

ENVIRONMENTAL IMPACT STUDY



March 1, 2022

East Half of Lot 20, Concession 5
Township of Oro-Medonte
County of Simcoe

Prepared for: Doncor Development Inc.



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1 INTRODUCTION

Roots Environmental ('Roots') has been retained by Doncor Development Inc. to complete an Environmental Impact Study (EIS) for the property known as the East Half of Lot 20, Concession 5, Township of Oro-Medonte, County of Simcoe.

An Environmental Impact Study (EIS) is required to support an Official Plan Amendment (OPA), Zoning By-Law Amendment (ZBA) and Draft Plan of Subdivision for residential development on the property.

Policies in Section B3.4 of the Township of Oro-Medonte Official Plan (Consolidation 2020) require the preparation of an EIS for development adjacent to lands designated EP2. Policies in the Provincial Growth Plan (Section 4.2.4.1) and Lake Simcoe Protection Plan (Section 6.25 DP) also require the preparation of a Natural Heritage Evaluation (NHE) for any development adjacent to key natural or hydrologic features.

To avoid duplication of reports, the EIS and NHE will be amalgamated into this singular report. From herein, this report will be referred to as the 'EIS'.

The purpose of the EIS is to identify the presence of any key natural heritage or hydrologic features on the site or adjacent lands of 120 metres, assess any impacts as a result of the proposed development, and identify any preventative, mitigative or remedial measures to ensure no negative impacts.

1.1 Site Location

The site is located in the East Half of Lot 20, Concession 5, Township of Oro-Medonte as shown on *Figure 1 – Site Location*. The site has a total area of 6.57 ha. Existing uses are agriculture and vacant woodland.

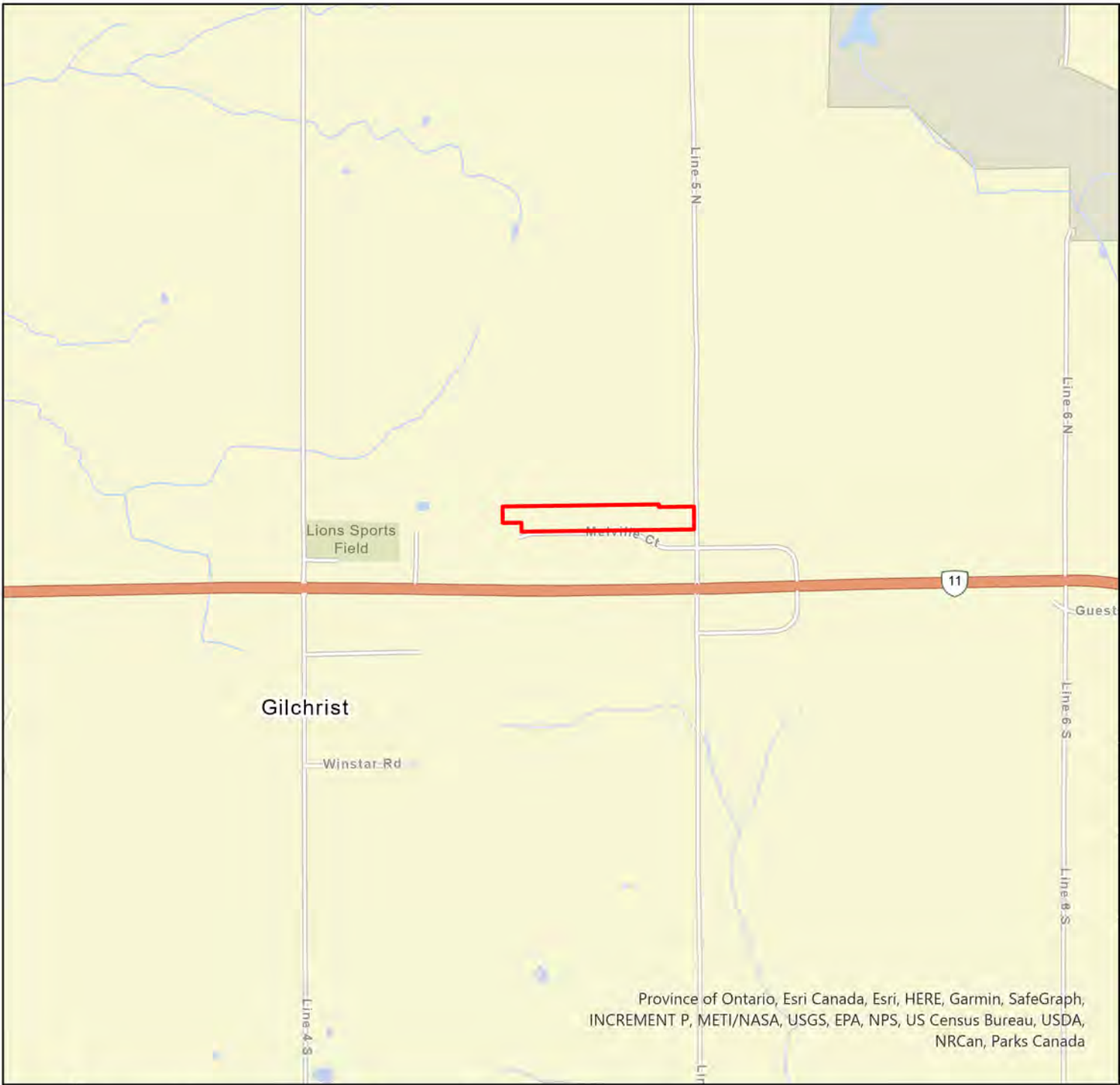
The Study Area for this EIS includes the entire subject property and adjacent lands of 120 metres.

1.2 Proposed Development


The proposed development for a residential subdivision consisting of 16 residential parcels and a future development block as shown on *Figure 2- Site Plan*. Access to the development will be from Melville Court and the 5th Line.

2 RELEVANT ENVIRONMENTAL POLICIES

A review of relevant environmental legislation, plans, and policies will be included in Section 7 of this EIS. This review will include the Provincial Policy Statement, Growth Plan for the Greater Golden Horseshoe, Lake Simcoe Protection Plan (LSPP), County of Simcoe Official Plan, and Township of Oro-Medonte Official Plan.



Legend

 Property Boundary

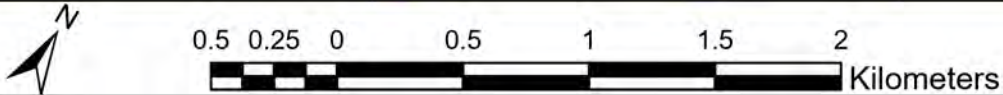
ENVIRONMENTAL IMPACT STUDY

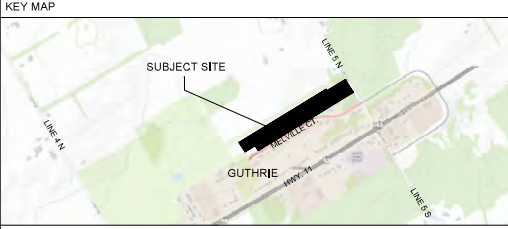
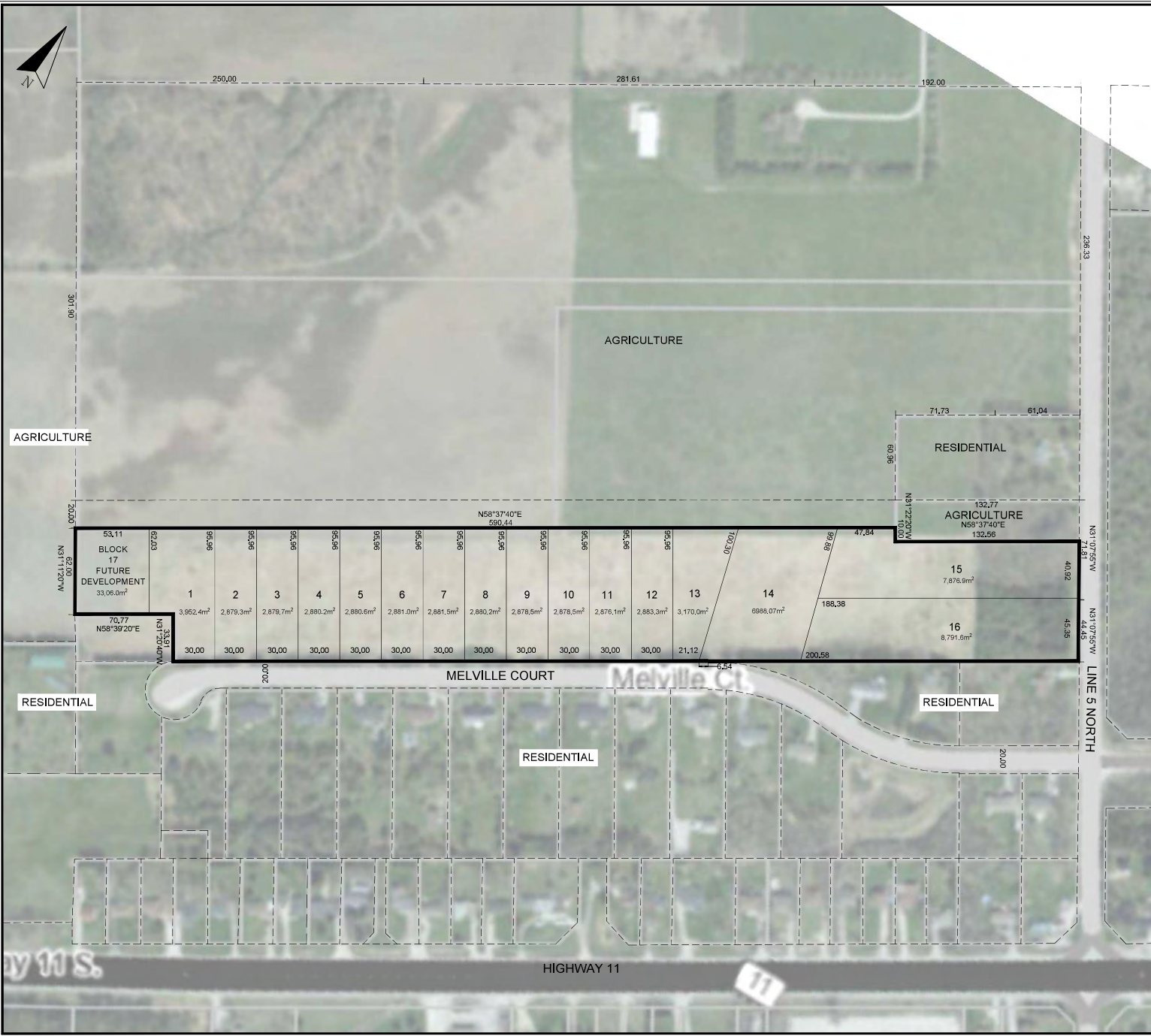
Figure 1
Site Location

Doncor Development Inc.
East Half of Lot 20, Concession 5
Township of Oro-Medonte

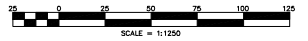


Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada





DRAFT PLAN OF SUBDIVISION
 EAST HALF OF LOT 20, CONCESSION 5
 FORMERLY IN THE
 TOWNSHIP OF ORO
 NOW IN THE
 TOWNSHIP OF ORO-MEDONTE
 COUNTY OF SIMCOE
 2010



LEGEND

SUBJECT LANDS

OWNER'S CERTIFICATE

I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZE INNOVATIVE PLANNING SOLUTIONS, TO PREPARE THIS DRAFT PLAN OF SUBDIVISION AND TO SUBMIT SAME TO THE COUNTY OF SIMCOE FOR APPROVAL.

DATE _____ DONCOR DEVELOPMENT INC.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE _____

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

- a) SHOWN ON PLAN
- b) SEE KEY PLAN
- c) SHOWN ON PLAN
- d) RESIDENTIAL
- e) SHOWN ON PLAN
- f) SHOWN ON PLAN
- g) SHOWN ON PLAN
- h) MUNICIPAL WATER
- i) SAND
- j) SHOWN ON PLAN
- k) ALL MUNICIPAL SERVICES TO BE PROVIDED
- l) NONE

LAND USE STATISTICS

Land Use	Lot / Block No.	Area (ha.)	Units
RESIDENTIAL SINGLE LOT	1-16	6,24	16
FUTURE DEVELOPMENT	17	0,33	
TOTAL		6,57	16

SOURCE:
 - 1.0m CONTOUR INTERVALS: FIRST BASE SOLUTIONS, VMAP, 2020

SCHEDULE OF REVISIONS

No.	Date	Description	By
1	Jan. 3, 2022	Application:	A.S.

IPS INNOVATIVE PLANNING SOLUTIONS
 PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
 647 WELHAM ROAD, UNIT 9, BARRIE, ONTARIO, L4N 0B7
 TEL: 705 • 812 • 3281 FAX: 705 • 812 • 3438 E: info@ipscollingsinc.com www.ipscollingsinc.com

Date: Jan 3, 2022	Drawn By: A.S.
File: 06-188	Checked: D.V./J.H.

3 METHODOLOGY

Preparation of the EIS involves a desktop review of available information, field investigations and consultation with applicable agencies. The following provides a summary of tasks completed for the EIS.

3.1 Consultation with Agencies

3.1.1 Lake Simcoe Region Conservation Authority

A Terms of Reference for the EIS were submitted to the Lake Simcoe Region Conservation Authority (LSRCA) by email on April 6, 2021 and approved by LSRCA in their email of April 13th, 2021. The Terms of Reference and NVCA correspondence are included in Appendix A.

3.2 Desktop Review

A desktop review was completed to identify previously known natural features and occurrences of rare species or SAR in the Study Area. Sources included the following:

- The Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) Make A Map: Natural Heritage Areas;
- County of Simcoe interactive mapping;
- Township of Oro-Medonte Official Plan;
- Ontario Nature Reptile and Amphibian Atlas;
- Atlas of Breeding Birds of Ontario; and
- LSRCA Regulation Mapping

3.3 Field Investigations

Site investigations were completed in 2021 based on a preliminary desktop review for the Study Area, habitats present on site, and the agreed upon Terms of Reference for the EIS. Table 1 below provides a summary of dates and tasks completed.

Table 1: Summary of Surveys

Task	Survey Dates	Personnel
Breeding Bird Surveys	June 3, 2021 June 24, 2021 July 6, 2021	Kyle Fleming (Roots Environmental)
Vascular Plants Ecological Land Classification	June 3, 2021 August 10, 2021	Kyle Fleming
Bat Maternity Roost Tree Survey	April 15, 2021	Kyle Fleming
Amphibian Habitat Assessment	April 15, 2021	Kyle Fleming
Wetland Delineation	June 25, 2021	Kyle Fleming Kate Lillie (LSRCA)

3.3.1 Vascular Plants

Vascular plant surveys were completed in the spring and summer growing seasons were completed using roving transects through all habitats and areas planned for development. Particular attention was paid

during field investigations for rare species and Species at Risk listed in the Ontario *Endangered Species Act (ESA)*. Incidental observations were also completed during other surveys on site.

It is noted that agricultural lands were cut in the early spring (early May) late July, which limited plant observations in this area.

The significance of vascular plants sampled was assessed based on the Natural Heritage Information Centre's (NHIC) rankings (Srank) for provincial rarity.

3.3.2 Vegetation Communities

Vegetation communities were identified using the Ecological Land Classification (ELC) for Southern Ontario, First Approximation (Lee et al., 1998). Polygons were delineated using aerial photography, field sampled and classified into the most appropriate vegetation type. The polygons were identified based on vegetative cover, soils and landscape features.

The significance of the vegetation communities was assessed based on the Natural Heritage Information Centre's (NHIC) provincial rankings where applicable.

3.3.3 Wetlands

The Shellswell Creek Wetland, a Non-Provincially Significant Wetland, was identified on the southeast corner of the property during a desktop review (further discussed in Section 4). The limits of this wetland were assessed by a certified wetland evaluator (Kyle Fleming, Roots Environmental) and LSRCA staff on June 24, 2021.

3.3.4 Species At Risk

Three (3) dedicated surveys were planned for Species at Risk (SAR) grassland bird species, the Eastern Meadowlark (*Sturnella magna*) (Threatened) (THR) and Bobolink (*Dolichonyx oryzivorus*) (THR) during their nesting season to determine presence/absence in agricultural pasture on the property. Two surveys were completed in June 2021. The agricultural lands were cut prior to the third survey and no survey was completed.

Treed habitats were inspected in April 2021 to determine if any cavity/snag trees were present that could support SAR bat species.

3.3.5 Breeding Birds

Surveys for breeding bird species were completed using general protocols in the Atlas of the Breeding Birds of Ontario, which were adapted for this small site. Surveys were completed using a roving transect to ensure all ELC ecosites were visited.

The significance of species detected during surveys has been assessed based on the Natural Heritage Information Centre's (NHIC) provincial rankings.

3.3.6 Incidental Wildlife Observations

Incidental observations were made for mammals and herptiles (amphibians and reptiles) during field investigations through observations of physical evidence (scats, tracks) and for shelter, feeding and breeding sites (e.g. vernal pools, rock piles, etc.).

A vernal pool on adjacent lands to the northeast of the property was assessed in April 2021 to determine potential for Significant Wildlife Habitat (SWH).

3.3.7 Aquatic Habitats

No aquatic features were identified on site during the desktop review and field surveys completed in 2021.

4 EXISTING CONDITIONS

4.1 Desktop Review

4.1.1 MNRF NHIC Make-A-Map: Natural Heritage Areas

A search was completed using the MNRF NHIC Make-A-Map: Natural Heritage Areas online geographic query tool for occurrence squares 17PK1324 and 17PK1424. Occurrences documented by NHIC may include those beyond the subject property and on habitats suitable to those species.

This review found occurrences of the following species at risk or rare species:

- Shellswell Creek Wetland (Evaluated Non-Provincially Significant)
- Henslow's Sparrow (*Ammodramus henslowii*) (Endangered) (END)
- Eastern Meadowlark (THR)
- Snapping Turtle (*Chelydra serpentina*) (Special Concern) (SC)
- Chimney Swift (*Chaetura pelagica*) (THR)

NHIC mapping for the property is illustrated on *Figure 3- NHIC map*. No other features (i.e., Provincially Significant Wetlands, ANSI's) were identified in the MNRF mapping and query.

4.1.2 County of Simcoe Interactive Mapping/Official Plan

County of Simcoe Interactive Mapping (<https://maps.simcoe.ca/public/>) identifies the presence of wetlands in the southeast corner of the subject property on adjacent lands to the southeast and east of the property.

4.1.3 Township of Oro-Medonte Official Plan

Schedule B of the Township of Oro-Medonte Official Plan identifies the presence of the Shellswell Creek Wetland in the southeast corner of the property and adjacent lands to the southeast and east.



Figure 3: NHIC Map
(https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA)

4.1.4 Ontario Nature Reptile and Amphibian Atlas

A geographic query of occurrence square 17PK12 was completed using the Ontario Natural Reptile and Amphibian Atlas for observations of species collected from 1970-2019. Occurrences will include those beyond the subject property and on habitats suitable to those species.

A summary of the search is included in Appendix B. Two SAR were found in the search, being the Snapping Turtle (SC) and Blanding’s Turtle (*Emydoidea blandingii*) (THR). Other species noted in the search are common to Ontario. An analysis of habitat potential for these significant species is provided in Section 5.

4.1.5 Atlas of Breeding Birds of Ontario

A geographic query of occurrence square 17PK12 was completed using the Atlas Breeding Birds of Ontario for observations of species collected from 2001-2005. It is noted that these occurrence squares encompass a large area that includes the subject property. Occurrences will include those beyond the subject property and on habitats suitable to those species.

A summary of the search is included in Appendix B. Six species detected during the Breeding Atlas are listed as a SAR in the *Endangered Species Act*. These species are:

- Eastern Wood-Pewee (*Contopus virens*) (SC)
- Barn Swallow (*Hirundo rustica*) (THR)

- Wood Thrush (*Hylocichla mustelina*) (SC)
- Golden-winged Warbler (*Vermivora chrysoptera*) (SC)
- Bobolink (*Dolichonyx oryzivorus*) (THR)
- Eastern Meadowlark (*Sturnella magna*) (THR)

Other species noted in the search are common to Ontario. An analysis of habitat potential for these significant species is provided in Section 5.

4.1.6 LSRCA Regulation Mapping

A small portion of the southeast part of the subject property is identified as Regulated Area by the LSRCA under Ontario Regulation (O.Reg.) 179/06 of the *Conservation Authorities Act* as shown on Figure 4- LSRCA Regulation Map.



Figure 4: LSRCA Regulation Map (<https://maps.lsrca.on.ca/EH5Viewer/index.html?viewer=LSRCARegulations>)

4.2 Field Investigations

4.2.1 Vegetation Communities/Flora

Vegetation communities were identified on site using ELC to the vegetation type. Adjacent lands are classified to the Ecosite where possible. Provided below are descriptions of communities, which are shown on Figure 5 – Ecological Land Classification and Table 2 – Site Photos.

CUP3: Coniferous Plantation

This small anthropogenically influenced community is dominated by a mix of planted White Pine (*Pinus strobus*) and Norway Spruce (*Picea abies*). A heavy duff layer (pine needles) was present which has inhibited the establishment of ground flora in conjunction with limited light infiltration through the dense canopy. No significant species (rare or SAR) were found in this community.

FOD6-5: Fresh-Moist Sugar Maple – Hardwood Deciduous Forest Type

This community is largely dominated by Hard Maple (*Acer saccharum*) with associates of White Ash (*Fraxinus americana*) and White Elm (*Ulmus americana*). Groundcover included Woodland Horsetail (*Equisetum sylvaticum*), Spotted Jewelweed (*Impatiens capensis*), Drooping Sedge (*Carex arctata*), Alternate-Leaved Dogwood (*Cornus alternifolia*) and Jack-in-the-pulpit (*Arisaema triphyllum*). No significant species (rare or SAR) were found.

AGR: Agricultural

This area is agricultural pastureland dominated by a mix of CUM1-1 (Dry-Moist Old Field Meadow Type). This community was cut in the early spring and mid-summer 2021, which prevented detailed inventories from occurring, however, species observed in the field community included Alfalfa (*Medicago sativa*), Kentucky Blue Grass (*Poa pratensis*), Wild Carrot (*Daucus carota*), Balsam Poplar (*Populus balsamifera*), Tall Buttercup (*Ranunculus acris*), Common Milkweed (*Asclepias syriaca*) and Smooth Brome Grass (*Bromus inermis*). A small stand of Trembling Aspen (*Populus tremuloides*) was found in the southeast part of this community. A coniferous planted hedgerow is present between the agricultural field and Melville Court. Species included Blue Spruce (*Picea pungens*), Norway Spruce, Manitoba Maple (*Acer negundo*), Choke Cherry (*Prunus vulgaris*), Eastern White Cedar (*Thuja occidentalis*) with a CUM1-1 understory.

Surveys completed for the property found no rare species or SAR. All species were found to be common to similar habitats found in Ontario or are listed as non-native/exotic species. A list of vascular plants and their status in Ontario is included in Appendix C.

4.2.2 Breeding Birds

24 bird species were documented on site or on adjacent lands. All species were found to be common within this area and Ontario. A list of species observed is included in Appendix C.

Surveys completed in June 2021 found no occurrences of the Eastern Meadowlark or Bobolink utilizing the subject property or agricultural lands on adjacent lands to the north.



- Legend**
- Property Boundary
 - Adjacent Lands (120 metres)
 - Evaluated Wetlands (Aerial)
 - Significant Woodlands (Aerial)
- ELC**
- Agricultural
 - CUP3
 - FOD6-5





ENVIRONMENTAL IMPACT STUDY

Figure 5
Existing Conditions

Doncor Development Inc.
East Half of Lot 20, Concession 5
Township of Oro-Medonte



Table 2: Site Photos

	
<p>CUP3: Coniferous Plantation in southeast part of subject property.</p>	<p>FOD6-5: Fresh-Moist Sugar Maple – Hardwood Deciduous Forest Type in northeast corner of subject property.</p>
	
<p>AGR: Agricultural lands looking east.</p>	<p>Hedge: Hedgerow looking east.</p>
	
<p>5th Line illustrating separation between woodlands on adjacent lands to the east and CUP3 and FOD6-5 on the subject property.</p>	

4.2.3 Incidental Wildlife

Incidental wildlife observations made during site visits included the Coyote (*Canis latrans*), Raccoon (*Procyon lotor*) and Eastern Garter Snake (*Thamnophis sirtalis*). These observations are included in Appendix C.

A review of potential cavity/snag trees was completed for the subject property. No cavity or snag trees were identified in on the property that would support maternity roost habitat for SAR bat species. Woodland communities on the subject property were primarily mature white pine/Norway spruce plantation, which would not be preferred as roosting habitat.

5 ANALYSIS OF NATURAL HERITAGE FEATURES

Identification of natural heritage features is based on the PPS, the NDMNRF “Natural Heritage Reference Manual” (2nd Edition) (MNRF 2010), Township of Oro-Medonte Official Plan, “Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E” (MNRF January 2015), and listings and habitat descriptions for species listed in the ESA.

5.1 Significant Wetlands (and Coastal Wetlands)

A review of the NDMNRF NHIC mapping and County of Simcoe Interactive Mapping found no Provincially Significant Wetland on or within 120 metres of the site.

5.2 Other Wetlands (Unevaluated, Evaluated Non-Provincially Significant)

A review of the NDMNRF NHIC mapping identifies the presence of an evaluated non-Provincially significant wetland in the southeast corner of the subject property and adjacent lands further southeast and east of the 5th Line.

A site investigation was completed on June 24, 2021 with LSRCA staff to delineate the boundaries of the wetland on the subject property. Through the investigation, it was determined that current wetland boundaries mapped on the property are incorrect. No wetland is present. This wetland is present on adjacent lands across the 5th Line to the east and further south as shown on Figure 5.

Provincial plans (LSPP, Growth Plan) and municipal official plans require an assessment of impacts on adjacent lands to other wetland features. Based on this requirement, an impact assessment is included in Section 6 of this report.

5.3 Significant Woodlands

The Natural Heritage Reference Manual (OMNR 2010) states that planning authorities should undertake comprehensive studies to identify significant woodlands in their planning area. The Township of Oro-Medonte does not identify Significant Woodlands on the subject property.

Criteria for the identification of Significant Woodlands are provided in the LSPP document “*Technical Definitions and Criteria for Identifying Key Natural Heritage Features and Key Hydrologic Features for the Lake Simcoe Protection Plan*” (MNR January 2015).

This document defines Significant (Page 16) as:

“Significant: in regard to woodlands an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. The Province (Ministry of Natural Resources and Forestry) identifies criteria relating to the forgoing (Greenbelt Plan).” (MOECC 2009)”

A small woodland area is present on the subject property in the east part of the subject property fronting on the 5th Line. It is our opinion that part of this wooded area occupied by plantation is almost half Norway Spruce, a non-native species, does not meet this definition for significance. It is not ecologically important in terms of species, functionally important due to it being a non-native community with no ecological functions (i.e. significant habitats) and does not provide economic benefit.

These woodland areas, including a small maple woodland in the northeast corner, is bisected from larger woodland/tree swamp to the east by the 5th Line by a canopy gap. This roadway contains a 20-metre township road allowance, a hydro corridor along the west side of the road and municipally maintained open ditches. It is our opinion that based on maintenance of the road, trimming of woodland edges for maintenance of the hydro corridor, and use as a township arterial road (with an entrance to Highway 11), there is no link between woodlands on the subject property and those on adjacent lands to the east across the 5th Line, and should be considered as separate wooded areas.

As the woodlands on the subject property, containing native species and habitats, do not meet the size criteria for significance in the north area of the LSPP area of 10ha, it is not significant.

Adjacent woodlands to the east of the 5th line would be considered significant due to size and natural composition. This woodland is also shown as significant based on Schedule B to the Township’s Official Plan. As these significant woodlands are within 120 metres adjacent lands to the proposed development, an impact assessment is provided in Section 6.

5.4 Significant Valleylands

No significant valley land features were identified during the desktop review or found during field surveys on the site.

5.5 Significant Wildlife Habitat

As analysis of candidate Significant Wildlife Habitat has been completed using the “*Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E*” (MNRF 2015) based on the results of the desktop review and field surveys. This assessment is included as Appendix D.

No Significant Wildlife Habitat was identified on the subject property.

Significant Wildlife Habitat may be present on adjacent lands to the east of the 5th within woodland and wetland habitats. These habitats (based on habitat visible from the 5th Line) could include:

- Bat Maternity Colonies;
- Amphibian Breeding Habitat (Woodland);

- Woodland Area-Sensitive Bird Breeding Habitat; and
- Special Concern and Rare Wildlife Species.

As these habitats are within 120 metres adjacent lands to the proposed development, an impact assessment is provided in Section 6.

5.6 Significant Areas of Natural and Scientific Interest

A desktop review of available information found no Provincially Significant ANSI's in the study area.

5.7 Fish Habitat

A review of available mapping and field investigations did not identify any watercourses or waterbodies within the study area. LSRC Mapping does identify a drainage feature crossing Melville Court south of the development area. However, this feature is on the periphery of the 120 metres adjacent lands.

5.8 Habitat of Endangered Species and Threatened Species

No habitat for threatened or endangered species were identified on site by an analysis of desktop resources and field investigations.

6 IMPACT ASSESSMENT AND MITIGATION

Three (3) natural heritage features were identified within on adjacent lands to the proposed development: Evaluated Non-Provincially Significant Wetlands, Significant Woodlands and Significant Wildlife Habitat.

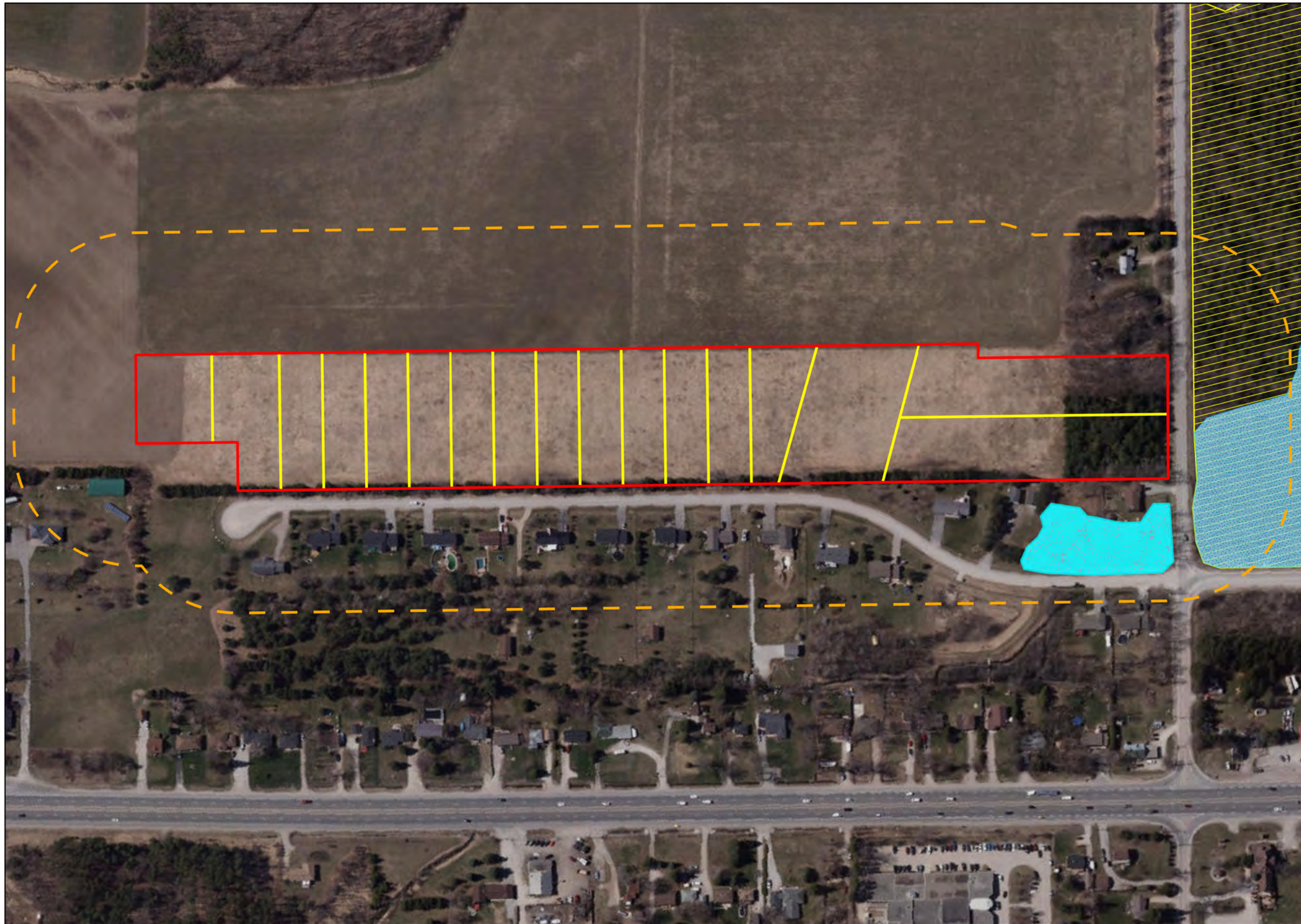
This section will assess potential impacts to these features and ecological functions as a result of the proposed development and provides mitigation measures to ensure no negative impacts. This report utilizes the definition of a “negative impact” in the PPS (Page 47) *“in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.”*

A summary of compliance with the PPS, Growth Plan, LSPP and Township Official Plan as it relates to policies regarding the nature environment is provided in Section 7.

6.1 Other Wetlands (Evaluated Non-Provincially Significant)

No development is proposed within the limits of the Shellswell Creek Wetland Non-Provincially Significant Wetland. As shown on *Figure 6 – Proposed Development*, the subject property is approximately 15 metres from the limit of this wetland feature.

A 30-metre Vegetation Protection Zone (VPZ) is required from key natural heritage and hydrologic features per policies of the LSPP. This VPZ would encompass the 20-metre municipal road allowance and the 5th Line, and a residential uses southeast of the subject property. The purpose of the VPZ is to protect the ecological functions of the feature. As a fragmented VPZ with a public roadway and existing



- Legend**
- Property Boundary
 - Adjacent Lands (120 metres)
 - Evaluated Wetlands (Aerial)
 - Significant Woodlands (Aerial)
 - Lot Lines

ENVIRONMENTAL IMPACT STUDY

Figure 6
 Proposed Development
 Doncor Development Inc.
 East Half of Lot 20, Concession 5
 Township of Oro-Medonte



residential development will not provide any protection to the adjacent wetland feature, the remaining 10-metre which would extend onto the subject property is not proposed for protection.

Hydrological contributions to this wetland will be maintained post-development. No changes to hydrologic conditions are anticipated as a result of development on the subject property.

LSRCA regulated areas are found on the subject property associated with this wetland feature. A permit will be required for any development within this regulated area in consultation with LSRCA.

As development of the site will not remove any part of the non-provincially significant wetland and no changes to hydrologic conditions of the wetland will occur, no negative impacts are anticipated.

6.2 Significant Woodlands

Significant Woodlands are identified on adjacent lands to the east of the 5th Line as shown on Figure 5 & 6.

No removal of this woodland/treed swamp (Evaluated Non-Provincially Significant Wetland) will occur as a result of the proposed development.

Typically, the 30-metre Vegetation Protection Zone (VPZ) from a key natural heritage feature such as a significant woodland would be comprised of natural self-sustaining vegetation. However, in this instance, the VPZ is comprised of an existing municipal road and 20 metre allowance located immediately east of the subject property. Given the fragmented nature of the current VPZ with an existing public roadway, there is no ecological reasoning to provide an additional 10-metre vegetated buffer to a road allowance. It should be noted that infrastructure including roadways are permitted in the VPZ of key natural heritage features in accordance with 6.23g)-DP of the Lake Simcoe Protection Plan. Further, it should be noted that only two driveways are proposed within the woodland on the property to a maximum total width of 12 metres which would result in the protection of the majority of the forested area on the property. Ecological offsetting can be provided for this minor loss of trees and forested area for the driveways.

As development of the subject property will result in no loss of Significant Woodlands across the 5th Line, no negative impacts are anticipated.

6.3 Significant Wildlife Habitat

Significant Wildlife Habitat may be present within larger woodlands and wetland habitats to the east and southeast of the 5th Line. As stated above, there will be no direct removal of these potential habitats as a result of the proposed development.

Proposed residential uses for building envelopes in Lots 15 & 16 will be approximately 80-100 metres from this potential SWH, with the exception of two single laneways (4 metres in width each) from the 5th line. This setback to the residences and their associated uses provides ample buffer for any noise or lighting indirect impacts.

As development of the subject property will result in no loss of Significant Wildlife Habitat across the 5th Line, no negative impacts are anticipated.

6.4 Additional Recommendations

6.4.1 Migratory Birds Convention Act

To avoid potential direct impacts to bird species (i.e. destruction of nests) protected under the *Migratory Birds Convention Act*, it is recommended that no clearing of vegetation occur on site between April 5 – August 27th per Environment Canada’s general nesting periods of migratory birds (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#_zoneC_calendar).

6.4.2 LSRCA Ecological Offsetting Policy

The Ecological Offsetting Policy (EOP) (revised May 2019) was implemented by the LSRCA to support goals for the natural heritage protection, enhancement and restoration, and the “no net loss” of natural features in the watershed. Development proposals subject to *Planning Act* approvals that will result in the removal of woodland will be required to compensate for the loss of this features. The replacement ratio for the extent of the feature will be 2:1 per requirements of the Offsetting Policy in addition to a 10-metre minimum vegetation protection zone.

Within plantation woodlands (CUP3), two single laneways are planned to access Lots 15 & 16. Removal of approximately 0.05 ha will be required. Typically, a 10 metre VPZ is provided to woodland features with significant ecological value. In this case based on the very limited amount of woodland to be removed and composition (Plantation) we believe that a smaller VPZ is warranted. On this basis, a 5 metre VPZ will be used for calculating the ecological offsetting value as per the LSRCA EOP.

It is anticipated that replacement of a 2:1 area (0.1ha) of woodland and associated VPZ can be completed on site. This will be confirmed through consultation with the LSRCA.

7 COMPLIANCE WITH PLANNING POLICIES

The following tables provide a summary of planning policies and rationale for compliance/conformity with the Provincial Policy Statement, Growth Plan, Lake Simcoe Protection Plan, County of Simcoe Official Plan and Township of Oro-Medonte Official Plan for the proposed development. This environmental policy analysis was undertaken by Charles F. Burgess, MCIP, RPP of Burgess Gleason Environmental.

Table 3: Provincial Policy Statement

Section	Policy	Policy Consistency
2.1.3	Natural heritage systems shall be identified in Ecoregions 6E and 7E ¹ recognizing that they will vary in size and form in settlement areas, rural areas, and prime agricultural areas.	The Natural Heritage System (NHS) is illustrated on Schedule 5.1 of the County of Simcoe’s Official Plan. All development will be located in the Agricultural designation outside the NHS.
2.1.4	Development and site alteration shall not be permitted in significant wetlands and coastal wetlands.	There are no significant or coastal wetlands on the property.

2.1.5	Development and site alteration shall not be permitted in valleylands, woodlands, wildlife habitat, and ANSI that are significant including coastal wetlands unless it has been demonstrated that there will be no negative impacts on the natural feature and their ecological functions.	There are no significant valley-lands, ANSI, significant woodland or wildlife habitat on the subject property based on an evaluation of existing information and a recent site inspection. The property is comprised of agricultural land and a small woodland area.
2.1.6	Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.	The subject property is devoid of any watercourses and fish habitat.
2.1.7	Development and site alteration shall not be permitted in habitat of endangered species and threatened species except in accordance with provincial and federal requirements.	The field inspection and evaluation has demonstrated that the proposed development will be located in an area that is devoid of any habitat of endangered or threatened species. As a result, the provisions of the <i>Endangered Species Act</i> will be met.
2.1.8	Development and site alteration shall not be permitted on adjacent lands to features identified in 2.1.4, 2.1.5, and 2.1.6 unless it has been demonstrated that there will be no negative impacts.	The proposed development will be located within 120 metres of a wetland and significant woodland located across Concession 5 to the east of the property. There will be no negative impacts on the adjacent wetland and woodland since all development will be sufficiently setback a minimum of 20 metres from these natural heritage features. Also, a municipal road exists between the wetland/woodland and the subject property.

Table 4: Growth Plan

Section	Policy	Policy Conformity
4.2.1	The Water Resource Systems will be maintained through the protection of key hydrologic areas, key hydrologic features (KHF), and their functions.	A key hydrologic feature such as a locally significant wetland is located across Concession Road 5 to the east of the property. All development will be setback a minimum of 20 metres from this wetland area.
4.2.2.4	Provincial mapping of the Natural Heritage System (NHS) for the Growth Plan will not apply until it has been implemented in the upper-tier Official Plan (OP). Until that time, the applicable policies of the Growth Plan will apply to the NHS identified in Official Plans in effect as of July 1, 2017.	The County's Official Plan has not been amended to incorporate the provincial NHS mapping. As a result, the mapping of the Greenlands designation in the County's OP will be utilized for the implementation of the applicable Growth Plan policies.

4.2.3.1	This policy section identifies the permitted uses within key natural heritage features (KNHF) that are part of the NHS.	The County's Greenlands System and subsequent provincial NHS is not located on the property. All new development will be located in the current Agricultural designation of the County's OP.
4.2.3.1	This policy prohibits development and site alteration within key hydrologic features except as provided in subsections a) to g).	All new development will be located outside the key hydrologic feature including the wetland located to the east of Concession Road 5.
4.2.4.1	A proposal for development within 120 metres of a key hydrologic feature or KNHF will require a natural heritage evaluation (NHE).	The property is located within 120 metres of a wetland located to the east of Concession Road 5. As a result, this NHE or EIS has been undertaken to satisfy this policy.
4.2.4.1 a)b)c)	The natural heritage evaluation must identify a vegetation protection zone (VPZ) which is of sufficient width to protect the KNHF or the key hydrologic feature, is established with natural self-sustaining vegetation, and is no less than 30 metres from the boundary of a KHF.	All new development will be setback a minimum of 20 metres from the wetland and woodland located to the east of the property. It is noted that the VPZ currently consists of a municipal road allowance (Concession Road 5 which is major municipal paved roadway).
4.2.4.2	Evaluations undertaken in accordance with 4.2.4.1 will identify any additional restrictions to be applied before, during, and after development to protect the functions of the feature.	The proposed development will be subject to a plan of subdivision process. Proper stormwater management will be provided via this process through the provision of grading, drainage, and erosion and sedimentation control plans. The implementation of these plans will help protect the key hydrologic feature located to the east of Concession Road 5.
4.2.4.3	Development or site alteration is not permitted in the vegetation protection zone except as described in policy 4.2.3.1 or 4.2.4.5.	It is noted that a municipal road (Concession Road 5) exists within the VPZ of the wetland and woodland between the subject property and natural heritage features. Infrastructure is permitted in the VPZ as per 4.2.3.1c).

Table 5: Lake Simcoe Protection Plan

Section	Policy	Policy Conformity
6.20 - DP	Policies 6.20-6.29 apply to lands outside existing settlement areas and outside the Greenbelt including the Oak Ridges Moraine.	The subject property is located outside a settlement area and the Greenbelt. As such, Policies 6.20-6.29 would apply to this application.
6.21-DP	Key natural heritage features (KNHF) are defined as significant woodlands, wetlands, significant valleylands, and natural areas abutting Lake Simcoe.	Based on mapping and a field evaluation, there are no key natural heritage features on the subject property. However, a wetland and significant woodland exist to the east of the subject property on the other side of Concession Road 5.

6.22-DP	Key hydrologic features (KHF) are defined as wetlands, permanent and intermittent streams, and lakes other than Lake Simcoe.	Based on mapping and a site inspection, there are no watercourses, wetlands, or lakes other than Lake Simcoe on the subject property.
6.23- DP	Development and site alteration is not permitted within a key natural heritage feature, key hydrologic feature, and within a related vegetation protection zone (VPZ).	The subject property is devoid of any key natural heritage features or key hydrologic features. A wetland and Significant Woodland exist to the east on the other side of Concession Road 5.
6.24-DP	The minimum vegetation protection zone for KNHF and KHF is 30 metres or larger as determined via a NHE.	All development will be setback from the KNHF and KHF located to the east off of the property. It is noted that a municipal road (Concession Road 5) exists within the VPZ of these features. It should be noted that infrastructure such as roads are permitted within the VPZ as per 6.23g)-DP.
6.25-DP	A Natural Heritage Evaluation (NHE) is required for all development within 120 metres of a KNHF or KHF.	The subject property is located within 120 metres from the wetland and significant woodland located to the east of Concession Road 5. As a result, this study constitutes the NHE and satisfies this policy requirement.
6.26 - DP	A natural heritage evaluation referred to in 6.25 shall be carried out in accordance with MNR guidelines.	This Natural Heritage Evaluation has been carried out in accordance with the Terms of Reference established by the Township and LSRCA and the associated MNR guidelines.
6.26 -DP (a. – f.)	A natural heritage evaluation referred to in 6.25 shall address any adverse impacts, connectivity of features, the minimum vegetation protection zone, and feature enhancement.	These criteria have been met given the lack of key natural heritage and hydrologic features on-site. It is also noted that Concession Road 5 exists between the significant woodland and wetland, and the subject property.
6.27-DP and 6.28-DP	A buffer or VPZ to be established shall consist of natural self-sustaining vegetation.	The current VPZ of the wetland and woodland is comprised of an existing municipal road which is permitted in accordance with 6.23g)-DP.

Table 6: County of Simcoe Official Plan

Section	Designation	Conformity
Schedule 5.1 to the Official Plan (OP)	The subject property is designated Agricultural according to the Land Use Schedule to the Official Plan.	The Official Plan Amendment applications are intended to change the Agricultural designation to the Settlements designation in order to allow the rural residential use.
Schedule 5.2.2 to the Official Plan	This Schedule shows the streams and evaluated wetlands within the County.	Based on this Schedule, the property is located adjacent to a locally significant wetland which is located to the east of the subject property. All new development will be setback a minimum of 20 metres from this wetland feature. It is noted

		that a municipal road (Concession Road 5) exists between the wetland and subject lands.
Schedule 5.2.3 to the Official Plan	This Schedule shows the ANSI within the County.	Based on this Schedule, the property is <u>not</u> located within an ANSI.
Schedule 5.2.5 to the Official Plan	This Schedule shows the Highly Vulnerable Aquifers (HVA) in the County.	The subject property is <u>not</u> located in any HVA based on Schedule 5.2.5.
Schedule 5.2.6 to the Official Plan	This Schedule illustrates the Significant Groundwater Recharge Areas (SGRA) within the County's jurisdiction.	The subject property is <u>not</u> located in any SGRA based on Schedule 5.2.6.
3.3.15 i)	Development and site alteration is not permitted in significant and coastal wetlands.	There are no significant or coastal wetlands on or adjacent to the subject property.
3.3.15 vi)	Development and site alteration shall not be permitted on adjacent lands unless it has been demonstrated that there will be no negative impact on the natural feature or its ecological function. Adjacent lands is generally defined as 120 metres dependent upon the feature.	Based on the site inspection and existing information, it has been determined that a locally significant wetland and significant woodland exists adjacent to the property east of Concession 5. Given that all development will be setback a minimum of 20 metres from the wetland and woodland, there will be no negative impact on these natural heritage features. It is noted that a municipal road exists between the natural features and the subject property.

Table 7: Township of Oro-Medonte Official Plan (2020 – Office Consolidation)

Schedule	Designation	Conformity
Schedule A to the Official Plan (OP) Land Use	The subject property is designated Agricultural based on Schedule A to the OP.	The Official Plan Amendment application is intended to change the Agricultural designation to a land use designation that will allow the rural residential use.
Schedule B to the Official Plan Natural Features	The subject property is located <u>outside</u> any natural features shown on Schedule B to the OP.	There are no natural heritage features on the property. It is noted, however, that there is a wetland and significant woodland located to the east of the property on the other side of Concession Road 5. These features are within the "EP2" designation. The subject property is located within the adjacent lands of these natural heritage features.

B3.4	This section of the OP identifies the adjacent lands from “EP2” lands. For wetlands, adjacent lands is defined as 120 metres. An Environmental Impact Study (EIS) is required for any development within the adjacent lands.	The subject property is located within 120 metres of the wetland located to the east of Concession Road 5. This Scoped Environmental Impact Study fulfills this policy by demonstrating that the development of the property for residential purposes will have no negative ecological impacts on the adjacent wetland and significant woodland.
B5.1.1	This section illustrates the contents and purpose of an EIS.	This EIS has been prepared in the context of this section and the requirements of the LSRCA.

8 CONCLUSIONS

Roots Environmental has been retained to complete an Environmental Impact Study for the property located in the East Half of Lot 20, Concession 5, Township of Oro-Medonte in support of planning applications to permit development of the property for residential development.

Provided development occurs as shown on the Site Plan and mitigation measures in this report are implemented, we anticipate no negative impacts to identified natural heritage features as a result of the proposed development.

Respectively submitted by Roots Environmental:



Kyle Fleming, BSc. (Wildlife)
Senior Ecologist, Owner

REFERENCES

Government of Ontario. 2020. Provincial Policy Statement. Queen's Printer of Ontario.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P.Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Natural Heritage Information Centre (NHIC) Database. 2021. Provincial Status of Plants, Wildlife and Vegetation Communities Database. Ministry of Natural Resources and Forestry, Peterborough.

Ontario Ministry of Natural Resources and Forestry. January 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.

Ontario Ministry of Natural Resources and Forestry. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005.

Township of Oro-Medonte. Office Consolidation 2021. Township of Oro-Medonte Official Plan.

APPENDIX A

Agency Correspondence

Kyle Fleming

From: Kate Lillie <K.Lillie@lsrca.on.ca>
Sent: April 13, 2021 10:34 AM
To: Kyle Fleming
Cc: Shawn Filson
Subject: RE: EIS Terms of Reference - Melville Crt, Oro-Medonte
Attachments: Melville Crt Property Boundary.pdf; Melville Crt - Site Features.pdf

Hi Kyle,

Thanks for your email and your patience. All is good over here. Hope you're doing well too. It always nice to have the warm weather return.

The terms of reference for an EIS provided below are acceptable. Please be sure to complete an assessment of woodland on the property as well to determine if it is a key natural heritage feature. A site visit will be required to confirm feature boundaries (note that a site visit fee may apply). Woodland can be staked at any time, but the wetland can only be staked between mid-June and September. Let me know if you'd like to get something scheduled and I'll propose a few options.

I've cc'd Shawn Filson (LSRCA Planner I) on here as well. It's recommended that a formal pre-consultation be requested through Shawn so that any additional requirements can be identified early in the process.

Kind regards,

Kate Lillie, HBSc, EP, ISA
Natural Heritage Ecologist
Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
905-895-1281, ext. 286 | 1-800-465-0437
k.lillie@LSRCA.on.ca | www.LSRCA.on.ca

Please note: the LSRCA Board of Directors approved a change to our Fee Policy. The new fees will take effect on January 1, 2021. Please click [here](#) for the new fee schedule.

Twitter: @LSRCA
Facebook: LakeSimcoeConservation

The information in this message (including attachments) is directed in confidence solely to the person(s) named above and may not be otherwise distributed, copied or disclosed. The message may contain information that is privileged, confidential and exempt from disclosure under the Municipal Freedom of Information and Protection of Privacy Act and by the Personal Information Protection Electronic Documents Act. If you have received this message in error, please notify the sender immediately and delete the message without making a copy. Thank you.

From: Kyle Fleming <kyle@rootsenvironmental.ca>
Sent: April 6, 2021 12:34 PM
To: Kate Lillie <K.Lillie@lsrca.on.ca>
Subject: EIS Terms of Reference - Melville Crt, Oro-Medonte

CAUTION: This email originated outside of LSRCA. DO NOT click links or open attachments unless you recognize the sender and trusted content. If in doubt, contact the IT Helpdesk at ITHelpdesk@lsrca.on.ca

Hi Kate,

Hope all is well and you are enjoying some of this nice weather we are having!

We have been retained to complete an Environmental Impact Study (EIS) for a proposed subdivision on Melville Court in the Township of Oro-Medonte. Please see the attached map illustrating the property.

The southeast corner of the property is regulated by LSRCA due to the presence of a watercourse further southeast and the Shellswell Creek Wetland (Non-Provincially Significant). We completed an initial site visit last fall and found that the boundaries of the wetland are incorrect. Within the subject property, wetland is presently mapped in a spruce plantation and includes an adjacent residence immediately to the south. See attached for our preliminary mapping of the wetland (in purple) from last fall. In addition to the wetland on adjacent lands, we also identified the potential for the threatened Eastern Meadowlark and Bobolink within open grassland habitat, and a small vernal pool on an adjacent property to the northeast.

Based on the habitats present, we have developed the following Terms of Reference for the EIS:

- Complete a thorough desktop review of all available sources for existing natural environment information for the subject property and adjacent lands of 120 m;
- Evaluate existing vegetation communities using Ecological Land Classification (ELC) for Southern Ontario (Lee et al. 1998. Ecological Land Classification for Southern Ontario: first approximation and its applications. SCSS Field Guide FG-02).
- Conduct a two-season vegetation inventory in the late spring and summer. Include the inventory categorized by ELC community as an appendix and note any Species at Risk and/or provincially/locally rare species.
- Conduct three (3) dawn breeding bird surveys between May 24 and July 15, under appropriate conditions, with a minimum of 10 days between surveys, and record all occurrences and breeding behaviors. These surveys will include dedicated point counts for species at risk grassland birds.
- Assessment of vernal pool on adjacent lands for potential Significant Wildlife Habitat values.
- Record observations of all wildlife occurrences and behaviours and assess wildlife habitat function.
- Screen for Species at Risk (SAR), listed under the Endangered Species Act, 2007, based on existing or potential habitat. Conduct species-specific surveys as required if SAR habitat is present.
- Complete an Environmental Impact Study, to include the following:
 - Assess candidate Significant Wildlife Habitat (e.g. reptile hibernaculum, woodland raptor nesting habitat, etc.) using Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, January 2015).
 - Provide a general description of the methodology, dates, timing, and locations of completed field surveys.
 - Confirm the boundaries of any wetland and/or woodland features on the property through a staking exercise with the LSRCA.
 - Recommend the dimensions of an appropriate vegetation protection zone (VPZ)/buffer to natural heritage and hydrologic features required to mitigate impacts from the proposed development. Recommendations for restoration/plantings will be included.
 - Provide a detailed description of the proposed development.
 - Map the following information separately on current high quality ortho-air photos:
 - ELC vegetation communities, natural heritage and hydrologic features and their associated VPZs, and the proposed development and anticipated limit of disturbance (e.g. grading limits); and,
 - Survey locations and other environmental features (e.g. linkages, wildlife corridors, seeps, springs, stick nests, wildlife habitat, rare species, invasive species, etc.).
 - Determine the potential direct, indirect, and cumulative impacts of the proposed development on natural heritage features and related ecological and hydrologic functions.

- Develop and provide an appropriate avoidance/mitigation/restoration strategy to address the potential impacts of the proposed development.
- Demonstrate that the proposed development is in conformity with all federal, provincial, regional, and municipal natural heritage policies applicable in the Lake Simcoe watershed.

I anticipate that a site visit by LSRCA will be required to confirm wetlands are not present on the subject property. Due to covid restrictions, we can potentially wait until late June or July to complete this work. If restrictions are still in place, we can stake the edge of features and LSRCA can complete a site visit separately to verify the boundaries.

Please provide your acceptance and/or any comments on the above Terms of Reference.

Thank you,

Kyle

Kyle Fleming, BSc. (Wildlife)
Senior Ecologist/Owner



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705.718.6153
www.rootsenvironmental.ca

APPENDIX B

Desktop Review

NHIC Data

To work further with this data select the content and copy it into your own word or excel documents.

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
1018378	NATURAL AREA	Shellswell Creek Wetland (OM16)					17PK1424	
1018378	SPECIES	Henslow's Sparrow	<i>Ammodramus henslowii</i>	END		END	17PK1424	
1018378	SPECIES	Eastern Meadowlark	<i>Sturnella magna</i>	THR		THR	17PK1424	
1018378	SPECIES	Snapping Turtle	<i>Chelydra serpentina</i>	SC		SC	17PK1424	
1018368	NATURAL AREA	Shellswell Creek Wetland (OM16)					17PK1324	
1018368	SPECIES	Henslow's Sparrow	<i>Ammodramus henslowii</i>	END		END	17PK1324	
1018368	SPECIES	Chimney Swift	<i>Chaetura pelagica</i>	THR		THR	17PK1324	
1018368	SPECIES	Eastern Meadowlark	<i>Sturnella magna</i>	THR		THR	17PK1324	



Species list in taxonomic order for square 17PK12

All species

Number of rows of data displayed below: 18.

Species #	Common Name	# of Records	Earliest Yr _____	Latest Yr
1	Blanding's Turtle	4	2014	2019
3	Midland Painted Turtle	8	2015	2019
6	Snapping Turtle	8	1985	2019
10	Dekay's Brownsnake	1	2018	2018
18	Milksnake	3	2007	2019
25	American Bullfrog	5	1996	1996
27	Gray Treefrog	231	1996	2007
28	Green Frog	343	1996	2017
29	Mink Frog	3	1999	2007
30	Northern Leopard Frog	90	1996	2007
31	Pickerel Frog	2	1996	1996
32	Spring Peeper	334	1996	2017
33	Western Chorus Frog	16	1996	2000
34	Wood Frog	75	1996	2017
35	American Toad	205	1996	2007
38	Blue-spotted Salamander	1	2014	2014
40	Red-spotted Newt	2	2000	2016
48	Spotted Salamander	1	1984	1984

[TEA home page](#) | [Main atlas page](#)

Species list for square 17PK12 (number of entries returned: 78)

Region	Square	Species	Breeding Evidence				Point Counts			
			Max BE	Categ	#Sq	Atlasser Name	#PC	%PC	Abun	#Sq
13	17PK12	Canada Goose	H	POSS	1	Prabha Khosla				
13	17PK12	Wood Duck	H	POSS	1		2	8.0	0.12	1
13	17PK12	Gadwall	P	PROB	1	Doug Woods				
13	17PK12	Mallard	FY	CONF	1		2	8.0	0.16	1
13	17PK12	Blue-winged Teal	H	POSS	1					
13	17PK12	Green-winged Teal	H	POSS	1	Valerie Jacobs				
13	17PK12	Ruffed Grouse	FY	CONF	1		1	4.0	0.04	1
13	17PK12	Wild Turkey	H	POSS	1	Valerie Jacobs	1	4.0	0.12	1
13	17PK12	Common Loon	H	POSS	1	Prabha Khosla				
13	17PK12	Green Heron	H	POSS	1					
13	17PK12	Broad-winged Hawk	T	PROB	1					
13	17PK12	American Kestrel	H	POSS	1	Valerie Jacobs				
13	17PK12	Sora	T	PROB	1	Valerie Jacobs				
13	17PK12	Killdeer	H	POSS	1		1	4.0	0.04	1
13	17PK12	Rock Pigeon	H	POSS	1	Valerie Jacobs	2	8.0	0.08	1
13	17PK12	Mourning Dove	T	PROB	1	Valerie Jacobs	11	44.0	0.64	1
13	17PK12	Black-billed Cuckoo	S	POSS	1					
13	17PK12	Eastern Screech-Owl	S	POSS	1					
13	17PK12	Great Horned Owl	H	POSS	1					
13	17PK12	Ruby-throated Hummingbird	H	POSS	1	Prabha Khosla	2	8.0	0.08	1
13	17PK12	Belted Kingfisher	T	PROB	1	Valerie Jacobs				
13	17PK12	Yellow-bellied Sapsucker	S	POSS	1					
13	17PK12	Downy Woodpecker	T	PROB	1		2	8.0	0.08	1
13	17PK12	Hairy Woodpecker	T	PROB	1		1	4.0	0.04	1
13	17PK12	Northern Flicker	AE	CONF	1	Prabha Khosla	2	8.0	0.08	1
13	17PK12	Pileated Woodpecker	H	POSS	1	Valerie Jacobs	1	4.0	0.04	1
13	17PK12	Olive-sided Flycatcher	H	POSS	1	Prabha Khosla				
13	17PK12	Eastern Wood-Pewee	S	POSS	1					
13	17PK12	Alder Flycatcher	T	PROB	1	Valerie Jacobs	1	4.0	0.04	1
13	17PK12	Willow Flycatcher	S	POSS	1					
13	17PK12	Eastern Phoebe	T	PROB	1	Valerie Jacobs	1	4.0	0.08	1
13	17PK12	Great Crested Flycatcher	T	PROB	1	Valerie Jacobs				
13	17PK12	Eastern Kingbird	FY	CONF	1	Valerie Jacobs	6	24.0	0.4	1
13	17PK12	Warbling Vireo	S	POSS	1	Valerie Jacobs	1	4.0	0.04	1
13	17PK12	Red-eyed Vireo	S	POSS	1	Valerie Jacobs	3	12.0	0.12	1
13	17PK12	Blue Jay	FY	CONF	1	Valerie Jacobs	7	28.0	0.4	1
13	17PK12	American Crow	FY	CONF	1	Valerie Jacobs	24	96.0	3.2	1
13	17PK12	Tree Swallow	AE	CONF	1	Valerie Jacobs	7	28.0	0.52	1
13	17PK12	Barn Swallow	H	POSS	1	2 atlassers	7	28.0	0.76	1
13	17PK12	Black-capped Chickadee	A	PROB	1		9	36.0	1.12	1
13	17PK12	White-breasted Nuthatch	S	POSS	1	Valerie Jacobs				
13	17PK12	Brown Creeper	H	POSS	1					
13	17PK12	House Wren	S	POSS	1		12	48.0	0.8	1
13	17PK12	Winter Wren	FY	CONF	1					
13	17PK12	Veery	S	POSS	1		1	4.0	0.08	1
13	17PK12	Wood Thrush	S	POSS	1		1	4.0	0.04	1
13	17PK12	American Robin	CF	CONF	1	Prabha Khosla	19	76.0	1.48	1
13	17PK12	Gray Catbird	T	PROB	1		1	4.0	0.04	1
13	17PK12	European Starling	FY	CONF	1	Valerie Jacobs	11	44.0	1.72	1
13	17PK12	Cedar Waxwing	T	PROB	1	Valerie Jacobs	3	12.0	0.28	1
13	17PK12	Golden-winged Warbler	S	POSS	1	Prabha Khosla				
13	17PK12	Nashville Warbler	T	PROB	1					
13	17PK12	Yellow Warbler	S	POSS	1	Prabha Khosla	1	4.0	0.08	1
13	17PK12	Chestnut-sided Warbler	T	PROB	1					
13	17PK12	Black-throated Green Warbler	T	PROB	1		1	4.0	0.12	1
13	17PK12	Black-and-white Warbler	T	PROB	1		2	8.0	0.2	1
13	17PK12	American Redstart	S	POSS	1	Prabha Khosla	3	12.0	0.12	1
13	17PK12	Ovenbird	T	PROB	1		3	12.0	0.12	1
13	17PK12	Mourning Warbler	S	POSS	1	Prabha Khosla	1	4.0	0.04	1

13	17PK12	Common Yellowthroat	T	PROB	1	Valerie Jacobs	5	20.0	0.36	1
13	17PK12	Chipping Sparrow	FY	CONF	1	Valerie Jacobs	6	24.0	0.44	1
13	17PK12	Field Sparrow	T	PROB	1					
13	17PK12	Savannah Sparrow	S	POSS	1	Valerie Jacobs	6	24.0	0.48	1
13	17PK12	Song Sparrow	AE	CONF	1		22	88.0	1.8	1
13	17PK12	Swamp Sparrow	T	PROB	1	Valerie Jacobs	1	4.0	0.04	1
13	17PK12	White-throated Sparrow	T	PROB	1	Valerie Jacobs	2	8.0	0.12	1
13	17PK12	Scarlet Tanager	S	POSS	1					
13	17PK12	Northern Cardinal	T	PROB	1		4	16.0	0.2	1
13	17PK12	Rose-breasted Grosbeak	CF	CONF	1					
13	17PK12	Indigo Bunting	S	POSS	1	2 atlasers	3	12.0	0.12	1
13	17PK12	Bobolink	T	PROB	1	Valerie Jacobs	5	20.0	0.4	1
13	17PK12	Red-winged Blackbird	CF	CONF	1	Valerie Jacobs	13	52.0	2.28	1
13	17PK12	Eastern Meadowlark	S	POSS	1		6	24.0	0.44	1
13	17PK12	Common Grackle	CF	CONF	1	Valerie Jacobs	7	28.0	1.12	1
13	17PK12	Brown-headed Cowbird	D	PROB	1	Valerie Jacobs	5	20.0	0.56	1
13	17PK12	Baltimore Oriole	FY	CONF	1	Valerie Jacobs	1	4.0	0.12	1
13	17PK12	American Goldfinch	T	PROB	1	Valerie Jacobs	13	52.0	1.12	1
13	17PK12	House Sparrow	H	POSS	1	Valerie Jacobs	1	4.0	0.04	1

APPENDIX C

Species Lists

Melville Court Development (Doncor Development Inc.)**Vascular Plant List (2021)**

SCIENTIFIC NAME	COMMON NAME	S RANK	SARO	SARA	G RANK
<i>Acer negundo</i>	Manitoba Maple	S5			G5
<i>Acer saccharum</i>	Sugar Maple	S5			G5
<i>Alliaria petiolata</i>	Garlic Mustard	SNA			GNR
<i>Ambrosia trifida</i>	Great Ragweed	S5			G5
<i>Aralia nudicaulis</i>	Wild Sarsaparilla	S5			G5
<i>Arctium lappa</i>	Great Burdock	SNA			GNR
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	S5			G5
<i>Asclepias syriaca</i>	Common Milkweed	S5			G5
<i>Betula papyrifera</i>	Paper Birch	S5			G5
<i>Bromus inermis</i>	Smooth Brome	SNA			G5T5
<i>Carex arctata</i>	Drooping Woodland Sedge	S5			G5
<i>Carex communis</i>	Fibrous-root Sedge	S5			G5
<i>Clematis virginiana</i>	Virginia Clematis	S5			G5
<i>Convolvulus arvensis</i>	Field Bindweed	SNA			GNR
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	S5			G5
<i>Daucus carota</i>	Wild Carrot	SNA			GNR
<i>Elymus repens</i>	Quackgrass	SNA			GNR
<i>Equisetum arvense</i>	Field Horsetail	S5			G5
<i>Fraxinus americana</i>	White Ash	S4			G5
<i>Fraxinus pennsylvanica</i>	Green Ash	S4			G5
<i>Galium asprellum</i>	Rough Bedstraw	S5			G5
<i>Impatiens capensis</i>	Spotted Jewelweed	S5			G5
<i>Lonicera tatarica</i>	Tatarian Honeysuckle	SNA			GNR
<i>Matricaria discoidea</i>	Pineappleweed	SNA			G5
<i>Medicago sativa</i>	Alfalfa	SNA			GNR
<i>Melilotus albus</i>	White Sweet-clover	SNA			G5
<i>Petasites frigidus var. palmatus</i>	Palmate Coltsfoot	S5			G5T5
<i>Phalaris arundinacea</i>	Reed Canarygrass	S5			G5
<i>Picea glauca</i>	White Spruce	S5			G5
<i>Picea pungens</i>	Blue Spruce	SNA			G5
<i>Pinus strobus</i>	Eastern White Pine	S5			G5
<i>Pinus sylvestris</i>	Scots Pine	SNA			GNR
<i>Poa pratensis</i>	Kentucky Bluegrass	S5			G5
<i>Populus balsamifera</i>	Balsam Poplar	S5			G5
<i>Populus tremuloides</i>	Trembling Aspen	S5			G5
<i>Potentilla anserina</i>	Silverweed	S5			G5
<i>Prunus virginiana</i>	Chokecherry	S5			G5
<i>Pteridium aquilinum</i>	Bracken Fern	S5			G5
<i>Ranunculus acris</i>	Common Buttercup	SNA			G5
<i>Rhus typhina</i>	Staghorn Sumac	S5			G5
<i>Rubus idaeus</i>	Red Raspberry	S5			G5
<i>Sambucus racemosa</i>	Red Elderberry	S5			G5
<i>Solidago canadensis</i>	Canada Goldenrod	S5			G5
<i>Solidago gigantea</i>	Giant Goldenrod	S5			G5
<i>Symphyotrichum puniceum</i>	Purple-stemmed Aster	S5			G5
<i>Taraxacum officinale</i>	Common Dandelion	SNA			G5
<i>Thuja occidentalis</i>	Eastern White Cedar	S5			G5
<i>Toxicodendron radicans</i>	Poison Ivy	S5			G5
<i>Trifolium repens</i>	White Clover	SNA			GNR
<i>Ulmus americana</i>	White Elm	S5			G4
<i>Vicia americana</i>	American Vetch	S5			G5

Melville Court Development (Doncor Development Inc.)

Breeding Bird List (2021)

SCIENTIFIC NAME	COMMON NAME	S RANK	SARO	SARA	G RANK
<i>Colaptes auratus</i>	Northern Flicker	S4B			G5
<i>Corvus brachyrhynchos</i>	American Crow	S5B			G5
<i>Cyanocitta cristata</i>	Blue Jay	S5B			G5
<i>Dumetella carolinensis</i>	Gray Catbird	S4B			G5
<i>Icterus galbula</i>	Baltimore Oriole	S4B			G5
<i>Melospiza melodia</i>	Song Sparrow	S5B			G5
<i>Passer domesticus</i>	House Sparrow	SNA			G5
<i>Passerina cyanea</i>	Indigo Bunting	S5B			G5
<i>Poecile atricapillus</i>	Black-capped Chickadee	S5B			G5
<i>Sayornis phoebe</i>	Eastern Phoebe	S5B			G5
<i>Setophaga petechia</i>	Yellow Warbler	S5B			G5
<i>Sitta canadensis</i>	Red-breasted Nuthatch	S5			G5
<i>Spinus tristis</i>	American Goldfinch	S5			G5
<i>Sturnus vulgaris</i>	European Starling	SNA			G5
<i>Tachycineta bicolor</i>	Tree Swallow	S4S5B			G5
<i>Turdus migratorius</i>	American Robin	S5B			G5
<i>Tyrannus tyrannus</i>	Eastern Kingbird	S4B			G5
<i>Vireo gilvus</i>	Warbling Vireo	S5B			G5
<i>Vireo olivaceus</i>	Red-eyed Vireo	S5B			G5
<i>Spizella passerina</i>	Chipping Sparrow	S5B			G5
<i>Troglodytes aedon</i>	House Wren	S5B			G5
<i>Cardinalis cardinalis</i>	Northern Cardinal	S5			G5
<i>Quiscalus quiscula</i>	Common Grackle	S5			G5
<i>Passerculus sandwichensis</i>	Savannah Sparrow	S5B			G5
<i>Zenaidura macroura</i>	Mourning Dove	S5			G5

APPENDIX D

Significant Wildlife Habitat Assessment

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SHW	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Waterfowl Stopover and Staging Areas (Terrestrial)</p> <p>Rationale: Habitat important to migrating waterfowl.</p>	<p>American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall</p>	<p>CUM1 CUT1 Plus, evidence of annual spring flooding from melt water or run-off within these Ecosites.</p>	<p>Fields with sheet water during Spring (mid-March to May).</p> <ul style="list-style-type: none"> Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. Reports and other information available from Conservation Authorities Sites documented through waterfowl planning processes (e.g. EHJV implementation plan) Field Naturalist Clubs Ducks Unlimited Canada Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area 	<p>Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”</p> <ul style="list-style-type: none"> Any mixed species aggregations of 100 or more individuals required. The flooded field ecosite habitat plus a 100-300m radius area, dependent on local site conditions and adjacent land use is the significant wildlife habitat. Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). SWHMIST Index #7 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>
<p>Waterfowl Stopover and Staging Areas (Aquatic)</p> <p>Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.</p>	<p>Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck</p>	<p>MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7</p>	<ul style="list-style-type: none"> Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Environment Canada Naturalist clubs often are aware of staging/stopover areas OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. Sites documented through waterfowl planning processes (e.g. EHJV implementation plan) Ducks Unlimited projects Element occurrence specification by Nature Serve: http://www.natureserve.org Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas 	<p>Studies carried out and verified presence of:</p> <ul style="list-style-type: none"> Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. The combined area of the ELC ecosites and a 100m radius area is the SWH. Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). SWHMIST Index #7 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Shorebird Migratory Stopover Area</p> <p>Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.</p>	<p>Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin</p>	<p>BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5</p>	<ul style="list-style-type: none"> Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Western hemisphere shorebird reserve network Canadian Wildlife Service (CWS) Ontario Shorebird Survey Bird Studies Canada Ontario Nature Local birders and naturalist clubs Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #8 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>
<p>Raptor Wintering Area</p> <p>Rationale: Sites used by multiple species of individuals and used annually are most significant</p>	<p>Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl</p> <p><u>Special Concern:</u> Short-eared Owl Bald Eagle</p>	<p><u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. <u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).</p>	<ul style="list-style-type: none"> The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. Field area of the habitat is to be windswept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting. <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> OMNRF Ecologist or Biologist Field Naturalist Clubs Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area Data from Bird Studies Canada Results of Christmas Bird Counts Reports and other information available from Conservation Authorities. 	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #10 and #11 provides development effects and mitigation measures. 	<p>Size requirements for combination of field meadow with woodland not present in the subject property.</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Bat Hibernacula</p> <p><u>Rationale:</u> Bat hibernacula are rare habitats in all Ontario landscapes.</p>	<p>Big Brown Bat Tri-coloured Bat</p>	<p>Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)</p>	<ul style="list-style-type: none"> Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered as SWH The locations of bat hibernacula are relatively poorly known. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern Development and Mines for location of mine shafts. Clubs that explore caves (e.g. Sierra Club) University Biology Departments with bat experts. 	<ul style="list-style-type: none"> All sites with confirmed hibernating bats are SWH. The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects. SWHMIST Index #1 provides development effects and mitigation measures. 	<p>No suitable habitat present.</p>
<p>Bat Maternity Colonies</p> <p><u>Rationale:</u> Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.</p>	<p>Big Brown Bat Silver-haired Bat</p>	<p>Maternity colonies considered SWH are found in forested Ecosites.</p> <p>All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM</p>	<ul style="list-style-type: none"> Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario. Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts University Biology Departments with bat experts. 	<ul style="list-style-type: none"> Maternity Colonies with confirmed use by; <ul style="list-style-type: none"> >10 Big Brown Bats >5 Adult Female Silver-haired Bats The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. SWHMIST Index #12 provides development effects and mitigation measures. 	<p>No cavity or snag trees were found within wooded areas of the subject property.</p> <p>Potential habitat may be present on adjacent lands across the 5th Line.</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SHW	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Turtle Wintering Areas</p> <p>Rationale: Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Midland Painted Turtle</p> <p>Special Concern: Northern Map Turtle Snapping Turtle</p>	<p>Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO</p> <p>Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p>	<ul style="list-style-type: none"> For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <p>Information Sources</p> <ul style="list-style-type: none"> EIS studies carried out by Conservation Authorities. Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. OMNRF Ecologist or Biologist Field Naturalist clubs Natural Heritage Information Center (NHIC) 	<ul style="list-style-type: none"> Presence of 5 over-wintering Midland Painted Turtles is significant. One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) Congregation of turtles is more common where wintering areas are limited and therefore significant SWHMIST Index #28 provides development effects and mitigation measures for turtle wintering habitat. 	<p>No suitable habitat is present.</p>
<p>Reptile Hibernaculum</p> <p>Rationale: Generally, sites are the only known sites in the area. Sites with the highest number of individuals are most significant.</p>	<p>Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake</p> <p>Special Concern: Milksnake Eastern Ribbonsnake</p> <p>Lizard: Special Concern (Southern Shield population); Five-lined Skink</p>	<p>For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats.</p> <p>Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.</p> <p>For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3</p>	<ul style="list-style-type: none"> For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. <p>Information Sources</p> <ul style="list-style-type: none"> In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). Reports and other information available from Conservation Authorities. Field Naturalists clubs University herpetologists Natural Heritage Information Center (NHIC) OMNRF ecologist or biologist may be aware of locations of wintering skinks 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) Note: If there are Special Concern Species present, then site is SWH Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. SWHMIST Index #13 provides development effects and mitigation measures for snake hibernacula. Presence of any active hibernaculum for skink is significant. SWHMIST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat. 	<p>No old stone fences, foundations or rock crevices found that would provide hibernacula habitat.</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Colonially -Nesting Bird Breeding Habitat (Bank and Cliff)</p> <p>Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.</p>	<p>Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)</p>	<p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1</p>	<ul style="list-style-type: none"> Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas Bird Studies Canada; <i>NatureCounts</i> http://www.birdscanada.org/birdmon/ Field Naturalist Clubs. 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMIST Index #4 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>
<p>Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs)</p> <p>Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron</p>	<p>SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1</p>	<ul style="list-style-type: none"> Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11 to 15 m from ground, near the top of the tree. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas, colonial nest records. Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony Aerial photographs can help identify large heronries. Reports and other information available from CAs. MNR District Offices Local naturalist clubs 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 5 or more active nests of Great Blue Heron or other listed species. The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. SWHMIST Index #5 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
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SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Colonially -Nesting Bird Breeding Habitat (Ground)</p> <p>Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird</p>	<p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird)</p> <p>MAM1 – 6; MAS1 – 3; CUM CUT CUS</p>	<p>• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas.</p> <p>• Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Ontario Breeding Bird Atlas, rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from CAs. • Natural Heritage Information Center (NHIC) • Colonial Waterbird Nesting Area • MNRF District Offices • Field Naturalist clubs 	<p>Studies confirming:</p> <ul style="list-style-type: none"> • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMIST Index #6 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>
<p>Migratory Butterfly Stopover Areas</p> <p>Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p>	<p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • OMNRF (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities 	<p>Studies confirm:</p> <ul style="list-style-type: none"> • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • SWHMIST Index #16 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>

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SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Landbird Migratory Stopover Areas</p> <p>Rationale: Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All migratory songbirds. Canadian Wildlife Service Ontario website.</p> <p>All migratory songbirds. Canadian Wildlife Service Ontario website:</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p>	<p>Woodlots need to be >10 ha in size and within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. Sites have a variety of habitats; forest, grassland and wetland complexes. The largest sites are more significant. Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Bird Studies Canada Ontario Nature Local birders and naturalist club Ontario Important Bird Areas (IBA) Program 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #9 provides development effects. 	<p>No suitable habitat present</p>
<p>Deer Yarding Areas</p> <p>Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p>	<p>White-tailed Deer</p>	<p>Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC.</p> <p>Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT</p>	<ul style="list-style-type: none"> Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. OMNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual". Woodlots with high densities of deer due to artificial feeding are not significant. 	<p>No Studies Required:</p> <ul style="list-style-type: none"> Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWHMiST Index #2 provides development effects and mitigation measures. 	<p>Deer wintering/yarding habitat not identified by MNRF in the Study Area.</p>

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SEASONAL CONCENTRATIONS OF AREAS OF ANIMALS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Deer Winter Congregation Areas</p> <p>Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p>	White-tailed Deer	<p>All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p>	<ul style="list-style-type: none"> Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. Woodlots with high densities of deer due to artificial feeding are not significant. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Offices LIO/NRVIS 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys, or a pellet count deer density survey. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWHMIST Index #2 provides development effects and mitigation measures. 	No suitable habitat present. See above.

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RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Cliffs and Talus Slopes</p> <p>Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p>	<p>Any ELC Ecosite within Community Series:</p> <p>TAO TAS TAT CLO CLS CLT</p>	<p>A Cliff is vertical to near vertical bedrock >3m in height.</p> <p>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.</p>	<p>Most cliff and talus slopes occur along the Niagara Escarpment.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> The Niagara Escarpment Commission has detailed information on location of these habitats. OMNRF District Natural Heritage Information Center (NHIC) has location information available on their website Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Cliffs or Talus Slopes SWHMiST Index #21 provides development effects and mitigation measures. 	No suitable habitat present
<p>Sand Barren</p> <p>Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p>	<p>ELC Ecosites:</p> <p>SBO1 SBS1 SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.</p>	<p>Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.</p>	<p>A sand barren area >0.5ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF Districts Natural Heritage Information Center (NHIC) has location information available on their website. Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Sand Barrens Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) SWHMiST Index #20 provides development effects and mitigation measures. 	No suitable habitat present
<p>Alvar</p> <p>Rationale: Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p>Five Alvar Species:</p> <ol style="list-style-type: none"> <i>Carex crawei</i> <i>Panicum philadelphicum</i> <i>Eleocharis compressa</i> <i>Scutellaria parvula</i> <i>Trichostema brachiatum</i> <p>These indicator species are very specific to Alvars within Ecoregion 6E.</p>	<p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.</p>	<p>An Alvar site > 0.5 ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Alvars of Ontario (2000), Federation of Ontario Naturalists. Ontario Nature – Conserving Great Lakes Alvars. Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. SWHMiST Index #17 provides development effects and mitigation measures. 	No suitable habitat present

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RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Old Growth Forest</p> <p><u>Rationale:</u> Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.</p>	<p>Forest Community Series: FOD FOC FOM SWD SWC SWM</p>	<p>Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.</p>	<p>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • OMNRF Forest Resource Inventory mapping • OMNRF Districts. • Field Naturalist clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments 	<p>Field Studies will determine:</p> <ul style="list-style-type: none"> • If dominant trees species are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • SWHMiST Index #23 provides development effects and mitigation measures. 	<p>No suitable habitat present. Trees onsite are not old growth.</p>
<p>Savannah</p> <p><u>Rationale:</u> Savannahs are extremely rare habitats in Ontario.</p>	<p>TPS1 TPS2 TPW1 TPW2 CUS2</p>	<p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p>	<p>No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities 	<p>Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used.</p> <ul style="list-style-type: none"> • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #18 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>
<p>Tallgrass Prairie</p> <p><u>Rationale:</u> Tallgrass Prairies are extremely rare habitats in Ontario.</p>	<p>TPO1 TPO2</p>	<p>A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.</p>	<p>No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities 	<p>Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used.</p> <ul style="list-style-type: none"> • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #19 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>

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RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining	
<p>Other Rare Vegetation Communities</p> <p>Rationale: Plant communities that often contain rare species which depend on the habitat for survival.</p>	<p>Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.</p>	<p>Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.</p>	<p>ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M</p> <p>The OMNRF/NHIC will have up to date listing for rare vegetation communities.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs Conservation Authorities 	<p>Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG.</p> <ul style="list-style-type: none"> Area of the ELC Vegetation Type polygon is the SWH. SWHMiST Index #37 provides development effects and mitigation measures. 	<p>No rare vegetation communities were found during site investigations.</p>
SPECIALIZED HABITAT FOR WILDLIFE					
Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining	
<p>Waterfowl Nesting Area</p> <p>Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.</p>	<p>American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard</p>	<p>All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH:</p> <p>MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to PSW</p>	<p>A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</p> <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ducks Unlimited staff may know the locations of particularly productive nesting sites. OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. Reports and other information available from Conservation Authorities. 	<p>Studies confirmed:</p> <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. SWHMiST Index #25 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>

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RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</p> <p>Rationale: Nest sites are fairly uncommon in Ecoregion 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.</p>	<p>Osprey</p> <p>Special Concern Bald Eagle</p>	<p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p>	<p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <ul style="list-style-type: none"> • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF Districts • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented • Reports and other information available from Conservation Authorities. • Field Naturalists clubs 	<p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid-March to mid-August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #26 provides development effects and mitigation measures. 	<p>No suitable habitat present</p>

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RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Woodland Raptor Nesting Habitat</p> <p>Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>	<p>Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk</p>	<p>May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3</p>	<p>All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer</p> <ul style="list-style-type: none"> Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Districts. Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. Check data from Bird Studies Canada. Reports and other information available from Conservation Authorities. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH. (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). Barred Owl – A 200m radius around the nest is the SWH. Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH. Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial. (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. SWHMiST Index #27 provides development effects and mitigation measures. 	<p>No stick nests observed on or adjacent to the site.</p>
<p>Turtle Nesting Areas</p> <p>Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p>	<p>Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle</p>	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1</p>	<ul style="list-style-type: none"> Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. Natural Heritage Information Center (NHIC) Field Naturalist clubs 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles. One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat. 	<p>No suitable habitat present.</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Seeps and Springs</p> <p><u>Rationale:</u> Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.</p>	<p>Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.</p>	<p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.</p>	<p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.</p> <ul style="list-style-type: none"> Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Topographical Map Thermography Hydrological surveys conducted by Conservation Authorities and MOE. Field Naturalists clubs and landowners. Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped. 	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of a site with 2 or more seeps/springs should be considered SWH. The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. SWHMiST Index #30 provides development effects and mitigation measures. 	<p>No seeps/springs observed.</p>
<p>Amphibian Breeding Habitat (Woodland).</p> <p><u>Rationale:</u> These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.</p>	<p>Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM</p> <p>Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced</p>	<ul style="list-style-type: none"> Presence of a wetland, pond or woodland pool (including vernal pools) >500m² (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. OMNRF District OMNRF wetland evaluations Field Naturalist clubs Canadian Wildlife Service Amphibian Road Call Survey Ontario Vernal Pool Association: http://www.ontariovernalpools.org 	<p>Studies confirm;</p> <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. SWHMiST Index #14 provides development effects and mitigation measures. 	<p>A vernal pool identified on adjacent lands to the northeast of the subject property is less than 500m², and is therefore not significant.</p> <p>Evaluated Non-Provincially Significant swamp habitat found on adjacent lands to the east of the 5th Line may contain potential habitat.</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

RARE VEGETATION COMMUNITIES					
Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Amphibian Breeding Habitat (Wetlands)</p> <p><u>Rationale:</u> Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.</p>	<p>Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog</p>	<p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.</p>	<ul style="list-style-type: none"> Wetlands >500m² (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats. Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. OMNRF Districts and wetland evaluations Reports and other information available from Conservation Authorities 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; Wetland with confirmed breeding Bullfrogs are significant. The ELC ecosite wetland area and the shoreline are the SWH. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWHMiST Index #15 provides development effects and mitigation measures. 	<p>No open wetland communities are present in the study area.</p>
<p>Woodland Area-Sensitive Bird Breeding Habitat</p> <p><u>Rationale:</u> Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.</p>	<p>Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren</p> <p>Special Concern: Cerulean Warbler Canada Warbler</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p>	<p>Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha.</p> <ul style="list-style-type: none"> Interior forest habitat is at least 200 m from forest edge habitat. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Local bird clubs. Canadian Wildlife Service (CWS) for the location of forest bird monitoring. Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. Reports and other information available from Conservation Authorities. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. Conduct field investigations in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #34 provides development effects and mitigation measures. 	<p>Wooded areas on site are not large enough to support area-sensitive species.</p> <p>Large woodland/treed swamp blocks > 30 ha with interior habitat > 200 m are present across the 5th Line on adjacent lands to the proposed development.</p>

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

HABITAT FOR SPECIES OF CONSERVATION CONCERN (NOT INCLUDING ENDANGERED OR THREATENED SPECIES)					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH Defining Criteria	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources		
<p>Marsh Breeding Bird Habitat</p> <p>Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.</p>	<p>American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan</p> <p>Special Concern: Black Tern Yellow Rail</p>	<p>MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1</p> <p>For Green Heron: All SW, MA and CUM1 sites.</p>	<ul style="list-style-type: none"> Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF District and wetland evaluations. Field Naturalist clubs Natural Heritage Information Center (NHIC) Records. Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or Marsh Wren 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species. Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. Area of the ELC ecosite is the SWH. Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #35 provides development effects and mitigation measures. 	No suitable habitat present.
<p>Open Country Bird Breeding Habitat Sources Defining Criteria</p> <p>Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.</p>	<p>Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow</p> <p>Special Concern Short-eared Owl</p>	<p>CUM1 CUM2</p>	<p>Large grassland areas (includes natural and cultural fields and meadows) >30 ha.</p> <ul style="list-style-type: none"> Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Agricultural land classification maps, Ministry of Agriculture. Local bird clubs. Ontario Breeding Bird Atlas Reports and other information available from Conservation Authorities. 	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding of 2 or more of the listed species. A field with 1 or more breeding Short-eared Owls is to be considered SWH. The area of SWH is the contiguous ELC ecosite field areas. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #32 provides development effects and mitigation measures. 	No suitable habitat present
<p>Shrub/Early Successional Bird Breeding Habitat</p> <p>Rationale: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.</p>	<p>Indicator Spp. Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher</p> <p>Special Concern: Yellow-breasted Chat Golden-winged Warbler</p>	<p>CUT1 CUT2 CUS1 CUS2 CUW1 CUW2</p> <p>Patches of shrub ecosites can be complexed into a larger habitat for some bird species</p>	<p>Large field areas succeeding to shrub and thicket habitats >10ha/cxv in size.</p> <ul style="list-style-type: none"> Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years). Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Agricultural land classification maps, Ministry of Agriculture. Local bird clubs Ontario Breeding Bird Atlas Reports and other information available from Conservation Authorities. 	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. The area of the SWH is the contiguous ELC ecosite field/thicket area. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". SWHMiST Index #33 provides development effects and mitigation measures. 	No suitable habitat present

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

HABITAT FOR SPECIES OF CONSERVATION CONCERN (NOT INCLUDING ENDANGERED OR THREATENED SPECIES)					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Terrestrial Crayfish Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; <i>(Fallicambarus fodiens)</i> Devil Crayfish or Meadow Crayfish; <i>(Cambarus Diogenes)</i>	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. <ul style="list-style-type: none"> Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> <ul style="list-style-type: none"> Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998. 	Studies Confirm: <ul style="list-style-type: none"> Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. SWHMiST Index #36 provides development effects and mitigation measures. 	No suitable habitat present
Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> <ul style="list-style-type: none"> Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. NHIC Website "Get Information": http://nhic.mnr.gov.on.ca Ontario Breeding Bird Atlas Expert advice should be sought as many of the rare spp. have little information available about their requirements. 	Studies Confirm: <ul style="list-style-type: none"> Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs to be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. SWHMiST Index #37 provides development effects and mitigation measures. 	Wildlife surveys did not find any special concern or rare wildlife species on site. Woodland/treed swamp habitats on adjacent lands to the east of the 5th Line may support Special Concern species, including the Eastern Wood-Pewee and Wood Thrush, which were identified in a desktop review of records for the area.

**Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

ANIMAL MOVEMENT CORRIDORS					
Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
<p>Amphibian Movement Corridors</p> <p>Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.</p>	<p>Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog</p>	<p>Corridors may be found in all ecosites associated with water.</p> <ul style="list-style-type: none"> Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1 	<p>Movement corridors between breeding habitat and summer habitat.</p> <ul style="list-style-type: none"> Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) of this Schedule. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNR District Office Natural Heritage Information Center (NHIC) Reports and other information available from Conservation Authorities. Field Naturalist Clubs 	<ul style="list-style-type: none"> Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. SWHMiST Index #40 provides development effects and mitigation measures. 	<p>No suitable habitat present.</p>
<p>Deer Movement Corridors</p> <p>Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.</p>	<p>White-tailed Deer</p>	<p>Corridors may be found in all forested ecosites.</p> <p>A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.</p>	<p>Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule.</p> <ul style="list-style-type: none"> A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNR District Office Natural Heritage Information Center (NHIC). Reports and other information available from Conservation Authorities. Field Naturalist Clubs 	<ul style="list-style-type: none"> Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. Shorter corridors are more significant than longer corridors. SWHMiST Index #39 provides development effects and mitigation measures. 	<p>No deer yarding habitat on or adjacent to the property and hence no deer movement corridor function.</p>

**Significant Wildlife Habitat Criteria Schedule for EcoRegion 6E Assessment
Melville Court Development- Township of Oro-Medonte**

EXCEPTIONS FOR ECOREGION 6E						
Eco District	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 <u>Rationale:</u> The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears.	Mast Producing Areas Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	<ul style="list-style-type: none"> Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. Forested habitats need to be large enough to provide cover and protection for black bears. 	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50% composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5	Not applicable
6E- 17 <u>Rationale:</u> Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	Lek Sharp-tailed Grouse	CUM CUS CUT	<ul style="list-style-type: none"> The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated. 	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. <ul style="list-style-type: none"> Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting <u>Information Sources</u> <ul style="list-style-type: none"> OMNRF district office Bird watching clubs Local landowners Ontario Breeding Bird Atlas 	Studies confirming lek habitat are to be completed from late March to June. <ul style="list-style-type: none"> Any site confirmed with sharp-tailed grouse courtship activities is considered significant The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat SWHMIST Index #32 provides development effects and mitigation measures 	Not applicable

APPENDIX E
CV for Kyle Fleming



Kyle Fleming, BSc. (Wildlife) Senior Ecologist

Qualifications

Kyle has over 17 years' experience as an ecologist where he has been responsible completing over 250 Environmental Impact Studies, Species at Risk Assessments and Permitting, Habitat Restoration Plans, construction monitoring and related projects throughout Ontario. He is skilled in identification of species and their habitats in Ontario, is a Qualified Wetland Evaluator & Certified Butternut Assessor by the MNRF, trained and experienced in the use of Ecological Land Classification (ELC) and has been qualified as an expert at the Ontario Municipal Board/LPAT. His work is readily accepted by municipalities, conservation authorities and government agencies, and he is very familiar with environmental policies and legislation.

Professional Experience

MAY 2019 - PRESENT

Senior Ecologist/Owner / Roots Environmental, Barrie, ON

As the Senior Ecologist with Roots Environmental, Kyle is responsible the managing and implementation of environmental impact assessments, species at risk assessments and related studies for private and public sector clients throughout Ontario.

MAY 2004- MAY 2019

Senior Terrestrial Ecologist / Skelton, Brumwell & Associates, Barrie, ON

Responsible for completing Natural Environmental Reports, Environmental Impact Studies, Species at Risk Assessments for private and public sector clients throughout Ontario.



APRIL – AUGUST 2003

Project Supervisor/Field Biologist / Hamer Environmental L.P., Mt. Vernon, WA, USA

Responsible for supervising and managing a threatened seabird monitoring project on state lands.

NOVEMBER 2002 – JANUARY 2003

Environmental Technician / Aqua-Terre Solutions Inc., Toronto, ON

Responsible for data management of water and soil sampling for sites across the GTA.

APRIL – AUGUST 2002

Field Biologist / Hamer Environmental L.P., Mt. Vernon, WA, USA

Conducted threatened seabird surveys on state lands to determine presence/absence relative to forestry activities.

MAY – AUGUST 2001

Field Technician/ University of Washington, Forks, WA, USA

Research project on nest predation of threatened seabirds and impacts of forestry practices on nesting sites.

Education

2002

Bachelor of Science in Wildlife Biology / University of Northern British Columbia, Prince George, BC

1998

Diploma in Fish and Wildlife Technology / Sir Sandford Fleming College, Lindsay, ON

Certifications/Courses

- Ontario Wetland Evaluation Training Course, 2004.
- Ecological Land Classification for Southern Ontario Training Course, 2005.
- Certificate of Participation: Wildlife Acoustics Bat Detector & Analysis Course, 2015.
- Ministry of Natural Resources (MNR) Butternut Assessment Course, 2009, 2014 & 2019.
- OPPI- The Planner at the Ontario Municipal Board Seminar, 2006.

Project Experience:

Infrastructure

City of Cambridge – Blackbridge and Townline Roads Environmental Impact Study and Preliminary Design

Roots Environmental was retained to assist with the completion of an Environmental Impact Study (EIS) towards the Preliminary Design for a new roadway alignment and crossing over the Speed River at Black Bridge Road, as well as improvements to Townline Road including the replacement of the Irish Creek culvert and construction of a pedestrian bridge.

County of Peterborough – Selwyn Road (County Road 20) Environmental Assessment

This ongoing Municipal Class Environmental Assessment (EA) is to be completed for the reconstruction of approximately 9.5km of County Road 20 (Selwyn Road) in the County of Peterborough. As part of the EA, a Natural Environment Assessment is being completed to assess natural features and ecological functions in the study area to assist in evaluating preferred alternatives for future proposed improvements.

Region of Durham – Columbus Road East and Grandview Street North Environmental Assessment

The Regional Municipality of Durham has initiated a Municipal Class Environmental Assessment (MCEA) for the future roadway improvements to Columbus Road East and Grandview Street North. Detailed field investigations have been undertaken to determine the presence of natural features in the study area that should be considered as part of future road improvements.

Region of Durham – Gamebridge Bridge Post Construction Monitoring

Post-construction monitoring is being completed under a MNRF/MECP Letter of Advice for species at risk bat species as a result of the tree clearing and bridge replacement in Gamebridge, ON. A monitoring plan was completed and approved by MECP, which included the installation of bat maternity structures, guano sampling and acoustic surveys.

County of Brant – Governor’s Road Environmental Assessment

The County of Brant is conducting a Municipal Class Environmental Assessment (MCEA) to define a municipal road plan for portions of Governors Road West and Cleaver Road once aggregate extraction is completed within the study area. Detailed desktop review and field work were completed to identify natural features that should be considered for preparation of the future road plan.

City of Oshawa – Windfields Drive West Connection Environmental Assessment

The City of Oshawa is completing an Environmental Assessment (EA) Study and preliminary design for a new Collector Road from Winfield’s Farm Drive West to Winchester Road (approximately 310 meters) in accordance with the Municipal Class Environmental Assessment Act. As part of the EA, a Natural

Infrastructure cont'd.

Environment Assessment (NEA) is being completed to evaluate design alternatives with respect to natural features or ecological functions within the Study Area.

Central Ontario – 407 ETR Interchanges

Roots Environmental was responsible for assisting with conducting a natural environment assessment of three interchanges along the 407ETR as part of an Environmental Assessment for improvements to the interchanges. Field studies and analysis was completed for each site to assist in determining the preferred alternative.

City of Oshawa – Conlin Road Detailed Design

As part of the detailed design of a multi-use path and improvements to Conlin Road, we are completing a Species at Risk Assessment, wetland delineation and edge management enhancement plan.

Region of Durham – Zephyr Road Environmental Impact Study

The Regional Municipality of Durham is completing an Environmental Impact Study (EIS) and Preliminary and Detailed Design for the proposed reconstruction of Regional Road 13 (Zephyr Road) from Regional Road 39 to Concession Road 4. Significant features were identified in study area including Provincially Significant Wetland, and mitigation measures were recommended to minimize impacts to this feature and its ecological functions.

Aggregates

Natural Environment Report (NER) Level I & II (Township of Minden Hills)

NER was prepared in accordance with the Aggregate Resources Act (ARA) for a wayside quarry adjacent to an existing licensed pit. Natural heritage features included Provincially Significant Wetlands (PSW), Significant Wildlife Habitat and Significant Woodlands. Mitigation measures were recommended to avoid impacts to these features and their related ecological functions.

Natural Heritage Evaluation (Oak Ridges Moraine)

A natural heritage evaluation was prepared in accordance with the Oak Ridges Moraine Conservation Plan for an amendment to the Site Plan of an existing gravel pit.

Natural Environment Report Level I & II (Township of McNab-Braeside)

NER completed in support of major site plan amendment for expansion of quarry under ARA. Significant Wildlife Habitat was identified which included provincially rare plant species, amphibian woodland ponds, area sensitive bird habitat and deer wintering habitat.

Aggregates cont'd.

Natural Environment Report Level I & II (Township of Galway-Harvey- Cavendish)

NER completed in support of new aggregate pit within Crown Land permit. Significant Wildlife Habitat (Great Blue Heron nesting site) and significant wetlands were identified, and mitigation measures recommended for their protection.

Natural Environment Report Level I & II (Township of Garafraxa)

Natural Environment Report completed in support of a major site plan amendment for a small woodlot which had remain undisturbed. Field investigations were focused on this woodlot and identified butternut trees. The butternut trees were assessed using standard protocols.

Butternut Assessment (Township of Oro Medonte)

An assessment was completed to Ministry of Natural Resource' standards for endangered butternut trees found within an existing pit.

Natural Environment Report Level I & II (Township of West Grey)

As part of an above the water table aggregate pit application, a Natural Environment Report was prepared due to the presence of sensitive features within the proposed license area, including Significant Wildlife Habitat, Habitat for Endangered Species, Wetlands and Intermittent Watercourses.

Species at Risk Assessment (All of Ontario)

A species at risk assessment was completed for 64 aggregate properties in Ontario to determine potential for habitat of endangered or threatened species listed in the Endangered Species Act (2007). An exemption agreement with the MNR was completed each site identified as having potential habitat. These agreements included conducting site surveys for specific species, implementing site mitigation measures, timing of certain operations and training of site staff.

Natural Environment Report Level I & II (Township of Galway-Harvey- Cavendish)

A Natural Environment Report was completed for a proposed limestone quarry on 246 acres. Consultation with the Ministry of Natural Resources, field investigations and analysis identified the potential for habitat of a threatened species and significant wildlife habitat. Mitigation measures were recommended to ensure no negative impacts which included unique progressive and final rehabilitation requirements.

Natural Environment Report Level I & II (Municipality of Grey Highlands)

A Natural Environment Report was completed for a proposed pit on 100 acres. Both a Natural Environment Report Level I & II was required under the Aggregate Resources Act (ARA) as natural heritage features were identified by field investigations and background research within 120 metres of

Aggregates cont'd.

the proposed licensed area. Mitigation measures were recommended to ensure no negative impacts to those natural heritage features or their ecological functions.

Natural Environment Report Level I & II (Township of Uxbridge)

A Natural Environment Report was completed for a proposed pit above the water table. Significant Woodlands were identified adjacent to the site, and mitigation measures were recommended in consultation with relevant agencies to ensure no negative impacts and to satisfy policies of relevant provincial legislation.

Species at Risk Registration and Monitoring (Township of Springwater)

A species at risk was identified within an existing license pit where future operations would impact the species. A comprehensive mitigation plan was completed under an exemption in Ontario Regulation 242/08 of the *Endangered Species Act* to transplant this species and ensure its survival while allowing aggregate operations to continue.

Urban and Rural Development

Biological Monitoring Plan and Erosion/Sediment Control Inspections (City of Brantford)

Roots Environmental assisted with the completion of an Environmental Implementation Report to clear draft plan conditions for a large residential and commercial subdivision. This included the creation of a Biological Monitoring Plan to assess any impacts to adjacent natural features and the inspection of erosion and sediment controls (i.e. silt fencing) on site through construction.

Environmental Impact Study (EIS)- Rural Severances (Township of Oro- Medonte)

An EIS was prepared as part of a rezoning and official plan amendment to sever seven residential lots. Fieldwork identified the presence of Significant Wildlife Habitat (Species of Conservation Concern) within the property. Habitat was delineated and avoided as part of the conditions of the severance.

Rare Species Surveys- Southshore Woods (Town of Innisfil)

Rare species surveys were conducted as part of Site Plan Control for 3 residential lots in the Town of Innisfil. The purpose of the surveys was to locate any populations of these rare species and avoid any impacts through proper placement of buildings and associated services.

Scoped EIS and Wetland Delineation (Township of Tay)

Completion of a Scoped EIS as required for clearance of Draft Plan conditions for waterfront redevelopment in the Town of Port McNicoll. Further to this work, assistance was provided for the development of a Shoreline Buffer & Management Plan and completed wetland delineation of Provincially Significant Coastal Wetlands to the satisfaction of the Ministry of Natural Resources.

Urban and Rural Development cont'd.

Natural Heritage Evaluation- (Town of Uxbridge and the Oak Ridges Moraine)

Required as part of rezoning application to permit four-season recreation use, a Natural Heritage Evaluation was completed per policies of the Official Plan and Oak Ridges Moraine Conservation Plan. The Evaluation was scoped to areas of new recreation uses.

Preliminary Species at Risk Assessment- Rural Development (District of Muskoka)

Due to the potential presence of the habitat of a threatened species, a Preliminary Species at Risk Assessment was completed for four rural severances. Potential habitat was identified, and setbacks recommended for its protection.

Environmental Evaluation- Shoreline Residential Severances (Township of Georgian Bay)

An evaluation was completed in support of an application to sever two shoreline residential lots. Field investigations and analysis identified appropriate setbacks and mitigation measures for the protection of fish habitat and water quality.

Tree Inventory and Butternut Assessment (Town of Innisfil)

A tree inventory was required for development of commercial site in the Town of Innisfil. The inventory provided a detailed account of tree species, size and health relative to areas proposed to be disturbed. During the surveys, endangered butternut trees were found and assessed using standardized protocols.

Natural Heritage Development Review- Big Chute (Crown Lands)

Field investigations and a review of background documentation was completed to determine the opportunities and constraints for construction of a cottage road through Crown Lands. Recommendations for placement of the road were made to avoid impacts to sensitive natural features.

Existing Conditions Report- Alcona North Secondary Plan (Town of Innisfil)

On behalf of landowners in the Alcona North Secondary Plan, an existing conditions (Natural Environment) was completed to identify areas suitable for development and those which should be protected relative to natural heritage features and functions.

Environmental Impact Study- Commercial Redevelopment (Township of Springwater)

An EIS was completed for a commercial redevelopment in the Township of Springwater. Fish habitat was identified on and adjacent to the proposed development. Mitigation measures to ensure no negative impacts included restoration of areas adjacent to the watercourse. The EIS was accepted by the conservation authority.