora chrysoptera*)
- Milksnake (*Lampropeltis triangulum*)
- Snapping Turtle (*Chelydra serpentina*)
- Western Chorus Frog (*Pseudacris triseriata*).

### 3. Site Investigation Methodology

#### 3.1 Date, Time, and Duration of Site Investigation

- Date: June 6, 2010
- Start Time: 0800 hours
- Duration: approximately 1.5

#### 3.2 Weather Conditions During Site Investigation

- Temperature: 16°C
- Beaufort Wind: 4
- Cloud Cover: 100%

#### 3.3 Name and Qualifications of Person Conducting Site Investigation

The site investigation was completed by Martine Esraelian.

Martine Esraelian, B.Sc. is an Environmental Scientist specializing in species at risk and terrestrial ecosystems. She has a B.Sc. from Trent University where she specialized in Conservation Biology and Ecological Management and an Ecosystem Management Technician diploma from Sir Sandford Fleming College. During her time at Trent University, she completed a 1-yr internship with the MNR which involved developing a genetic-based protocol for the extraction of DNA from unknown turtle eggshells to assist with species identification. The project entailed extensive molecular genetics research and intensive lab work to develop a protocol able to supplement existing conservation management practices.

She offers expertise across the full breadth of the field from environmental assessments and technical analysis of environmental data to conservation management, corporate and government consulting, and community outreach. Martine has liaised with all levels of government, the community, and a portfolio of clients that includes consulting firms, planners, and high-profile developers. She has both technical and hands-on experience conducting site investigations (terrestrial and aquatic), evaluations of significance, environmental and agricultural impact studies, constraint analyses, water

quality and soil assessments, species at risk, wildlife management and fisheries studies to meet regulatory requirements.

Martine has a wide range of field experience related to terrestrial and aquatic ecosystems and species at risk. She has conducted reptile and amphibian surveys, small-mammal trapping, benthic invertebrate monitoring and fisheries inventories (seine netting and electrofishing). She has conducted detailed natural areas inventories which involve species identification of flora and fauna, vegetation community mapping, identifying rare vegetation communities and significant wildlife habitats.

Martine has project management and fieldwork experience for a number of species at risk monitoring projects. Some of the species she has been involved with include: fowler's toad, eastern massasauga rattlesnake, gray ratsnake, queensnake, eastern ribbonsnake, milksnake, blanding's turtle, map turtle, spotted turtle, snapping turtle, Jefferson salamander, northern dusky and mountain alleghany dusky salamander, butternut, flowering dogwood, swamp rose mallow and spoon-leaved moss.

Martine is a certified Butternut Health Assessor and also holds a certificate in the Ecological Land Classification (ELC) system.

### 3.4 Survey Methods

The entire Project location and lands within 120 m were searched by the observer on foot in order to document natural features. Access to lands north of the "available lands" shown in Figure 1.1 was not possible as landowner permission could not be obtained. This portion of the lands within 120 m of the Project location were assessed by roadside observation/observation from the Project location.

Photographs of the site were taken. Observations of wildlife, vegetation, or natural features were noted.

A copy of the field notes kept by the observers is provided in Appendix A.

## 4. Results of Site Investigation

### 4.1 Valleylands

Surface depressions that may constitute valleylands were identified on and within 120 m of the eastern portion of the Project location. These depressions correspond with drainage channels for surface water runoff from the Project location to the Tributary of Matheson Creek.

Portions of the valleyland on the Project location correspond with a cultural meadow (CUM) vegetation community. It is possible that these areas were used for hay and pasture in previous years, however this was not confirmed. Vegetation within these areas are predominately comprised of grasses with some herb species observed such as tall buttercup, wild carrot, common milkweed, common mullein and aster species. No species of conservation concern were identified within this community. Though not observed, this community would be expected to provide suitable habitat for grassland species such as Savannah Sparrow (*Passerculus sandwichensis*).

Other portions of the valleyland within 120 m of the Project location correspond with a deciduous woodland community.

## 4.2 Wetlands

No wetlands were identified on or within 120 m of the Project location during the site investigation.

## 4.3 Wildlife Habitat

Wildlife habitat in the area consists of agricultural fields and the woodlands located on the Project location or within 120 m.

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

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

Each of these types of wildlife habitat is considered further below and how they were considered during the site investigation.

### 4.3.1.1 *Habitats of Seasonal Concentrations of Animals*

There are many different kinds of seasonal concentration areas, with the likelihood of occurrence of one of these areas depending on the characteristics of the study location. Those that were considered during the site investigations, and the discussion of their potential occurrence on the Project location, are discussed below:

- Winter deer yards/Moose late winter habitat – Winter deer yards/moose late winter habitat are sheltered areas where these species congregate during the winter months. As these species are not adept at moving through deep snow, a key component of these habitats is a core area predominantly composed of coniferous trees with a 60% canopy cover. Habitat of this type was considered during the site investigation in relation to woodlands. A core coniferous area was not identified in the woodlands, and as a result, the Project location is not considered to meet the definitions of a winter deer yard or moose late winter habitat.
- Colonial bird nesting sites – Colonial bird nesting sites are locations where colonial species, such as herons, gulls, terns, and swallows traditionally nest in colonies of varying size. No colonial birds were observed during the site investigation, and further no heronries, marshlands or rocky areas suitable of supporting tern or gull populations, or potential swallow colonial breeding locations were identified.
- Waterfowl stopover and staging areas – Waterfowl traditionally congregate in larger wetlands and relatively undisturbed shorelines with vegetation during spring and fall migration. Further, during the fall migration, waterfowl may commonly congregate in feeding or roosting ponds. There are no wetlands located on or within 120 m of the Project location. Therefore the Project location is not a waterfowl stopover and staging area.
- Waterfowl nesting – Waterfowl nesting sites can consist of relatively large, undisturbed upland areas with abundant ponds and wetlands, while other species nest within tree cavities in swamps

or on the shorelines of waterbodies. No waterfowl nests or evidence of waterfowl nesting was recorded during the site investigation. Further, the absence of waterbodies or wetlands near the Project location indicates that this habitat type is not found. as wetlands are not found on the Project location.

- Shorebird/Landbird migratory stopover areas – Shorebird migratory stopover areas are found along the shorelines of the Great Lakes and James Bay, while landbird stopover areas are found along the shorelines of the Great Lakes and contain a variety of habitat types from open fields to large woodlands. As the Project location is located more than 120 m away from these areas, this habitat type cannot occur on the Project location.
- Raptor winter feeding and roosting areas – This combined habitat type features suitable raptor roosting sites in proximity to winter feeding areas. For most raptor species, roosting sites are traditionally mature mixed or coniferous woodlands, a habitat type which is absent within 120 m of the Project location. Raptor winter roosting may also occur within grassland habitats. Such habitats are present on and within 120 m of the Project location in the cultural meadows associated with the valleyland. This habitat type will be considered during the evaluation of significance.
- Wild turkey winter range – Similar to winter deer yards, wild turkey rely on coniferous forest stands for winter protection. As was previously discussed, such habitat, does not exist on the Project location or within 120 m. The Project location is not considered to be a wild turkey winter range habitat.
- Turkey vulture summer roosting areas – Turkey vulture summer roosting areas traditionally consist of cliff ledges and large snags. Neither cliff ledges, nor large dead or partially dead trees were observed within 120 m of the Project location. During the site investigation, no turkey vultures were observed. Therefore, turkey vulture summer roosting areas are not identified.
- Reptile hibernacula – Reptile hibernacula are commonly found in animal burrows and rock crevices. No animal burrows were noted during the site investigation. A small rock discard pile was noted within the valleyland within 120 m east of the Project location (see Figure 1.1 for location, and Figure 4.1 for photograph). The characteristics of the rock pile, such as its small overall size, and the small size of rocks within the pile indicate that this feature would not provide a suitable microclimate for a reptile hibernacula. Therefore, suitable reptile hibernacula are not found on or within 120 m of the Project location.



**Figure 4.1 Rock Pile within 120 m of the Project Location**

- Bat hibernacula – Bat hibernacula are found in caves or abandoned mines. These features were not identified during the site investigation.
- Bullfrog concentration areas – Bullfrog concentration areas are predominantly found in areas of marsh habitat. The Project location does not have any wetland or marsh habitat on or within 120 m of the Project location.
- Migratory butterfly stopover areas – These habitats are found within 5 km of the Great Lakes; as the Project area is located outside of this zone, such habitat features are not found.

Therefore, raptor winter feeding and roosting are the only seasonal concentration area that will be considered within the evaluation of significance.

#### 4.3.1.2 *Rare Vegetation Communities or Specialized Habitat for Wildlife*

Rare vegetation communities include alvars, tall-grass prairies, savannahs, rare forest types, talus slopes, rock barrens, sand barrens and Great Lakes dunes. None of these vegetation communities identified during the site investigation are considered to be rare or uncommon within the local or provincial area.

Specialized wildlife habitats include

- areas that support species that have highly specific habitat requirements
- areas with high species and community diversity

- areas that provide habitat that greatly enhances species survival.

There are many habitat types that may meet these definitions; those that were considered during the site investigations as they had the potential to be present in the area, and the discussion of their potential occurrence on the Project location, are addressed below.

- Habitat for area-sensitive species – Appendix C of the SWHTG lists area-sensitive species. Though none were observed during the site investigation, it is expected that the grassland communities provide suitable habitat for Savannah Sparrow. As a result, their habitat will be considered during the evaluation of significance.
- Forests providing a high diversity of habitats – A diversity of woodland community habitats was not noted during the site investigation within the woodland communities within 120 m of the Project location. Therefore, a woodland with a high diversity of habitats is not present within 120 m of the Project location.
- Old-growth or mature forest stands – Similar to the above, woodlands present within 120 m of the Project location were not considered to be an old-growth or mature forest stand. Therefore, there are no old-growth or mature forest stands.
- Foraging areas with abundant mast – This habitat type is found within Ecoregion 6E only in relation to foraging areas with abundant mast present on the Bruce Peninsula (EcoDistrict 6E-14) (MNR, 2009). As the Project location is more than 120 m from this area, this habitat type is not found on or within 120 m of the Project location.
- Woodlands supporting amphibian-breeding ponds – No vernal pools or wetland communities were noted on or within 120 m of the Project location, therefore this habitat type is not identified.
- Turtle-nesting habitat – The absence of waterbodies in proximity to the Project location indicates that turtle nesting habitat, which are generally located near these features, is not present.
- Specialized raptor-nesting habitat – Species of raptors were not recorded during the site investigations. As a result, this habitat is not found on the Project location.
- Mink, otter, marten, and fisher denning sites – Denning sites for these members of the weasel family were not recorded on or within 120 m of the Project location during the site investigation.
- Highly diverse areas – The habitats present on and within 120 m of the Project location were considered in respect of diversity. Given that the majority of habitats present on and within 120 m of the Project location are agricultural lands, that woodland communities were of small size and generally consisted of limited age classes, and meadow habitats are heavily impacted by anthropogenic disturbances, the habitats are not considered to be highly diverse.
- Cliffs and caves – These features were not identified on or within 120 m of the Project location during the site investigation.
- Seeps and springs – Neither seeps nor springs were identified on or within 120 m of the Project location during the site investigation.

Therefore, of the rare vegetation communities or specialized habitat for wildlife considered during the site investigation, habitat for Savannah Sparrow will be carried forward to the evaluation of significance.

#### 4.3.1.3 *Habitat of Species of Conservation Concern*

Species of conservation concern that were considered during the site investigation include the following:

##### **Birds**

- **Red-headed Woodpecker** – Red-headed Woodpecker were not recorded during the site investigations. This species occurs in open woodland and woodland edges, especially in oak savannahs and riparian forest, which can often be found in parks, golf courses and cemeteries. These habitats contain a higher density of dead trees, which they commonly use for nesting and perching. A high density of dead trees that would support Red-headed Woodpeckers was not recorded on or within 120 m of the Project location. Therefore, given the absence of suitable cavity support trees, and the absence of observation of Red-headed Woodpeckers, suggests that they are not considered to occur on or within 120 m of the Project location.
- **Olive-sided Flycatcher** – Listed as Special Concern under the ESA. This species is strongly associated with openings and edges in coniferous forest habitats. Suitable habitat was not observed during the site investigation, and therefore they are not considered to occur on or within 120 m of the Project location.
- **Common Nighthawk** – Common Nighthawk were not recorded during the site investigations. As suitable breeding habitat was transacted by observers, if Common Nighthawk were present breeding within the fields it is expected they would have been flushed from their nests and observed. As a result, they are not expected on or within 120 m of the Project location.
- **Canada Warbler** – Canada Warblers were not detected during the site investigation. Further, Canada Warbler habitat typically consists of wet, mixed deciduous-coniferous forest with a well-developed shrub layer. Such habitat was not identified on or within 120 m of the Project location and therefore they are not expected to occur.
- **Golden-winged Warbler** – Golden-winged Warblers are associated with shrub/early successional habitats. Portions of the woodland south of the distribution line associated with the Project meet this habitat definition. Though use was not identified during the site investigation, this habitat will be considered candidate significant habitat for Golden-winged Warbler.

##### **Reptiles**

- **Milksnake** – Milksnake were not recorded during the site investigation. However, the Project location provides suitable habitat for Milksnake, and given the relative difficulty in detecting Milksnake on site, it is considered possible that Milksnake may occur on the Project location.
- **Snapping Turtle** – This species and suitable habitat for this species (given the absence of nearby waterbodies) was not observed on the Project location during the site investigation. Therefore, habitat for Snapping Turtles is determined to not be present on the Project location.

### ***Amphibians***

- **Western Chorus Frog** – Western Chorus Frog were not recorded during the site investigation. Further all lands on and within 120 m of the Project location were searched for suitable breeding habitat (i.e., vernal pools, seasonally flooded fields). No such habitats were identified on or within 120 m of the Project location, and therefore it is determined that Western Chorus Frog or their habitat are not found on or within 120 m of the Project location.

Based on the results of the site investigation, potential habitat for Milksnake and Golden Winger Warbler will be considered during the evaluation of significance.

#### **4.3.1.4 Animal Movement Corridors**

The SWHTG (MNR, 2000) defines animal movement corridors as “elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another”. Animal movement corridors were considered during the site investigation. Such features were found to be present within the hedgerows, woodland and valleylands on and within 120 m of the Project location.

These features will be further assessed in the evaluation of significance report.

### **4.4 Woodlands**

Two woodlands are identified within 120 m of the Project location (shown in Figure 1.1). These woodlands are described as deciduous forest communities (FOD). The dominant tree species observed include sugar maple, trembling aspen and basswood.

The woodland south of the Project location had been identified in the Records Review as two separate communities, however observations during the site investigation determined that these features should be treated as a single woodland community. This represents a correction to the Records Review report.

## **5. Conclusions**

Based on the results of the site investigation, there are minor corrections to the Records Review report required, whereby the Project location has changed, and two separate woodland communities have been reassessed as consisting of a single woodland community

Based on the site investigation, there are several natural features on and/or within 120 m of the Project location that will require an Evaluation of Significance in order to determine whether Environmental Impact Studies are required:

- wildlife habitat
  - ◆ species of conservation concern (Milksnake and Golden Winged Warbler)
  - ◆ habitat for area-sensitive species (Savannah Sparrow)
  - ◆ raptor winter feeding and roosting areas
  - ◆ animal movement corridors
- woodlands located within 120 m of the Project location

- valleyland located on and within 120 m of the Project location.

## 6. References

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**Appendix A**  
**Site Investigation**  
**Field Notes**

