Prepared By:

372 Grey Road 21 West Parcel

Town of the Blue Mountains

Environmental Impact Study Update

Project No. 04-010-2021

July 2025

23 HERRELL AVENUE, BARRIE ON L4N 6T5
WWW.BIRKSNHC.CA

July 17, 2025

Rhemm Properties, Ltd.
Box 87 Clarksburg, Ontario
N0H 1J0

Attention: John Rodgers, Owner

RE: Birks NHC File No. 04-010-2021
Environmental Impact Study Update
372 Grey Road 21 – West Parcel, Town of the Blue Mountains

Dear Mr. Rodgers:

Thank you for retaining Birks Natural Heritage Consultants, Inc. (Birks NHC) to prepare an Environmental Impact Study (EIS) for the west parcel of the property described above. It is our understanding that a pre-application review in support of a Draft Plan of Subdivision was submitted to the Town of the Blue Mountains (Town), which included the Birks NHC EIS report dated November 17, 2023, deemed required due to the presence of wetlands, woodlands, and drainage features within, and/or adjacent to the property. Following the submission, subsequent comments were received from review agencies. The following report provides an update to the 2023 EIS report, intended to capture and address those review comments relating to the natural heritage matters of the application and provide any other natural heritage updates that have been deemed warranted since the writing of the EIS in 2023.

Birks NHC completed comprehensive field studies to review the existing conditions of the property with a focus on any natural heritage features and functions present. Through assessment of the field surveys, review of background information, and applicable policies and regulations, we have determined that the property and adjacent lands contain natural heritage features and functions relating to the presence of wetlands, Significant Woodlands, Significant Wildlife Habitats, and a watercourse (fish habitat).

The report provides an assessment of potential impacts associated with the proposed development and provides mitigation measures to reduce any potential impacts. Mitigation measures are provided to reduce any potential ecological impacts.

If you have any questions or concerns regarding this report, please do not hesitate to contact the undersigned.

Yours truly,

Birks Natural Heritage Consultants, Inc.

Melissa Fuller, H.B.Sc.
Ecologist

Stephanie Brady, HBES
Ecologist

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1 INTRODUCTION

Birks Natural Heritage Consultants, Inc. (Birks NHC) was retained by Rhemm Properties, Ltd. to undertake an Environmental Impact Study (EIS) for the West Parcel of the property identified as 372 Grey Road 21, Town of the Blue Mountains, Grey County (Figure 1). The EIS was provided as part of a pre application review submission.

1.1 PURPOSE

The objective of the EIS is to identify and characterize the functions associated with natural heritage features present on the property and determine if potential impacts to those features and functions could arise from the proposed development and associated works. The assessment is focused on potential ecological impacts which could result from the proposed development of residential lots as part of a Draft Plan of Subdivision. The EIS is required due to the presence of wetlands, woodlands and drainage features within, or adjacent to, the property. This report has been prepared to address the natural heritage requirements of the Provincial Planning Statement (PPS, 2024), *Endangered Species Act* (ESA, 2007), Niagara Escarpment Plan (2021), County of Grey Official Plan (2023, updated 2025), and the Town of the Blue Mountains Official Plan (2016, updated 2025).

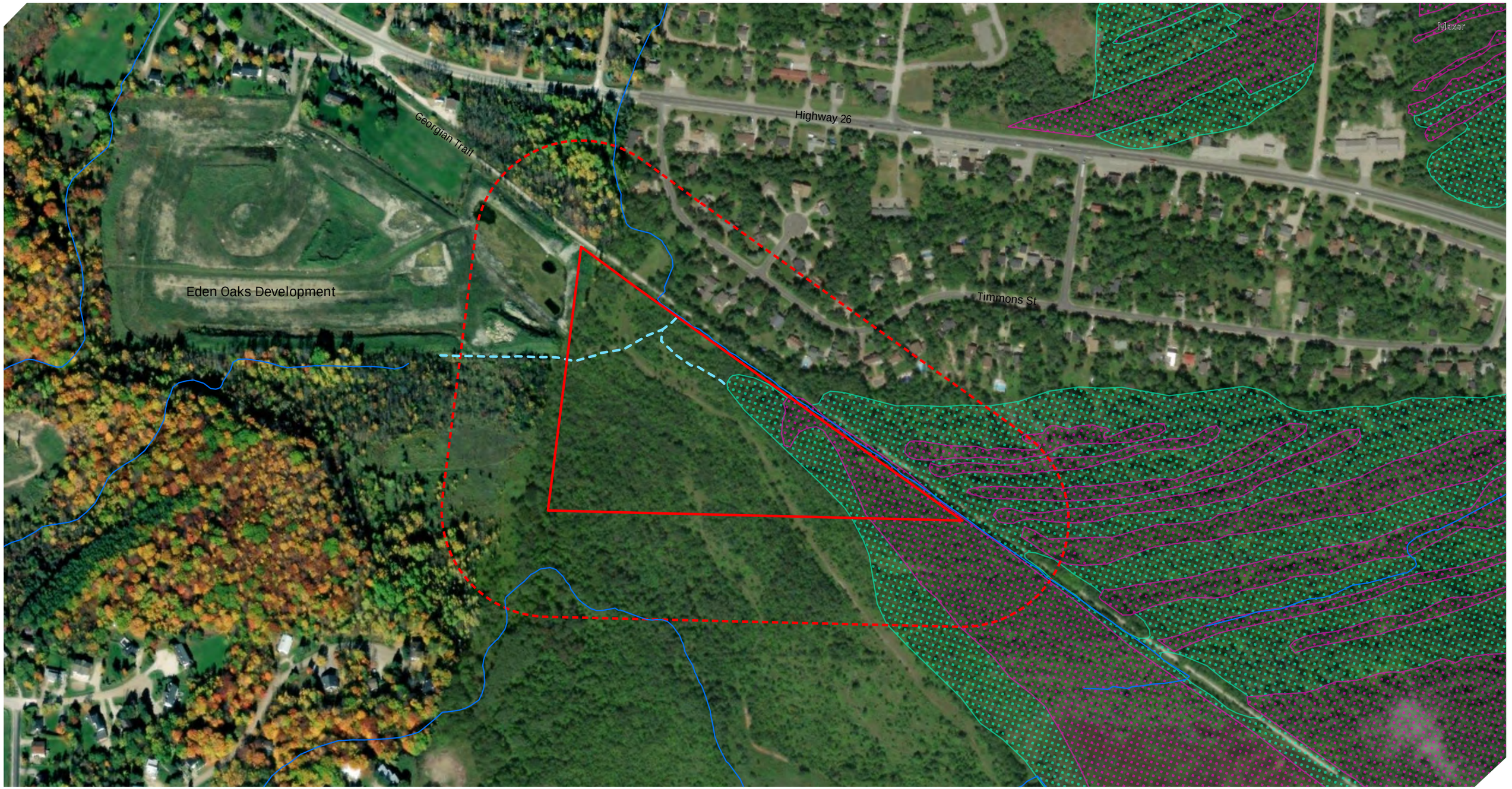
This EIS Update is provided for the submission of Draft Plan of Subdivision and is intended to provide the additional information as deemed required by the review agencies at the pre application review stage of the project.

1.2 SITE DESCRIPTION

The West Parcel of the property (hereafter referred to as the 'property') is triangular-shaped and measures approximately 7.0 hectares (ha). The property contains natural woodland, thicket, and wetland conditions, including components of the Silver Creek Provincially Significant Wetland (PSW) Complex. The property also contains several unsanctioned recreational trails. A mapped watercourse is present along the eastern property limits, which flows north-northwest along the Georgian Trail, eventually crossing the Georgian Trail and flowing north to Georgian Bay. Seasonal drainage features were documented within the property which pass through the north-eastern vegetation communities and across the north-western corner of the property.

1.3 STUDY AREA

For the purpose of this EIS, the Study Area is focused within an area approximately 120 m surrounding the property as illustrated in Figure 1. The Ministry of Natural Resources and Forestry (MNRF) recommends a distance of 120 m for consideration of development and/or site alteration impacts to adjacent features, as outlined within the Natural Heritage Reference Manual (MNR, 2010).



372 GREY ROAD 21 - WEST PARCEL

Town of the Blue Mountains

Figure 1: Study Area

- Property Limit
- 120m Study Area
- Watercourse (Birks NHC/LIO)
- Seasonal Indirect Drainage Feature

Wetland Significance (LIO)

- Unevaluated
- Evaluated-Provincially Significant

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

MAP CREATED BY: HM
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 50 100 200 300 400 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRoad21West

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 13/06/2023

1.4 Adjacent Land Use

The property is situated within a settlement/recreational area in the Town of The Blue Mountains, approximately 355 metres (m) south of the Georgian Bay shoreline. Natural woodlands are present on the property and adjacent lands to the east, west, and south, as are components of the Silver Creek PSW Complex. Further south and west are developed lands with recreational facilities such as ski clubs, resorts, bed and breakfasts and inns. To the north are residential properties and Highway 26. Georgian Trail runs along the eastern property line. A stormwater management feature (SWMF) which services the approved Eden Oaks development project is present to the west of the property.

2 ENVIRONMENTAL POLICY FRAMEWORK

The following summarizes the planning policies and regulations related to natural heritage that apply to the proposed development.

2.1 Provincial Planning Statement (2024)

The Provincial Planning Statement (PPS, 2024) is a policy statement issued under the authority of Section 3 of the Planning Act and came into effect on October 20, 2024. The Provincial Planning Statement provides overall policy directions on matters of provincial interest related to land use planning and development in Ontario, and applies province-wide, except where this Provincial Planning Statement or another provincial plan provides otherwise.

Section 4.1 of the PPS specifies policy related to protection of natural heritage features and functions.

Section 4.1.4 of the PPS stipulates policy for the protection of natural heritage features and functions as follows:

Development and site alteration shall not be permitted in:

a) significant wetlands in Ecoregions 5E, 6E; and 7E; and
b) significant coastal wetlands.

Section 4.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted in:

a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
d) significant wildlife habitat;

e) significant areas of natural and scientific interest; and
f) coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 4.1.4.b)

Sections 4.1.6 and 4.1.7 state that development and site alteration is not permitted in fish habitat or habitat of endangered and threatened species except in accordance with federal and provincial requirements.

Section 4.1.8 extends protection of those features defined above in policies 4.1.4, 4.1.5 and 4.1.6 to adjacent lands, typically those within 120 m of the potential impact. Section 4.1.8 states that development and site alteration shall not be permitted on adjacent lands to natural heritage features and areas identified in policies 4.1.4, 4.1.5, and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function.

While many of these features are mapped and direction is available to allow for candidate features and functions to be identified, it remains the responsibility of the Province and/or the Municipality to designate areas identified within Section 4.1.4 and 4.1.5 of the PPS as significant. The Natural Heritage Reference Manual (MNR, 2010) and Ecoregion 6E Significant Wildlife Habitat Criterion Schedule (MNRF, 2015) were used within this report to identify candidate features and functions not currently identified by the province and/or municipality.

2.2 Endangered Species Act (2007)

Ontario's *Endangered Species Act* (ESA) provides regulatory protection to Endangered and Threatened species, prohibiting harm and/or killing of individuals and destruction of their habitats.

Ontario Regulation (O. Reg.) 230/08 of the ESA identifies Species at Risk in Ontario and includes species listed as Extirpated, Endangered, Threatened, and Special Concern. As noted above, only species listed as Endangered and Threatened receive species and habitat protection through the ESA. Species designated as Special Concern may receive protection under the SWH provisions of the PPS.

Bill 5 received Royal Assent on June 5, 2025, which made immediate amendments to the ESA, which will eventually be replaced by the *Species Conservation Act,* 2025. Amendments to the definition of "habitat" were made, which is now defined as follows:

- For animal species:
    - a dwelling place, such as a den, nest, or similar place, occupied or habitually occupied by one or more members of a species for the purposes of breeding, rearing, staging, wintering, or hibernating;
    - the area immediately surrounding a dwelling place described above that is essential for the purposes mentioned.
- For vascular plant species:

- the critical root zone surrounding a member of the species.
- For all other species (for example, lichens):
  - an area on which any member of the species directly depends to carry out its life processes.

Note that the ESA remains applicable until such time that the *Species Conservation Act,* 2025 replaces the ESA.

2.3 Fisheries Act (1985)

The purpose of the federal *Fisheries Act*, 1985 is in part, to provide a framework for the conservation and protection of fish and fish habitat through the various regulations that protect against serious harm to fish by death or any permanent or temporary harmful alteration, disruption or destruction (HADD) to their habitat. Fish habitat is defined within the *Fisheries Act,* 1985 as "spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes". The fish and fish habitat protection provisions of the *Fisheries Act, 1985* include:

- A prohibition against causing the death of fish, by means other than fishing (section 34.4);
- A prohibition against causing the harmful alteration, disruption or destruction of fish habitat (section 35);
- Establishment of standards and codes of practice in relation to works, undertakings and activities during any phase of their construction, operation, modification, decommissioning or abandonment for the avoidance of death to fish, HADD, and for the prevention of pollution (Section 34.2); and,
- Ministerial powers to ensure the free passage of fish or the protection of fish or fish habitat with respect to existing obstructions (section 34.3).

The interpretation and application of the regulations of the *Fisheries Act,* 1985 is overseen by Fisheries and Oceans Canada (DFO). Under the direction of DFO, projects that have potential to affect fish and fish habitat are to be screened using their online guidance platform, 'Projects Near Water' to determine if the project will require review under the *Fisheries Act,* 1985. Projects that can not implement measures to mitigate impact to fish and fish habitat, and do not qualify under the current Standards and Codes of Practice, require review by DFO prior to any site disturbance or alteration, including vegetation removal and grading.

2.4 Conservation Authorities Act (1990)

Ontario's Conservation Authorities fall under the jurisdiction of the *Conservation Authorities Act*, 1990 which was reviewed and amended most recently in 2022. Section 28 of the Conservation Authorities Act states that a Conservation Authority may prohibit the following in the area under its jurisdiction:

- Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse, or to change or interfere in any way with a wetland;

- Development activities within the authority's area of jurisdiction and are: i) hazardous lands; ii) wetlands; iii) rivers or stream valleys; iv) areas that are adjacent to or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards; or v) other areas in which development should be prohibited or regulated as may be determined by the regulations.

An authority may issue a permit to a person to engage in an activity specified in the permit that would otherwise be prohibited, if, in the opinion of the authority, the activity is not likely to affect the control of flooding, erosion, dynamic beaches or unstable soil or bedrock; the activity is not likely to create conditions or circumstances that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; and, any other requirements that may be prescribed by the regulations are met.

The Study Area falls within the jurisdiction area of Grey Sauble Conservation Authority (GSCA) and a portion of the property is regulated due to the presence of Natural Hazard Areas and watercourses (Appendix A).

2.5 Niagara Escarpment Plan (2017)

The Niagara Escarpment Plan (NEP) seeks to protect the geologic features of the Niagara Escarpment and lands in its vicinity as a continuous natural environment while allowing only compatible development. The NEP builds upon the PPS policies and works alongside the Oak Ridges Moraine Plan and the Greenbelt Plan providing direction regarding accommodation of future growth near sensitive lands.

The property is located within the NEP area, designated as Recreation Area (Appendix B). Designated Recreation Areas are areas of existing or potential recreational development associated with the Escarpment. Such areas may include both seasonal and permanent residences. Subject to Part 2 of the NEP (Development Criteria), the following uses may be permitted: existing uses, single and secondary dwellings, agricultural and agricultural related uses, nature preserves, recreational (*i.e.*, Bruce trail, golf courses, ski centre facilities), and development associated with a ski centre or a lakeshore residential area. New lots may be created for permitted uses, subject to the Development Criteria in Part 2, given that the development objectives of Section 1.8 (Escarpment Recreation Area) of the NEP and the requirements of applicable official plans, secondary plans and/or by-laws are not in conflict with the NEP. Development should be designed and located in such a manner as to provide for or protect access to the Niagara Escarpment, including the Bruce Trail corridor.
Within the NEP area, development is not permitted in key hydrologic features (KHFs) or key natural heritage features (KNHFs) with the exception of the following, which may be permitted subject to compliance with all other relevant policies of the NEP:

- development of a single dwelling and accessory facilities outside a wetland on an existing lot of record, provided that the disturbance is minimal and where possible temporary;

- forest, fisheries and wildlife management to maintain or enhance the feature;
- conservation and flood or erosion control projects, after all alternatives have been considered;
- the Bruce Trail, and other trails, boardwalks and docks on parks and open space lands that are part of the Parks and Open Space System; and
- infrastructure, where the project has been deemed necessary to the public interest and there is no other alternative.

(NEP, 2021, Sections 2.6.2 and 2.7.2)

If in the opinion of the implementing authority, a proposal for development within 120 m of a KHF or KNHF has the potential to result in a negative impact on the feature and/or its functions, or on the connectivity between key features, a natural heritage evaluation will be required.

2.6 County of Grey Official Plan (2025)

Schedule A Land Use Types, Map 2 of the County of Grey Official Plan illustrates the property as 'Recreational Resort Settlement Area' and 'Provincially Significant Wetland and Significant Coastal Lands' (Appendix C). Appendix B Constraint Mapping, Map 2 of the County of Grey Official Plan further illustrates the property as containing Significant Woodlands, Other Wetlands, and Stream/River (Appendix C).

The Recreational Resort Settlement Area applies to settlement areas which have been developed as a result of site-specific amendments to the County of Grey Official Plan and/or local official plan consisting of a defined development area, specific recreational amenities, residential development, and serviced with full municipal services (County of Grey, 2025, Section 3.8). New development in the Recreational Resort Settlement Area land use type must serve the public interest by contributing to the provision of community recreational amenities, by facilitating municipal service infrastructure, and by accommodating existing un-serviced development areas and areas with development potential within the existing land use type or in settlement areas (County of Grey, 2025, Section 3.8). The County does not support residential zones within the Recreational Resort Settlement Area which only allow for single detached dwellings as the only residential use in a zone. In addition to single detached dwellings, municipal zoning by-laws shall permit additional residential units and other forms of housing such as semi-detached, townhouses, rowhouses, etc. (County of Grey, 2023, Section 3.8). Local official plans and/or secondary plans will provide detailed land use policies and development criteria in these areas that are not in conflict with the provisions of the NEP (County of Grey, 2025, Section 6.1).

No development or site alteration is permitted within the 'Provincially Significant Wetlands and Significant Coastal Wetlands' land use type shown on Schedule A, except where such activity is associated with forestry and uses connected with the conservation of water, soil, wildlife, and other natural resources but does not include buildings and will not negatively impact the integrity of the wetland (County of Grey, 2025, Section 7.3.1). Further, no development or site alteration may occur within the adjacent lands of the 'Provincially Significant Wetlands and Significant Coastal Wetlands' land

use type unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions (County of Grey, 2025, Section 7.3.1). Similarly, no development or site alteration may occur within Significant Woodlands, Other Wetlands or their adjacent lands unless it has been demonstrated that there will be no negative impacts on the feature or its functions (County of Grey, 2025, Sections 7.3.2 and 7.4).

The County of Grey generally encourages development be setback from wetlands, streams and rivers by at least 30 m. In some cases, this 30 m distance can be reduced based on site specific circumstances or through the completion of an EIS.

2.7 Town of The Blue Mountains Official Plan (2025)

The Town of the Blue Mountains Official Plan Schedule A-4 illustrates the property as containing 'Wetland', 'Hazard', and 'Residential Recreational Area' land use designations (Appendix D). The Blue Mountains Official Plan Constraint Mapping further illustrates 'Provincially Significant Wetlands', 'Other Wetlands', 'Stream/River' and 'Significant Woodlands' on the property (Appendix D).

The 'Residential Recreational Area' in the Town of The Blue Mountains Official Plan represents the area in the County Official Plan that extends along the Georgian Bay shoreline providing a seasonal and permanent residential and recreational function. It is the intent that all development within the Residential/Recreational areas of the Town shall provide open space to facilitate recreational opportunities, and to maintain the resort, open landscape character and image of the area. A subdivision design shall be required to provide an open space component as a separate block(s) of land and where appropriate, distributed throughout the design of each subdivision (Town of The Blue Mountains, 2025, Section B3.7.4).

No development or site alteration is permitted within PSWs. Further, development and site alteration shall not be permitted in Significant Woodlands unless it has been demonstrated that there will be no negative impacts on the features of their ecological functions (Town of The Blue Mountains, 2025, Section B5.2.1). Similarly, no development or site alteration shall be permitted on adjacent lands unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated through an EIS that there will be no negative impact on the natural features or their ecological functions (Town of The Blue Mountains, 2025, Section B5.2.1). All buildings or structures and non-farm lots shall be located a minimum of 120 m from all PSWs; the successful completion of an EIS may reduce this wetland setback (Town of The Blue Mountains, 2025, Section B5.3.2). The EIS will indicate how adverse impacts on the natural features or ecological functions of the wetland are mitigated such that no negative impacts will occur to the natural features or ecological integrity of the wetland.

No buildings or structures are permitted within Hazard Lands, except for the following: renovated or minor expansions to existing buildings and structures which were legally established on the date of approval of this Plan; non-habitable buildings connected with public parks (*i.e.*, picnic shelters); flood

and erosion/sedimentation control structures; fences; and, recreational facilities as approved by the Niagara Escarpment Commission, on lands identified as being prominent escarpment slope (Town of The Blue Mountains, 2025, Section B5.4.2). Hazard designated lands within the Niagara Escarpment are also subject to the policies of the NEP. Buildings and structures are to be setback 30 m from all lakes and watercourses (Town of The Blue Mountains, 2025, Section B5.4.2d). Further, development is to be setback from the top of bank of all slopes and ravines having a slope of 3:1 or greater, in accordance with the requirements of the appropriate Conservation Authority (Town of The Blue Mountains, 2025, Section B5.4.2f).

3 STUDY APPROACH

The following activities and assessments were undertaken to fulfill the objectives of this study.

3.1 Background Data Review and Sources

Background documents provide information on site characteristics, habitat, wildlife, rare species and communities, and other aspects of the Study Area. For the purpose of this EIS, the following sources were considered:

- Atlas of the Breeding Birds of Ontario (Birds Canada, accessed 2025);
- Ontario Reptile and Amphibian Atlas (ORAA; Ontario Nature, accessed 2025)
- Ontario GeoHub (MNR, accessed 2025)
- Natural Heritage Information Centre (NHIC; MNRF, accessed 2025)
- Species at Risk in Ontario List (2023)
- Aquatic Species at Risk Map (DFO, 2025)
- County of Grey Official Plan (2025)
- Town of the Blue Mountains Official Plan (2025)

3.2 Field Surveys

Natural heritage features and functions within the Study Area were characterized through completion of comprehensive field surveys. The following sections outline the methods used for each of the surveys, including specific provincial protocols utilized. Incidental wildlife, plant and habitat observations were considered during all surveys. Searches were also conducted to document the presence or absence of suitable habitat, based on habitat requirements of Threatened or Endangered species with habitat ranges overlapping the properties. The dates when all surveys were completed are included in Table 1 below.

Table 1: Summary of Field Surveys Completed

Date	Start/End Time	Type of Survey	Birks NHC Ecologist(s)
June 11, 2021 October 7, 2021	----	Wetland Delineation	S. Brady M. Fuller H. Marcks
June 11, 2021 August 2, 2021 September 17, 2021	----	Ecological Land Classification and vegetation surveys	M. Fuller S. Brady
March 27, 2021 August 2, 2021 September 12, 2021	----	Fish Habitat Assessment	M. Fuller
June 11, 2021 June 25, 2021	7:32 – 8:09 6:52 – 7:14	Dawn Breeding Bird Surveys	S. Brady M. Fuller
March 27, 2021 April 8, 2021 May 20, 2021 June 28, 2021	20:48 – 20:51 20:35 – 20:38 21:22 – 21:34 21:40 – 21:43	Amphibian Call Surveys	S. Brady M. Fuller
April 10, 2025 May 13, 2025	----	Tree Inventory	M. Fuller K. Tuininga
June 30, 2025	----	Invasive Species Mapping & Black Ash Survey	S. Brady

3.2.1 Vegetation Community Mapping and Surveys

As a first step in identifying and assessing for potential natural heritage features on the property, the vegetation communities were assessed using Ecological Land Classification (ELC). The ecological community boundaries were determined through a review of aerial photography and then further refined during the site visits. The ELC system for Southern Ontario (Lee *et al.,* 1998) was used with modifications. In early 2007, the MNRF refined their original vegetation type codes to encompass the vast range of natural and cultural communities across Southern Ontario. These updated ELC codes have also been used for reporting purposes in this study where they are more representative. The resulting mapping is illustrated in Figure 2.

A formal list of vegetation species encountered during the vegetation surveys is included in Appendix E.

<u>Wetland Delineation</u>

The wetland boundary was established in the field using the Ontario Wetland Evaluation System for Southern Ontario (MNRF, 2014) to identify a boundary between upland and wetland habitat based on vegetation cover. The wetland boundary was mapped in the field using GPS on June 11 and October 7, 2021. The limits were subsequently surveyed by Tatham Engineering to be included within the site plan.

The updated PSW limit was provided to MNRF in September 2021, and approved June 2022, as documented in Appendix I.

Black Ash Survey

Based on field data collected in 2021, Black Ash was identified as being present within the SWDM2-2 wetland community (Birks NHC, 2023). A follow up survey was completed on June 30, 2025, to confirm the presence/absence of this species. No live Black Ash trees were documented within the SWDM2-2 community and adjacent upland areas. It is expected that any Black Ash trees that were identified in 2021 are no longer live trees that would receive protection from the ESA. All observed ash trees within the SWDM2-2 community are not live trees, including Green Ash trees. Ash trees on the property have largely succumbed to the Emerald Ash borer infestation. Thus, Black Ash is not considered further within this report.

3.2.2 Amphibian Call Surveys

The evening amphibian call surveys generally followed the Bird Studies Canada Marsh Monitoring Protocol (2008). According to this protocol, surveys are to be conducted at least 15 days apart, to detect species during their 'optimum' breeding window, including early breeders *(i.e*., Chorus Frog, Spring Peeper, and Wood Frog), mid-season breeding (i.*e*., American Toad, Northern Leopard Frog, and Pickerel Frog), and late-season breeders (*i.e.,* Bullfrog, Mink Frog, and Gray Treefrog). Weather conditions were also taken into consideration for each survey; surveys were not performed during periods of rain and high winds.

The calling activity of individuals estimated to be within 100 m of the monitoring station was documented. For each species heard, call activity was ranked using one of the three call level code categories:

- Call code 1 - Individuals can be counted, calls not simultaneous;
- Call code 2 - Calls distinguishable, some simultaneous calling; or,
- Call code 3 - Full chorus, calls simultaneous and overlapping.

Two locations were surveyed within the property (Figure 2). Results of the amphibian call surveys can be found Section 4.2.3.

3.2.3 Dawn Breeding Bird Surveys

Dawn breeding bird surveys within the property followed methods outlined in the Ontario Breeding Bird Atlas Guide for Participants, with modifications (Cadman *et al*., 2001). Specifically, breeding bird surveys consisted of point counts (minimum 10 minute duration) that were used to establish qualitative estimates of species presence and breeding activity within the property. Three survey locations distributed throughout the property were surveyed on June 11 and June 25, 2021 (Figure 2). A formal list of species encountered during the breeding bird survey is included as Appendix F.

3.2.4 Fish Habitat Assessment

A characterization of fish habitat was completed through assessment of feature morphology, water quality, flow regime and vegetation on September 12, 2021. Drainage features present within and adjacent to the property were also observed in spring and summer 2021 in order to determine the seasonal flow regime of the features. Following completion of the site assessments, fish habitat identified within the Study Area was assigned one of the following designations:

- Permanent direct fish habitat: a feature where flowing or standing water is present year-round and connected to known fish habitat;
- Seasonal direct fish habitat: a feature that provides direct habitat for fish under elevated water levels (during spring freshet and large storm events), but not under low water conditions, due to insufficient open water and refuge habitat or anoxic water quality conditions; and
- Indirect fish habitat: a feature where there is sufficient water to sustain aquatic invertebrates and plants and that discharges to direct habitat downstream. Fish cannot directly access the area as a result of a barrier to upstream fish movement (*i.e.*, steep channel grade, low water levels, perched culvert).

Direct fish habitat is defined as habitat used by fish for spawning, rearing, feeding or migration. Indirect fish habitat is aquatic habitat that is generally not used by fish, but that provides base flow and food inputs for both permanent and seasonal direct fish habitats.

3.2.5 General Wildlife Surveys

A wildlife assessment within the property was completed through incidental observations while on site. Any incidental observations of wildlife were noted, as well as other wildlife evidence such as dens, tracks, and scat. These observations also helped validate our conclusions on the ecological function of the ecosystems identified within the Study Area.

Wildlife habitat functions were evaluated according to provincial criteria outlined in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E document (MNRF, 2015).

3.3 Species at Risk Assessment

The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk reported to occur in the region to identify those having potential to occur within the Study Area. Birks NHC staff reviewed data obtained through desktop review and field program to identify potential habitat for provincially designated species, notably Species at Risk listed under O. Reg. 230/08 of the ESA as Threatened or Endangered.

Habitat requirements and appropriate designations for all species that could potentially occur in the Study Area were considered. Where it was determined that the species have potential habitat within the Study Area, survey results were considered to determine the function of the potential habitat and whether the proposed works are in compliance with the regulations of the ESA.

4 EXISTING CONDITIONS

4.1 Vegetation Communities and Plants

The property is mostly naturalized with shrub thicket and deciduous forest/swamp communities. An open meadow community straddles a recreational trail that passes through the property in a general east-west direction. Vegetation communities and their respective locations are illustrated on Figure 2. The vegetation communities that occur on the property are as follows:

1. MEGM4-1: Cultural Open Graminoid Meadow
2. FODM7-2: Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest
3. SWDM2-2: Green Ash Mineral Deciduous Swamp
4. SWDM4-5: Poplar Deciduous Swamp
5. THDM2-6: Buckthorn Deciduous Shrub Thicket
6. FODM8-1: Fresh-Moist Poplar Deciduous Forest
7. FODM3-1: Dry-Fresh Poplar Deciduous Forest

Overall, the vegetation consisted of provincially common species such as Trembling Aspen, Balsam Poplar, European Buckthorn, Manitoba Maple, and Green/Red Ash. Species indicative of more wet conditions were found in the swamp habitats, such as Green Ash, Sensitive Fern, Northern Water-hemlock, Spotted Jewelweed, and a number of sedges. Poison Ivy was present throughout the property. Black Ash (Threatened) was documented to occur within the SWDM2-2 community. No other Species at Risk plants were identified at the time of the field surveys. Appendix E provides a list of vascular plants documented within the Study Area at the time of the site visits.

The following sections describe the vegetation communities observed within the property.

4.1.1 MEGM4-1 Cultural Open Graminoid Meadow

This community represents the open areas of the property and is largely comprised of cultural vegetation species commonly associated with disturbed areas such as Common Burdock, Common Goatsbeard, Smooth Brome, Wild Chicory, Wild Carrot, Common Viper's Bugloss, Oxeye Daisy, Common Milkweed, Garden Bird's-foot Trefoil, and English Plantain. Sparse tree specimens are present including Manitoba Maple, Paper Birch, Common Apple, Scots Pine, Balsam Poplar, and American Elm. In general, tree species are early successional species which would indicate ongoing efforts to regenerate the open meadow areas from adjacent thicket and woodland communities. Moisture conditions are dry, and overburden is generally quite shallow. Recreation trails utilized by nearby horse stables are present throughout this community.

4.1.2 FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest

This forest community is present in a small portion of the property, however, extends to the south within adjacent lands. It is a young, successional forest community dominated by Paper Birch, Green

Ash, and Balsam Poplar within the canopy layer. The understory is thick and dominated by European Buckthorn. Due to the thick understory, the ground layer is generally void of vegetation.

4.1.3 SWDM2-2 Green Ash Mineral Deciduous Swamp

This wetland swamp community is one of the two wetland communities that compose the PSW areas of the property. It is dominated by Green Ash in the canopy, the majority of which are standing dead trees affected by the Emerald Ash Border (EAB). Companion canopy species include Balsam Poplar, Basswood, and American Elm. Sedge species comprise a large area of the ground layer (*i.e.*, Golden Sedge, Graceful Sedge, Bladder Sedge, Hop Sedge, Fox Sedge), with a shrub layer of Red-osier Dogwood and Gray Dogwood. Seasonal flooding was noted in this community, with pools of shallow water present within low depression areas, observed in May – June of 2021.

4.1.4 SWDM4-5 Poplar Deciduous Swamp

This wetland community forms the second community of the PSW within the property limits and is directly connected to the SWDM2-2 community. It differs from the SWDM2-2 community where the canopy layer is largely composed of Balsam Poplar with sparce occurrences of Green Ash. Eastern White Cedar forms the majority of the understory layer. Ground layer species include various sedge species layer (*i.e.*, Golden Sedge, Graceful Sedge, Bladder Sedge, Fox Sedge) Northern Water-hemlock, Dotted Smartweed, Sensitive Fern, Spotted Jewelweed, and Reed Canarygrass. The hydroperiod within this community is seasonal in nature with wetter periods observed in May-June.

4.1.5 THDM2-6: Buckthorn Deciduous Shrub Thicket

This vegetation community is contained within a large portion of the property and is largely dominated by European Buckthorn with sporadic occurrences of young Manitoba Maple, American Elm, Sugar Maple, White Ash, Green Ash, Black Walnut, Balsam Poplar, and Trembling Aspen. Other shrub species observed in this community include Staghorn Sumac, Crack Willow, Black Willow, Maple-leaved Viburnum, Highbush Cranberry, and Round-leaved Dogwood. Ground layer species documented include Common Dandelion, Heart-leaved Aster, Canada Goldenrod, Early Goldenroad, English Plantain, and Spotted Knapweed. This community is highly influenced by anthropogenic disturbance, as evident by the presence of numerous non-native invasive species.

4.1.6 FODM8-1: Fresh-Moist Poplar Deciduous Forest

This forest community represents the transition zone between wetland and upland conditions. Although moist conditions were noted, the lack of wetland indicator species resulted in the characterization of the area as an upland vegetation community. Balsam poplar is the dominant canopy species with occurrences of Green Ash and Trembling Aspen. Canada Anemone, American Hog-peanut, and Riverbank Grape compose the majority of the ground layer.

4.1.7 FODM3-1: Dry-Fresh Poplar Deciduous Forest

The FODM3-1 community is present in the south-western corner of the property, where it extends beyond the property limits to the south. Relative to the adjacent upland shrub and forest communities,

this forest community was comprised of proportionally more mature specimens. Canopy conditions are closed, with Manitoba Maple being the dominant species. Companion canopy species include White Ash, Green Ash, and American Elm. A thick understory of European Buckthorn has resulted in a largely absent ground layer with sparce occurrences of Poison Ivy, Red Clover, Garlic Mustard, Broad-leaved Helleborine, and Wood Avens.

4.2 Wildlife Habitat

4.2.1 Birds

Incidental observations and breeding bird surveys in the spring of 2021 documented a total of 27 bird species within the property (Appendix F). All species recorded are considered provincially common and "secure"; no Species at Risk birds were documented on the property.

The property is primarily naturalized with thicket, forest and swamp communities that extend beyond the property limits to the east, west and south, however forest interior habitat (100 m from forest edge) was determined to not be present within the woodlands in the Study Area. While the Study Area does not contain interior forest habitat for area-sensitive breeding birds, it does support bird species that nest in forest habitats and on forest edges such as Baltimore Oriole, Downy Woodpecker, Black-billed Cuckoo, and American Redstart.

4.2.2 Mammals

Typical mammals observed in residential and natural settings are expected to utilize the habitats within the Study Area. These include Gray Squirrel, Raccoon and small rodents. Based on available background mapping from LIO, no deer wintering habitat is present within the Study Area, though evidence of deer presence was noted through tracks and scat. There were a number of dead and dying standing Ash trees with features such as cavities and crevices in the wetland habitats along the Georgian Trail that bat species may potentially utilize for roosting, discussed further in Section 5.8.1 below. .

4.2.3 Amphibians and Reptiles

During spring amphibians gather to mate and lay eggs in water. Once hatched and grown, the amphibians emerge as adults. Some adult amphibians will remain in or near the water, while others will move to terrestrial habitats. Potential amphibian habitat was presumed to be present in the Study Area due to the presence of drainage features and mapped wetlands.

Two locations were surveyed during evening amphibian call surveys (Figure 2). No amphibians were heard calling from within the property however amphibian activity was documented outside of the property, specifically Gray Treefrog in the adjacent SWMF to the west and Spring Peepers from wetlands east of the property. An American Toad was incidentally encountered on Georgian Trail. Calling activity was low and did not indicate the presence of SWH for amphibian breeding within the Study Area.

No targeted reptile surveys were conducted within the Study Area. Given the habitats present, species range maps, and observations in the general area (Ontario Nature, 2023), the following reptiles could be expected to be present within the habitats associated with the Study Area: Eastern Gartersnake and Snapping Turtle.

4.2.4 Fish and Fish Habitat

The Study Area is located within the watershed of an unnamed Escarpment watercourse that discharges directly to Georgian Bay. The watercourse is a permanent creek that supports Rainbow Trout (coldwater), which were observed to be spawning in spring 2021. Very little background data regarding the feature is available at this time, however, given the presence of Rainbow Trout, permanency of the feature, and the proportionally high level of groundwater contribution associated with the Niagara Escarpment, it is presumed that the feature is a coldwater creek.

An intermittent drainage feature (ID1, Figure 2) flows north-easterly across the property, joining with a second intermittent feature (ID2, Figure 2) and ultimately discharging to the unnamed permanent drainage feature at the property line (Figure 2). ID1 is an ephemeral feature that collects and concentrates flows within areas of high relief. During the spring freshet (March 2021), the feature was approximately 30 cm at its widest, with depths ranging from 5 to 10 cm. The flow path is utilized as an informal walking trail for both hikers and equestrians, connecting with trails present on properties to the west and south of the subject property. ID1 was dry during subsequent site visits.

ID2 appears to be a naturalized manmade feature created to improve drainage from the wetlands observed in the eastern portion of the property. ID2 flows westerly, within a dug drainage ditch approximately 1 m in width. During the spring site visit the wetted width of the feature was approximately 1 to 2 m and depth 50 cm. ID2 flows west, parallel to the permanent drainage feature. Flow was observed during spring freshet (March 2021); however, no flow was observed during

subsequent site visits. In September 2021, the invert of ID1 was approximately 50 cm perched above the surface water elevation of the permanent drainage feature.

Given the orientation of the permanent feature outside of the property limits and the seasonal nature of ID1 and ID2, no fish sampling occurred as part of the field program. No pertinent fish data for the un-named tributary was available through web resources (GSCA, LIO) at the time of writing.

No aquatic species at risk are mapped in the area (DFO, 2023).

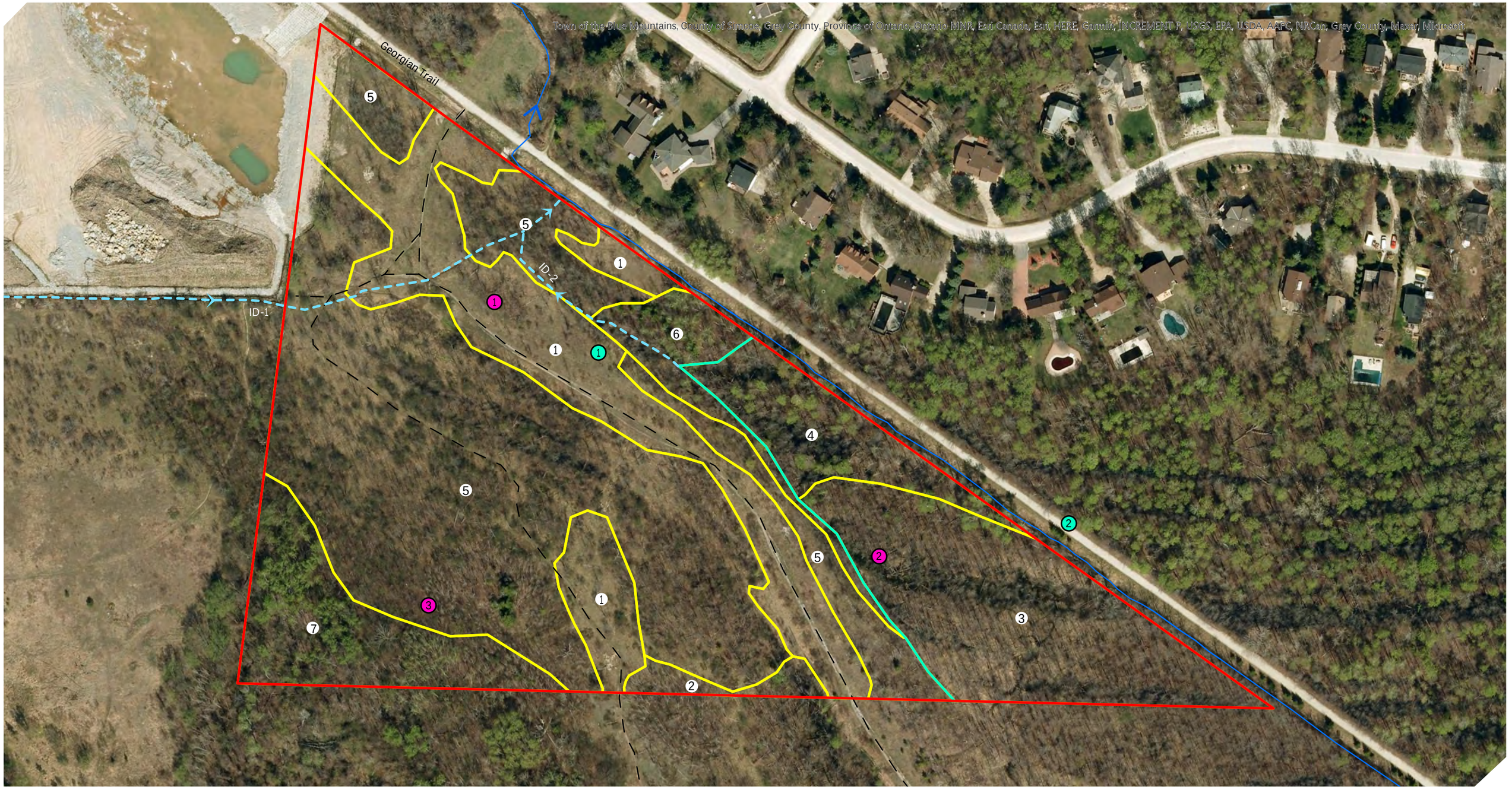


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Figure 2: Existing Conditions and Survey Locations

- Property Limit
- Watercourse (Birks NHC/LIO)
- Seasonal Indirect Drainage Feature
- Walking Trail
- Wetland Limit (Birks NHC/Tatham)

Survey Locations

- Breeding Bird Survey
- Amphibian Call Survey

Vegetation Communities

1) MEGM4-1/Cultural Open Graminoid Meadow
2) FODM7-2 Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest
3) SWDM2-2 Green Ash Mineral Deciduous Swamp
4) SWDM4-5 Poplar Deciduous Swamp
5) THDM2-6 Buckthorn Deciduous Shrub Thicket
6) FODM8-1 Fresh-Moist Poplar Deciduous Forest
7) FODM3-1 Dry-Fresh Poplar Deciduous Forest

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

MAP CREATED BY: HM
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 20 40 80 120 160 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRoad21West

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 13/06/2023

Given the temporary nature of the drainage features, and the barrier to fish presented by the outfall to the permanent drainage feature, ID1 and ID2 are considered to be seasonal indirect fish habitat, contributing to the fish habitat present within the permanent drainage feature during spring freshet and heavy precipitation events.

5 NATURAL HERITAGE FEATURES AND FUNCTIONS

In the following sections we summarize the range of natural heritage features and functions attributable to the Study Area based on existing designations/delineations by agencies and as revealed through the application of provincial guidelines for identification of significant natural heritage features and functions.

5.1 PROVINCIALLY SIGNIFICANT WETLAND

Components of the Silver Creek PSW Complex area mapped within the property and adjacent lands (Figure 1).

5.2 OTHER WETLANDS

MNRF background mapping (*i.e.,* LIO, NHIC) indicates the presence of un-evaluated wetlands connected to the PSW within the Study Area. Wetland habitats on the property were confirmed by Birks NHC ecologists (deciduous swamp). The wetland boundary was mapped in the field on March 30 and October 7, 2021, and is illustrated on Figure 2. Note that any un-evaluated wetland features which are contiguous and hydrologically connected with the Silver Creek PSW Complex should be regarded as part of the complex for planning purposes.

5.3 SIGNIFICANT WOODLAND

The County of Grey Official Plan (2025) and the Town of The Blue Mountains Official Plan (2025) illustrate Significant Woodlands on the property and adjacent lands (Appendix C and Appendix D of this report).

The significance of the woodland features on the property was assessed according to section 7.3.1 of the Natural Heritage Reference Manual (MNR, 2010). Woodland mapping was completed based on the available aerial imagery from the County (adjacent lands), and the ELC mapping completed as part of the EIS which captures five (5) forest communities: Dry-Fresh Poplar Deciduous Forest, Fresh-Moist Green Ash-Hardwood Lowland Deciduous Forest, Fresh-Moist Poplar Deciduous Forest, Poplar Deciduous Swamp, and Green Ash Mineral Deciduous Swamp. The remaining portions of the property are characterized as a Buckthorn Deciduous Shrub Thicket, and Cultural Open Graminoid Meadow communities, which have been excluded from the woodland mapping. An update to Appendix G mapping has been provided as part of this EIS update.

The woodland that continues to the west of the property has been measured as approximately 62 ha, and the woodlands that continue to the east are measured to be approximately 57.5 ha (Appendix G). Woodland size criteria in the Natural Heritage Reference Manual indicates that where woodlands are 30% to 60% of the land cover, woodlands 50 ha in size or larger should be considered significant (MNR, 2010). No forest cover information for the Town of The Blue Mountains or from GSCA for the subwatershed was available. Given that the property is immediately adjacent to the boundary, forest conditions from the Nottawasaga Valley Conservation Authority Blue Mountains Subwatershed Health Check (NVCA, 2023) was utilized for forest cover to assess significance based on size. Approximately 31% of the Blue Mountains subwatershed is forested (NVCA, 2023). The Study Area woodlands would therefore be considered significant by size at a local scale.

In addition to size, the woodlands were further assessed by the recommended evaluation criteria (*i.e.,* interior habitat, unique features, diversity of habitats) for determining Significant Woodland in the Natural Heritage Reference Manual (MNR, 2010). The assessment is included in Appendix G of this report.

5.4 Significant Valleylands

No Significant Valleylands are present within the Study Area.

5.5 Significant Wildlife Habitat

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E reference document (MNRF, 2015) was reviewed as part of this study to determine whether any portions of the Study Area would meet the criteria for candidate or confirmed SWH. SWH functions were assessed utilizing expert knowledge of the site, review of habitat and species data sources, and field data gathered by Birks NHC ecologists. The full SWH assessment table is included as Appendix H. Based on that assessment, it was determined that the following candidate SWH functions may be associated with the Study Area:

- Bat Maternity Colonies
- Reptile Hibernaculum
- Special Concern and Rare Wildlife Species

5.5.1 Seasonal Concentration of Animals

As outlined within the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E reference document (MNRF, 2015), Seasonal Concentration Areas are areas where wildlife species occur annually. These seasonal aggregations result in large numbers of individuals highly concentrated within relatively small areas. As a result, the loss of, or damage to, these features can result in a significant impact to populations. The Study Area may provide the following Seasonal Concentration Areas habitat functions:

Bat Maternity Colonies

Bat Maternity Colonies are identified as SWH because known locations of forested bat maternity colonies are extremely rare in Ontario. According to Significant Wildlife Habitat Criteria Schedules for

Ecoregion 6E (MNRF, 2015), maternity colonies located in mature deciduous or mixed forest stands with more than 10 large diameter (greater than 25 cm dbh) wildlife trees per hectare are candidates for SWH designation.

No specific surveys were undertaken to characterize density of cavity trees within the property, however, standing dead and dying Ash trees which may potentially be utilized by bats for roosting were noted in the SWD2-2 community.

Reptile Hibernaculum

Snakes overwinter in Ontario by accessing underground hibernation sites below the frost line. They will utilize rock crevices, rodent burrows, tree root systems and structures such as old building foundations to obtain sufficient depth as to prevent freezing. Because of the variability in features that snakes will use for hibernation, snake hibernaculum may be found in almost any habitat (except for very wet ones). Since features associated with this function appear to be common in the landscape, reptile hibernaculum SWH may be present within the Study Area. While there are no rock crevices in the Study Area, reptiles may gain access to below the frost line for hibernation through rodent burrows and tree root systems.

5.5.2 Special Concern and Rare Wildlife Species

Habitat for all Special Concern and provincially rare (S1-S3, SH) plant and animal species is considered SWH. When an occurrence is identified within a survey grid square for a Special Concern or provincially rare species, an assessment of the Study Area to provide candidate habitat for the species is warranted. The following Special Concern wildlife species was identified as occurring or potentially occurring within the Study Area:

Snapping Turtle (Special Concern)

The Snapping Turtle occurs in almost any freshwater habitat including small wetlands, ponds, and ditches. This species has recent occurrences recorded in the survey grid squares which encompasses the Study Area (NHIC square 17TNK5529, ORAA square 17NK52). This turtle has potential to utilize the drainage features within the Study Area.

5.6 Areas of Natural and Scientific Interest

No Areas of Natural and Scientific Interest are located within 1 km of the property.

5.7 Fish and Fish Habitat

A permanent unnamed drainage feature borders the northern property limit and has been identified as a cold-water feature. Two additional seasonal drainages were documented within the property, which have been identified as indirect fish habitat to the permanent feature, given the barrier to fish present at the outlet of the seasonal features.

5.8 Habitat of Threatened and Endangered Species

The habitat requirements of those species listed as Threatened and Endangered under the ESA were considered in relation to the habitat features noted within the property limits and the adjacent lands. Based on data available, it was determined that potential habitat for a number of Threatened and Endangered species may be present in the Study Area (Table 2). Of the species identified in Appendix J, the following are relevant to the Study Area and proposed development and are therefore considered further:

- Endangered bat species (Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Small-footed Myotis, Eastern Red Bat, Hoary Bat, and Silver-haired Bat).

5.8.1 Endangered Bat Species

Eight species of bats live in Ontario, seven of which are provincially listed as endangered, including four species of overwintering bats (Little brown Myotis, Northern Myotis, Tri-colored Bat, and Eastern Small-footed Myotis) and three species of migratory bats (Hoary Bat, Eastern Red Bat, and Silver-haired Bat). The main threats to populations of these bat species are wind energy turbines (for migratory bat species), White Nose Syndrome (a fungal disease), and loss of forested roosting habitats.

Important habitat functions for these species include hibernacula, day roosts, foraging habitat, and maternity roosts. Hibernacula for bats in Ontario are often found in caves, abandoned mine shafts, underground foundations, and karsts. These features were not documented within the property limits, and thus this habitat function is not likely associated with the property.

Day roosts are those that are used by males and non-reproductive females as they move across the landscape and can take the form of any tree with appropriate snag features such as loose bark, cracks or crevices. Potential foraging habitat would be associated with open woodland and wetland areas that provide an abundance of flying insects and standing water.

Among the four non-migratory endangered bat species, three (3) are known to form maternity roosting colonies in forest habitats: Little Brown Myotis, Northern Myotis, and Tri-colored Bat. Evidence has shown that Little Brown Myotis and Northern Myotis tend to utilize crevices and holes in tree snags and old buildings, while Tri-colored Bat roosts in tree leaves and needles (R.W. Watt & Caceres, 1999). Additional studies on the foraging habits of Ontario bat species found that proximity to water and hibernacula were also factors in the presence of *Myotis sp*. (Furlong, Deward, & Fenton, 1986). The summer activities of Eastern Small-footed Myotis are poorly understood, but it is thought to primarily roost in open, sunny rocky habitats, including cracks and crevices in cliffs and boulders, in talus slopes, beneath stones on rock barrens and in rocky outcrops containing crevices; they have also occasionally been found in buildings. The Study Area does not contain any type of rocky habitat or cliffs/slopes in vicinity to the properties or the Study Area that would be suitable for this species. Therefore, this area is not considered suitable habitat for the Eastern Small-footed Myotis.

Hoary Bats and Eastern Red Bats typically roost among the foliage of trees and occasionally shrubs (COSEWIC 2023). Both species are known to roost alone, or with their pups and do not form maternity colonies with other females. Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. Roost use during migration appears to be more variable than during the maternity season. Non-foliage roosts are occasionally used and include shrubs, bridges, and the sides of buildings (COSEWIC 2023).

Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees. Reproductive females generally roost in small groups within tree cavities or under bark (COSEWIC 2023). Silver-haired Bats may occasionally roost in or on buildings, especially during migration when natural roosting sites may be scarce.

Wind energy development is identified as the greatest threat to migratory bat species (Fleming *et al*. 2003, cited in COSEWIC 2023, IN PRESS). Bat mortality at turbines is comprised of 75 to 80% migratory bats and are the most common groups of bats killed at wind turbines in North America (COSSARO 2024). Recovery strategies for the three migratory species have not been released, however it can be expected that a key recovery strategy will be related to identifying and protecting critical migratory routes.

No specific surveys were undertaken to characterize maternity roosting habitat within the Study Area; however, maternity roosting habitat may be present within adjacent residential buildings and the SWDM2-2 Ash community which extends beyond the property limits into adjacent lands. Summer roosting for those species which do not form maternity colonies may be present within the SWDM2-2, FODM3-1, FODM8-1, and FODM7-2 communities. However, all upland treed communities within the property are characterized as containing a dense and thick understory of Buckthorn, which could reduce the function of those communities in providing roosting habitat.

5.9 Natural Heritage Features and Functions Summary

The results of the site visits, review of background information and analysis indicate both confirmed and candidate natural heritage features and functions to be associated within the Study Area. Our impact assessment will consider potential impacts only to features and functions summarized in Table 3 below.

Table 2: Natural Heritage Features and Functions Summary

Natural Heritage Feature and Function	Within Property	Within 120 m of Property	Actions Required
Provincially Significant Wetland	Silver Creek PSW	Silver Creek PSW	Evaluation for potential impacts.
Other Wetland	None	Un-evaluated wetlands	Evaluation for potential impacts.
Significant Woodlands	Vegetation communities SWDM2-2, SWD4-5 and FODM3-1, FODM7-2	Contiguous woodland features to the west and east	Evaluation for potential impacts.
Significant Valleylands	None	None	No actions required.
Significant Wildlife Habitat	Potential • Bat Maternity Colonies • Reptile Hibernaculum	Potential • Bat Maternity Colonies • Reptile Hibernaculum • Special Concern and Rare Wildlife Species (*i.e.,* Snapping Turtle)	Evaluation for potential impacts.
Provincial Areas of Natural and Scientific Interest	None	None	No actions required.
Fish Habitat	Seasonal Indirect drainage features	Permanent cold-water feature	Evaluation for potential impacts.
Habitat of Threatened or Endangered Species	Potential • Endangered bat species		Evaluation for potential impacts.

6 IMPACT ASSESSMENT

The intent of this study is to identify natural heritage features and functions associated with the Study Area and determine if potential impacts could arise from the proposed development. Impacts are evaluated on the current knowledge of the property based on site data collected in 2021 and 2025 by Birks NHC ecologists.

6.1 DEVELOPMENT PLAN

The proposal involves the creation and development of residential lots as part of a Draft Plan of Subdivision. The Draft Plan includes an access road from the adjacent Eden Oaks development that will cross through the property in a general north-west to south-east direction and a mix of single detached and semi-detached homes (Figure 3). An existing intermittent drainage feature (ID1) would be removed, and surface overland flow conveyed along the road to the SWMF to the west (Eden Oak Development), outletting in part to the unnamed permanent watercourse along Georgian Trail. Systems for quality control and quantity control prior to outletting will be in place prior to reaching the watercourse. Runoff from the northern lots will be directed towards the open space block and allowed to disperse through infiltration (Figure 3).

Servicing for the proposed development will be through public water and sewer systems, the infrastructure for which is already in place (in regard to water). Relocation of the main sanitary sewer will be required, which will occur between the proposed 30 m setbacks to Silver Creek PSW.

No development or site alteration is proposed within the delineated limits of Silver Creek PSW. After relocation of the sanitary sewer, a 30 m setback has been integrated into the Site Plan for both the PSW and permanent fish habitat to protect the features from direct and indirect impacts of the residential development. A Hazard lands designation is present, associated with floodplain and wetland setbacks. Open Space/Park is proposed within the north-western corner of the property, outside of the hazard and wetland land designation. A 3 m wide allocation to Open Space/Park is provided along the length of the western property limit, to allow for the creation of a trail connection between Georgian Trail and The Town of the Blue Mountains Resort area, which we understand will be an undertaking of the Town.

Compensation for the loss of 0.67 ha of woodland habitat, including invasive species management and tree planting, is provided within the maintained natural lands and natural features setbacks in the northern portion of the property.

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Figure 4: Preliminary Compensation Plan

- Property Limit
- Watercourse (Birks NHC/Ontario GeoHub)
- 30m Watercourse Setback
- Wetland Limit (Birks NHC/Tatham)
- 30m Wetland Setback

Preliminary Compensation Plan

- Invasive Species Management (1 ha)
- Planting Area (0.75 ha)
- Proposed Servicing Corridor (Town-owned lands)
- Existing Servicing Easement

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

MAP CREATED BY: SB
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 20 40 80 120 160 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRoad2\West

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 07/07/2025

6.2 Direct Impacts

Direct impacts are those that are immediately evident as a result of a development. Typically, the adverse effects of direct impacts are most evident during the site preparation and construction phase of a development. Potential impacts of the proposed development include the following:

- Tree and vegetation removals;
- Erosion and sedimentation into natura heritage features;
- Changes to the hydrology/water quality entering sensitive features;
- Loss of and disturbance to wildlife and wildlife habitat; and,
- Loss of species at risk habitat and incidental harm.

In the following sections we assess the potential for negative ecological impact to the identified natural heritage features and functions.

6.2.1 Tree and Vegetation Removals

The proposed development would entail the removal of the FODM3-1 poplar deciduous forest community (0.57 ha) in the south-western corner of the property and the removal of the FODM7-2 ash-hardwood lowland deciduous forest (0.09 ha) in the southern portion of the property, both of which are part of contiguous woodlands designated as Significant Woodland.

Removal of the poplar forest and ash-hardwood communities on the property would constitute 1% (0.67 ha out of 62 ha) of the contiguous woodland feature that extends to the west and south outside of the property boundaries. Given the location of the development area (forest edge) and that the area of removal is minimal relative to the overall feature, there is no expectation that the proposed loss of edge woodland habitat would result in a negative ecological impact to the Significant Woodland or its ecological functions. Notwithstanding, in accordance with comments received from both the Town and County at the pre-application process, compensation for the loss of 0.67 ha of Significant Woodland will be required in order to demonstrate no negative impacts to the feature. Additional discussion regarding compensation is provided in Section 7 below and in the Tree Inventory and Preservation Plan (Birks NHC, 2025).

The proposed development would also result in the removal of the European Buckthorn shrub thicket community in the centre of the property. The community is comprised of a number of non-native plant

species and does not function as habitat for Species at Risk, rare species, or provide SWH. Further, removal of the Buckthorn thicket community will serve as an overall benefit to the retained Significant Woodland and PSW habitats . Removal of the vegetation community will significantly reduce introduction pressures within the retained habitats, by removing a significant localized seed source. In addition, as part of the Significant Woodland compensation plan, an invasive species management plan is proposed for the maintained natural lands and natural features setbacks of the property. Additional

discussion regarding compensation is provided in Section 7 below and in the Tree Inventory and Preservation Plan (Birks NHC, 2025).

The wetland communities within the Silver Creek PSW will be preserved, as well as a naturalized 30 m setback to the PSW limit (Figure 3). Furthermore, a Tree Inventory and Preservation Plan (Birks NHC, 2025) has been prepared to ensure that any indirect impacts to adjacent woodland communities are avoided and mitigated.

With the minimal proposed loss of Significant Woodland habitat in combination with the proposed compensation measures, there is no expectation that the proposed development would result in negative ecological impact to Significant Woodland. Therefore, the proposed development has demonstrated no negative impacts to Significant Woodland in accordance with the PPS, 2024.

6.2.2 Erosion and Sedimentation into Natural Heritage Features

No works are proposed within the identified hydrologic features (*i.e.*, wetlands, permanent watercourse). Lands within the sanitary easement will be temporarily disturbed during relocation and then will be stabilized within natural heritage feature setbacks and/or open space recreation areas. Construction activities, especially operations involving the handling of earthen material, increases the availability of sediment for erosion and transport by surface drainage. In order to mitigate the adverse environmental impacts caused by the release of sediment-laden runoff into receiving woodlands and wetlands, measures for erosion and sediment control are required for construction sites.

Any potential direct impacts to habitats which could result from sedimentation can be mitigated through the application of erosion and sediment controls along the development limit and edges of the proposed soil disturbances. It is our understanding that erosion and sediment control measures will be implemented prior to and during the development and maintained until the site is stabilized.

6.2.3 Changes to the Hydrology/Water Quality Entering Sensitive Features

Alteration of land use may influence surface water run-off and water quality entering the wetland and drainage features present within the Study Area. Lot level water quality controls such as limiting lot coverage with hard surfaces, avoiding inappropriate disposal of deleterious substances (oil, gas, paint, etc.) and ensuring successful operation of a private septic system can limit the potential for contaminated water to enter adjacent retained natural features.

As previously mentioned, existing wetland communities at the eastern portion of the property would remain with a 30 m setback to protect the wetland feature from the impacts of the proposed change. A 30 m setback to the permanent watercourse has also been integrated into the Site Plan (Figure 3). The eastern drainage feature (ID2) would also remain within the designated open space block. The other intermittent drainage feature (ID1) on the property would be removed. There will be some grading required to relocate the water and sewer; overland water flow is proposed to be captured and conveyed

along the proposed road to the SWMF pond to the west, as well as east from the eastern lots towards the open space block.

Tatham Engineering has undertaken site-specific pre- and post-development drainage studies, including a Hydrogeological Water Balance Assessment (Tatham, 2025) which also include a feature-based water balance. In order to maintain pre-development site-wide infiltration, approximately 4,271m^3/year will need to be managed through infiltration [Low Impact Development} features. Of this total, approximately 2,079m^3/year must be infiltrated specifically within the wetland catchment area (Tatham 2025). Overall, with mitigation measures focused within the wetland catchment, pre-development infiltration volumes can be maintained to the feature (Tatham, 2025).

Currently the property drains northeast to the unnamed watercourse along Georgian Trail and ultimately draining to Georgian Bay. Post-development, the majority of the drainage will be collected in storm sewers and conveyed to the Eden Oaks SWMF, which will discharge to the unnamed watercourse. Therefore, no changes to the hydrology of the watercourse are expected to occur. Runoff from the northern lots will flow overland into the open block and wetland area. Water from those lots is considered clean and therefore no quality control is required for these flows.

A thermal impacts analysis was completed by Tatham as part of the SWM report (Tatham, 2025) concludes that a moderate warming of 0.5% of the watercourse drainage is anticipated, which is expected to have a negligible impact on the temperature within watercourse 6 (Tatham, 2025).

There is no expectation that post-development drainage conditions and SWM measures would result in charges to the hydrology of the identified natural heritage features. No direct impacts are expected to occur to the hydrology of the wetland and watercourse within adjacent lands provided the LIDs and SWM design and mitigation measures are applied accordingly.

6.2.4 Loss of and Disturbance to Wildlife and Wildlife habitat

As discussed, the property is mostly naturalized with shrub thicket and deciduous forest/swamp communities; with a narrow open meadow community that passes through the property. Common wildlife species were documented utilizing the habitats within the property. Additionally, the communities on the property and adjacent lands may function as habitat for bat maternity colonies, Special Concern wildlife species (*i.e.,* Snapping Turtle), and reptile hibernaculum. A 30 m setback has been applied to the wetland limits to provide a buffer to wildlife and habitats contained within the wetlands. Therefore, the proposed development will not have a direct impact on candidate bat maternity colonies.

Further, as mentioned above, given the location and area of removal relative to the overall size of the woodland feature, there is no expectation that the loss of edge woodland habitat would result in a negative ecological impact to the woodland feature or its ecological functions. Woodland compensation

has been proposed to further reduce potential impacts. It is expected that wildlife would continue to access and utilize adjacent habitats to the development envelope and that the proposed residential development would not result in any direct impacts to wildlife or their habitats.

The proposed development envelope is also outside of the required 30 m setback for watercourses and fish habitat. A SWM design and best management practices shall be put in place to protect adjacent habitat features, and an erosion and sediment control plan is to be implemented to protect aquatic habitats.

Following the mitigation measures provided in Section 7, there is no expectation that the proposed development would result in any direct impacts to fish and wildlife or their habitats.

6.2.5 Loss of Species at Risk Habitat and Incidental Harm

Endangered Bat Species

As discussed, a number of standing dead and dying Ash trees were noted in the deciduous swamp SWDM2-2 community which extends beyond the property limits into adjacent lands. The site plan does not propose to remove any trees within the SWDM2-2 community on the property or in adjacent habitats. Therefore, suitable potential bat maternity roosting habitat for those species that form maternity colonies will be retained on and off the property post development.

As discussed, additional summer roosting areas within the property for those species which do not form maternity colonies may be present within the FODM3-1, FODM8-1, and FODM7-2 communities. However, these areas are characterized as containing a dense and thick understory of Buckthorn, which could reduce the function of those communities in providing roosting habitat.

Tree removal would be required for the proposed development, including the removal of the FODM8-1 and FODM7-2 forest communities. The understory of these communities contains a thick layer of Common Buckthorn, which would impact bat's ability to navigate within the forest communities, reducing the likelihood of use. Those forest communities are unlikely to support maternity roosting for those migratory species. Furthermore, the development of the property is not expected to impact the ability of those species to complete spring and fall migration events, as this property is not within a known significant migratory pathway. Following mitigation measures provided in Section 7 (such as implementation of timing windows for vegetation removal), it is unlikely that a bat would sustain incidental harm during construction activities.

As discussed, foraging opportunities are also present. As insectivores, Endangered bat species feed on flying insects that are available within the woodlands and aquatic habitats. Foraging habitats are widely available within the Town and County, including the adjacent SWM pond and wetland habitats. Therefore, there would be no loss of potential bat foraging habitat within the Study Area.

6.3 INDIRECT IMPACTS

Indirect impacts are those that do not always manifest in the core development area but in the lands adjacent to the development. Indirect impacts of the proposed development include:

- Anthropogenic disturbance;
- Increased potential for invasion of non-native species; and,
- Release of contaminants.

6.3.1 Anthropogenic Disturbance

A residential development will bring increased human presence and associated anthropogenic disturbances in the form of increased noise and light, predation by pets, and supplemental feeding (*i.e.,* people depositing food for deer or birds). The proposed development, however, is situated within a settlement/recreational area in the Township of The Blue Mountains. Further south and west are developed lands with recreational facilities such as ski clubs, resorts, bed and breakfasts and inns, and to the north are residential properties and Highway 26. The Georgian Trail runs along the eastern property line and the property currently contains several unsanctioned recreational trails. Therefore, the proposed development would be in an area that has already experienced impacts from human presence. Given that the area has experienced anthropogenic disturbance and species observed in the Study Area are common in developed areas, the proposed development is not expected to result in a noticeable significant intensification of indirect human impacts on wildlife. It is recommended that access to maintained natural lands and natural features setbacks natural areas outside of the lots be limited with permanent fencing along the lot boundaries.

6.3.2 Increased Potential for Invasion of Non-native Species

Site disturbance may increase the likelihood that non-native and/or invasive vegetation will become established within the retained vegetation communities. Additionally, if construction equipment coming from other sites is used without first being cleaned properly, invasive species transport may occur. Management and control measures are provided in Section 7 below below to control the potential introduction and spread of invasive species.

6.3.3 Release of Contaminants

Development may result in the increase of contaminants (*i.e*., sediments, salt, gasoline, oil) in surface runoff, which may affect nearby wetland features. In order to mitigate the impacts of development, SWM controls and water quality approaches will be implemented, as per the Stormwater Management Plan (Tatham, 2025). The SWM design for the property will incorporate the policies and criteria of a number of agencies. There will be some grading to relocate the water and sewer; overland water flow is proposed to primarily be directed to the SWM facility to the west of the property, as well as directed from the eastern lots towards the open space block.

7 RECOMMENDATIONS AND MITIGATION MEASURES

Mitigation refers to the avoidance or reduction of impacts associated with the proposed works through best practices. As previously discussed, potential impacts were identified which could negatively impact the identified natural heritage features and functions associated with the Study Area. Where applied correctly, mitigation is intended to reduce the potential for impacts to ensure that the natural heritage features and functions will continue uninhibited by the proposed development. Thus, mitigation would be required to ensure that there is no negative impact, and the development can proceed in conformity with the relevant planning documents and in compliance with environmental law.

The following recommended mitigation measures are recommended to minimize the above listed potential impacts.

7.1 Species at Risk

7.1.1 General

Given the dynamic character of the natural environment, as well as changes to policy (*i.e.*, new species listing), consideration is recommended in the interpretation of potential presence of Threatened or Endangered species as protected under the ESA.

This report was produced based on the most up-to-date policy information however, it is not intended to act as a long-term assessment of potential species at risk. The ESA is recognized as being a 'proponent-driven' piece of legislation and therefore it is the responsibility of the landowner/developer to ensure compliance with the regulations made under this act. Should a considerable length of time and/or sudden change in policy occur prior to construction, it is recommended that a review of the assessment provided within this report be undertaken by a qualified ecologist to ensure compliance with the ESA at that time.

All current Threatened or Endangered species listed under O. Reg. 230/08 made under the ESA with a currency date of June 26, 2025 been considered within this report.

7.1.2 Endangered Bat Species

Tree removals in woodlands is to be scheduled such that they occur outside of the bat active season. Therefore, tree removals should occur between November 30 and March 31; no tree removals should occur outside that period. This will ensure that no bats actively roosting in trees will be accidentally killed or harmed as a result of clearing activities, to ensure that the project does not violate Section 9 of the ESA, which protects against harm to Endangered and Threatened species.

7.2 Fish and Fish Habitat

Should dewatering be required during the construction and buildout phases the creation and implementation of a dewatering plan is recommended. The Department of Fisheries and Oceans

Canada (DFO) has prepared numerous Standards and Codes of Practice relating to the taking, pumping and outletting of water. The recommendations should be considered within the dewatering plan, to ensure that impact to fish and fish habitat is avoided.

7.3 Migratory Birds

Construction activities involving the removal of vegetation should be restricted from occurring during the breeding bird season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 and the *Fish and Wildlife Conservation Act*, 1997. Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html)

For this location, vegetation removal should be avoided between April 1st and August 30th of any given year. If vegetation clearing is required between these dates, screening by an ecologist with knowledge of bird species present in the area should be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

7.4 Wetlands and Adjacent Woodland Habitat

Development is planned on the property outside of identified wetlands and fish habitat, including the implementation of a 30 m setback to those features. An area of 0.67 ha of woodland habitat will be removed as part of the proposed development plan. The following mitigation measures should be incorporated to further minimize potential impacts on those features:

7.4.1 Materials and Equipment

Development activities should be contained within the proposed development area. The development area should be appropriately delineated prior to initiation of ground works and construction to ensure that no accidental deviation from the intended removals will occur.

Equipment maintenance during and post construction should be undertaken in an appropriate area. Tool and vehicle maintenance and cleaning should be done away from the maintained natural lands and natural features setbacks natural areas in a manner that does not encourage the movement of cleaning or maintenance products including cleaners, oils or fuel into the neighboring forested and wetland areas. Fuel and chemical storage should follow appropriate legislation to ensure that it is maintained and stored in a way that will not result in accidental release or spills to the neighbouring forested areas, wetland or watercourse.

Control of potentially contaminated materials (*i.e.*, fill, soil, gravel, excavated materials) moved by equipment during construction is recommended to prevent the spread of invasive plants. This would include inspection and cleaning of all equipment including vehicles, boots, clothing *etc*. prior to allowing access to the property and prior to leaving the site to prevent the spread of invasive plant species. Given the presence of invasive species on site, particularly populations of European Buckthorn,

reutilizing the soils from the site for regrading is not recommended. Removal of the Buckthorn thicket community will serve as an overall benefit to the retained woodland and wetland habitats and significantly reduce introduction pressures within the retained habitats by removing a significant localized seed source.

7.4.2 Sediment and Erosion Control

All development activities shall comply with minimizing erosion and sedimentation and be contained within the proposed development area. It is recommended that sediment and erosion controls along the limits of the development envelope be installed prior to all construction activities. A sediment fence along the development limits will aid in prevention of inadvertent encroachment into areas to be protected. This fence should be kept intact throughout the entire development and monitored to ensure that the barrier remains in good working condition. No development activities (*i.e.,* material and equipment storage, grading, equipment activity) are permitted within the adjacent retained natural areas.

Preliminary Compensation Plan

Compensation for the loss of 0.67 ha of Significant Woodland habitat is proposed in order to demonstrate no negative impacts to the feature, deemed required by the Town and County. Furthermore, in compliance with the Town's Tree Cutting By-law and Official Plan, compensation for the loss of trees will also be required in order to maintain canopy cover within the municipality. Additional details regarding the tree inventory are provided within the Tree Inventory and Preservation Plan (Birks NHC, 2025). For this proposed development, compensation strategies and methods have been developed based on the existing conditions of the site, level of impacts anticipated, as well as the availability of natural land to undertake offsetting measures.

A Preliminary Compensation plan, as discussed with Michael Cook, Grey County Ecologist, has been completed in support of this application. The plan is comprised of such on-site measures such as managing invasive species (Common Buckthorn) and tree plantings. Figure 3 illustrates the proposed offsetting measures, including identifying a planting area of 0.75 ha and an invasive species management area of 1 ha.

The preliminary compensation plan considers the management of Common Buckthorn, which currently occupies the majority of the property, including the natural lands to be protected post-development. The removal/management of Common Buckthorn on this property will have an overall positive impact on maintained natural areas, allowing native species to re-establish in areas where Common Buckthorn has out-competed native plants. Wildlife habitat improvements, soil improvements, and increase in biodiversity are among the benefits of managing this species.

A tree planting area of 0.75 ha has been identified within the maintained natural lands and natural features setbacks which can be undertaken simultaneously with the Common Buckthorn management

works. Native tree and shrub species can be planted in these areas to maintain tree cover on the property. A Tree Inventory and Protection Plan (Birks NHC 2025) has been undertaken to quantify and characterize the nature of the tree resources present within the development area. This report has been submitted under separate cover, but will be utilized to direct the requirement for stem and canopy cover replacement within the restoration plan

The preliminary compensation plan is provided in Figure 3. It is recommended that a formal compensation plan be considered as a draft plan condition of approval.

7.5 Agency Approvals

A portion of the property is regulated by GSCA due to the presence of wetlands, Natural Hazard Areas and watercourses. This EIS report is required by GSCA for review and approval prior to any site works within regulated areas.

7.6 Tree Protection Plan

Where there is the potential for a negative impact to important vegetation communities (*i.e.*, woodlots, wetlands) or significant individual trees (*i.e.*, heritage trees or rare species trees), special consideration should be given to preservation and mitigation measures of the tree specimens. A Tree Inventory and Preservation Plan (Birks NHC, 2025) has been prepared to ensure that appropriate measures are in place to mitigate any potential impacts to adjacent woodland habitat.

8 CONCLUSIONS

The EIS was provided as part of a pre application review submission for the proposed development of residential lots on the property as part of a Draft Plan of Subdivision. Following review of the pre-application from the Town and County, it was determined that an update to the EIS is required in order to support the submission of Draft Plan of Subdivision. The report update is intended to provide the additional information as deemed required by the review agencies at the pre application review stage of the project.
An EIS was deemed required due to the presence of natural heritage features within and adjacent to the property, as well as areas regulated by GSCA under O. Reg. 151/06.

The purpose of the EIS was to identify and characterize the KNHFS, KHFs and functions present within property and adjacent lands and to determine if impacts to those features and functions could arise from the proposed development. No development or site alteration is proposed within wetland limits. Existing wetland communities within the Silver Creek PSW would remain with a 30 m setback to protect the wetland feature from the impacts of the proposed change. A 30 m setback to the the watercourse, which provides permanent fish habitat, has also been integrated into the Site Plan. Further mitigation measures recommended in this report have been developed to avoid and mitigate any potential

negative ecological impacts associated with the proposed development, including the development of a preliminary woodland compensation plan to offset for the loss of 0.67ha of Significant Woodland habitat. Overall, it has been determined that potential ecological impacts are mitigable provided the listed mitigation measures herein are applied accordingly.

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Appendix A

Grey Sauble Conservation Authority Regulation Map

BIRKS
NATURAL HERITAGE CONSULTANTS

Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (Ontario Regulation 151/06)

Watercourses (Approx.)
Natural Hazard Area (Approx.)
Subject Parcel (Approx.)
Other Parcels (Approx.)
O. Reg 151/06 (Approx.)

N

0 90 m

GSCA Regulations Map
372 Grey Road 21 - West
Town of The Blue Mountains
Former Town of Collingwood
GSCA File: P21386

Thursday, August 12, 2021

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They are the property of Grey Sauble Conservation Authority © 2021.

Grey Sauble CONSERVATION

Projection: Universal Transverse Mercator - Zone 17 (N)
Datum: North American 1983 (mean for Canada)

Appendix B

Niagara Escarpment Plan Map

BIRKS
NATURAL HERITAGE CONSULTANTS

MUNICIPALITY OF MEAFORD

TOWN OF THE BLUE MOUNTAINS

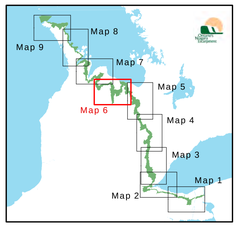
MUNICIPALITY OF GREY HIGHLANDS

TOWNSHIP OF CHATSWORTH

GREY COUNTY

NIAGARA ESCARPMENT PLAN

MAP 6



COUNTY OF GREY

MUNICIPALITY OF GREY HIGHLANDS
TOWN OF THE BLUE MOUNTAINS
TOWNSHIP OF CHATSWORTH
MUNICIPALITY OF MEAFORD (PART)

LEGEND

NIAGARA ESCARPMENT PLAN AREA

Plan Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Escarpment Recreation Area
- Mineral Resource Extraction Area
- Urban Area
- Minor Urban Centre

OVERLAY

- Niagara Escarpment Parks and Open Space System
- Amendments to the Niagara Escarpment Plan

NOTE: The Niagara Escarpment Plan designation boundaries shown on this map are approximate and subject to confirmation through site inspection and the application of the "Interpretation of Boundaries" section of the Niagara Escarpment Plan.

SCALE 1:50000

Miles 1 0.5 0 1 2 3

Kilometres 1 0.5 0 1 2 3 4

BASE MAP LEGEND

ROADS

- Expressway
- Provincial Highway
- County or Regional
- Local Municipal

BOUNDARIES

- County or Regional Municipality
- Township, Local and Area Municipality

OTHER

- Railway
- Abandoned Railway
- Contour (10m Interval)
- Lot and Concession Boundary

The NIAGARA ESCARPMENT PLAN (2017) APPROVED AND ORDERED June 1, 2017. O.C. # 1026/2017

Base Map Data supplied by the Ontario Ministry of Natural Resources and Forestry, Land Information Ontario

Map Compiled and Produced by the Geographic Information Systems (GIS) Department of the Niagara Escarpment Commission, Ministry of Natural Resources and Forestry

Ontario

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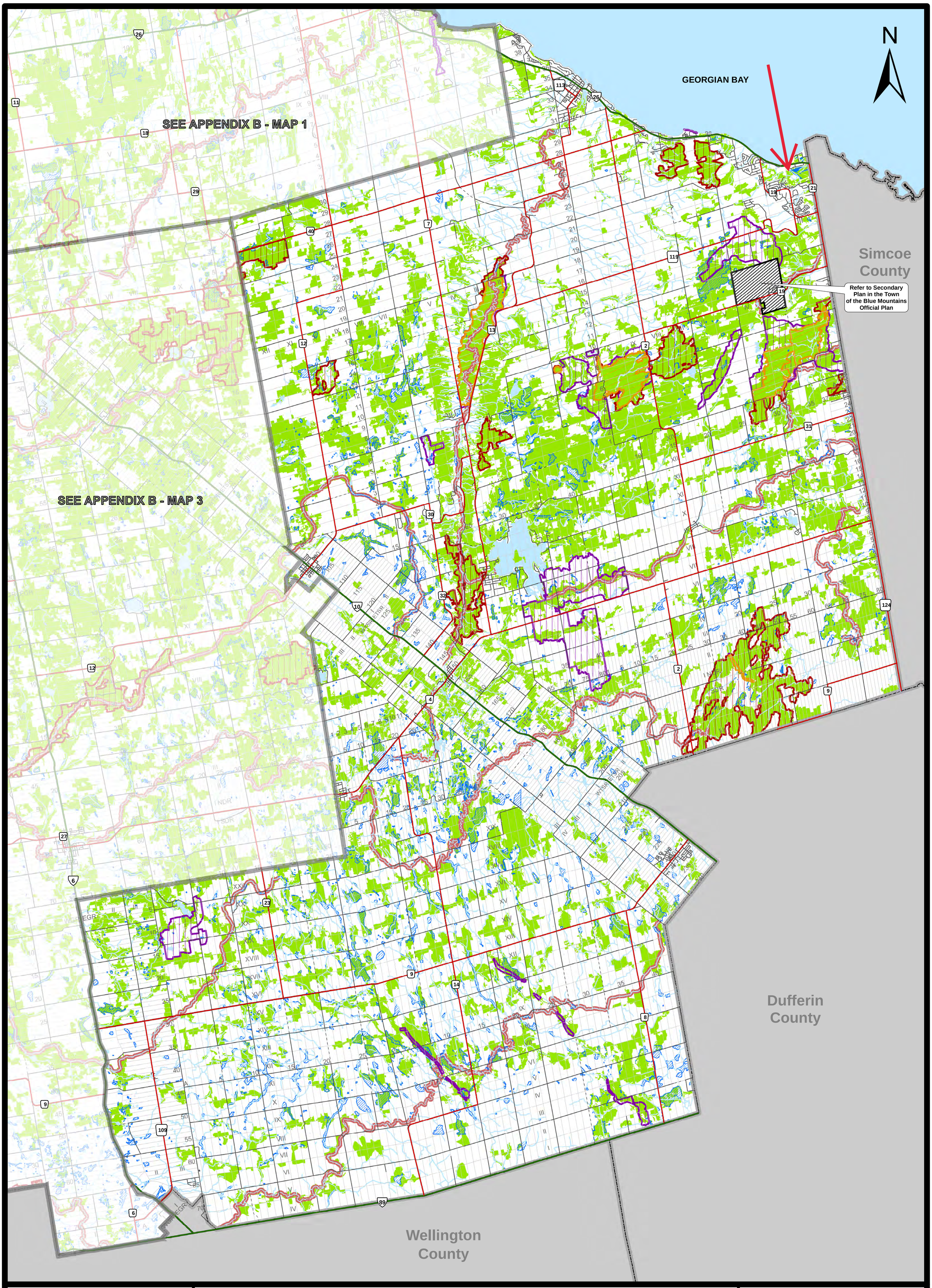
Appendix C

County of Grey Official Plan
Schedule A – Land Use Types
Appendix B – Constraint Mapping

BIRKS
NATURAL HERITAGE CONSULTANTS



Grey County

THE COUNTY OF GREY OFFICIAL PLAN

APPENDIX B
Constraint Mapping

MAP 2

LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Stream / River
- Lakes
- Other Wetlands
- Significant Earth & Life ANSI
- Significant Earth ANSI
- Significant Life ANSI
- Significant Valleylands
- Significant Woodlands

SCALE 1:95,000

0 1,125 2,250 4,500 6,750 9,000 Meters

AUTHOR: Grey County Planning
FILE NAME: GR_OP_ApdxB_Map2eastX36.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP: geo.grey.ca
DOWNLOAD PDF: grey.ca/planning-development

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.

ANNAN

MEAFORD

WOODFORD

GEORGIAN BAY

N

SEE SCHEDULE A - MAP 1

BOGNOR

Refer to Secondary Plan in the Town of the Blue Mountains Official Plan

Simcoe County

SEE SCHEDULE A - MAP 3

Dufferin County

Wellington County

THE COUNTY OF GREY OFFICIAL PLAN

SCHEDULE A
Land Use Types

MAP 2

LEGEND

- Provincial Highway Connecting Link
- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Agricultural
- Special Agricultural
- Rural
- Primary Settlement Area *
- Secondary Settlement Area *
- Inland Lakes & Shoreline Settlement Area
- Recreational Resort Settlement Area
- Sunset Strip Settlement Area
- Industrial Business Park Settlement Area
- Space Extensive Industrial and Commercial
- Niagara Escarpment Plan Boundary **
- Niagara Escarpment Development Control Area
- Escarpment Natural Area
- Escarpment Recreation Area
- Hazard Lands
- Provincially Significant Wetlands and Significant Costal Lands

* *refer to Secondary Schedules for further detail.*

** *certain settlement areas within the Niagara Escarpment Plan Boundary may be subject to Development Control.*

SCALE 1:95,000

0 1,125 2,250 4,500 6,750 9,000 Meters

AUTHOR: Grey County Planning
FILE NAME: GR_OP_SchedA_Map2eastX36.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP: geo.grey.ca
DOWNLOAD PDF: grey.ca/planning-development

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.

Appendix D

The Town of The Blue Mountains Official Plan
Schedule A-4 – Craigleith and Swiss Meadows
Appendix 1 - Constraint Mapping

The Town of Blue Mountains Zoning Map

BIRKS
NATURAL HERITAGE CONSULTANTS

The Blue Mountains
Official Plan Schedule 'A-4'
Craigleith and Swiss Meadows

Designations

- Agricultural
- Commercial Corridor
- Craigleith Village Commercial
- Craigleith Village HSFPSW
- Escarpment
- Future Secondary Plan Area
- Craigleith Village Residential
- Hazard
- Institutional Area
- Major Open Space
- Recreational Commercial Area
- Recreational Ski
- Residential Recreational Area
- Resort Commercial
- Rural
- Special Agricultural
- Wetlands
- Niagara Escarpment Plan Boundary

0 500 1,000 Metres

N W E S

Subject to Section B3.7.6.7
Subject to Section B3.7.6.8
Subject to Section B3.7.6.9
Subject to Section B3.7.6.4
Subject to Section B3.7.6.11
Subject to Section B3.15.8.2
Subject to Section B3.15.8.1
Subject to Section B3.7.6.3
Subject to Section B3.7.6.6
Subject to Section B3.7.6.10
Subject to Section B3.11.6.1
Subject to Section B3.7.6.12
Subject to Section B3.11.6.1
Subject to Section B3.7.6.13

See Schedule A-5

Lot 24
Lot 23
Lot 22
Lot 21
Lot 20
Lot 19
Lot 18
Lot 17
Lot 16
Lot 15
Lot 14
Lot 13
I
II
III
IV

Wards Rd
Barclay Blvd
James St
Hidden Lake Rd
Margaret Dr
Oak Crt
Alta Rd
Arrowhead Rd
Highway 26
Blueski George Cres
Davos Dr
Aspen Way
Chamonix Cres
St Moritz Cres
Lakeshore Rd W
Sleepy Hollow Rd
Innsbruck Lane
Wyandot Crt
Alexandra Way
Lendvay Alley
Craigleith Rd
Grey Road 19
Lakeshore Rd E
Fraser Cres
Brophy's Lane
Timmons St
Long Point Rd
Grey Road 21
National Dr
Manitou Crt
Venture Blvd
Helen St
Craignore Cres
Arlberg Cres
Tyrolean Lane
Settlers Way
Pioneer Lane
Brooker Blvd
Maple Lane
Hamlet Rd
Nordic Rd
Tyrol Ave
Scandia Lane
Swiss Meadows Blvd
18th Sideroad
Grey Road 119
12th Sideroad
4th Line
3rd Line
Mission Rd
Scenic Caves Road

Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources. While every effort has been made to accurately depict the information, data/mapping errors may exist.

Download PDF: www.thebluemountains.ca

June 2016

The Blue Mountains Constraint Mapping Appendix 1

Designations

- 100 Year Flood Elevation
- Stream / River
- Aggregate Resource Area
- ANSI
- Deer Wintering Area
- Escarpment Plan Boundary
- Karst
- Mineral Resource Extraction
- Permanent Water Area
- Provincially Significant Wetlands
- Other Wetlands
- Sewage Treatment Plant Buffer
- Significant Woodlands

0 0.5 1 2 3 4 5 Kilometers

N W E S

Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources.While every effort has been made to accurately depict the information, data/mapping errors may exist.

Download PDF: www.thebluemountains.ca

June 2016

TOWN OF THE BLUE MOUNTAINS

Deer Wintering Area

Heathcote

Subject to Special Study Area Policies in Section B3.7.6.16

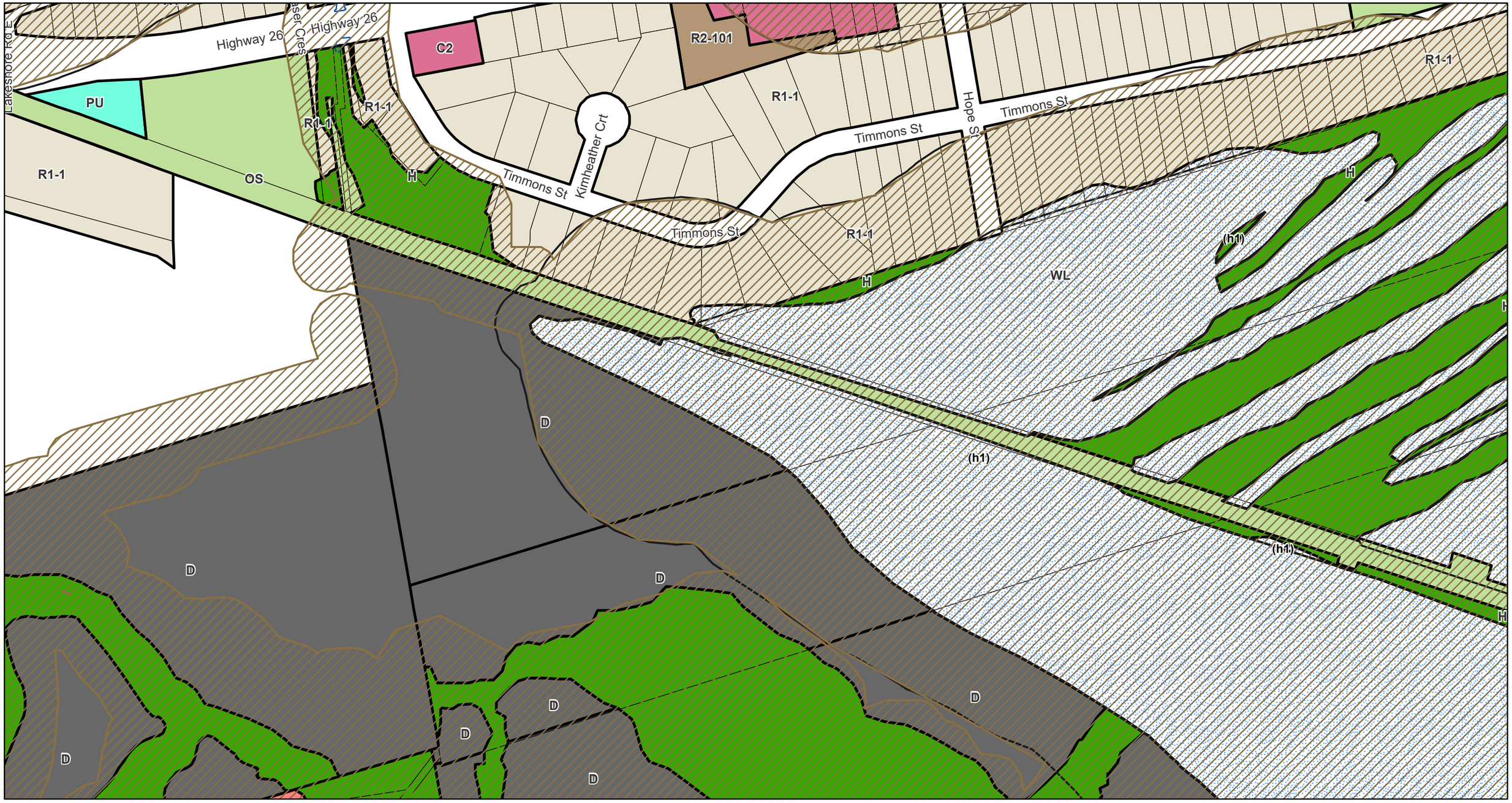
Ravenna

Refer to Secondary Plan mapping

Lot 41 Lot 40 Lot 39 Lot 38 Lot 37 Lot 36 Lot 35 Lot 34 Lot 33 Lot 32 Lot 31 Lot 29 Lot 28 Lot 27 Lot 26 Lot 25 Lot 24 Lot 23 Lot 22 Lot 21 Lot 20 Lot 19 Lot 18 Lot 17 Lot 16 Lot 15 Lot 14 Lot 13 Lot 12 Lot 11 Lot 10 Lot 9 Lot 8 Lot 7 Lot 6 Lot 5 Lot 4 Lot 2 Lot 1

XII XI X IX VIII VII VI V IV III II I

west parcel



December 12, 2022

TheBlueMountains_LandUse - GSCA Generic Regulations

h Provision Overlay

(h1) Wetland

Base_ReferenceLayers - Parcel (Assessment) Re-aligned

177.9 GSCA Elevation (100 yr Flood line)

TheBlueMountains_LandUse - Zoning Bylaw 2018-65 - Realign

Residential One (R1-1)

Residential Two (R2)

Resort Residential

General Commercial (C2)

Development (D)

Public Utilities (PU)

Open Space (OS)

Wetland (WL)

Hazard (H)

1:4,514

0 0.04 0.08 0.16 mi

0 0.05 0.1 0.2 km

Appendix E

Plant List

Vascular Plant List

		Vegetation Community									
Scientific Name	Common Name	MEGM4-1	SWDM2-2	SWDM4-5	THDM2-6	FODM3-1	FODM7-2	FODM8-1	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
Acer negundo	Manitoba Maple	X	X		X	X			S5		N5
Acer saccharum	Sugar Maple				X				S5		N5
Achillea millefolium	Common Yarrow	X			X				SNA		NNA
Alliaria petiolata	Garlic Mustard					X			SNA		NNA
Ambrosia artemisiifolia	Common Ragweed	X	X		X				S5		N5
Amphicarpaea bracteata	American Hog-peanut		X	X	X			X	S5		N5
Anemonastrum canadense	Canada Anemone		X	X				X	S5		N5
Anemone virginiana	Tall Anemone	X							S5		N5
Apocynum cannabinum	Hemp Dogbane				X				S5		N5
Aquilegia canadensis	Red Columbine		X						S5		N5
Arctium minus	Common Burdock	X			X	X			SNA		NNA
Aruncus dioicus	Common Goatsbeard	X			X				SNA		N5
Asclepias syriaca	Common Milkweed	X			X				S5		N5
Asparagus officinalis	Garden Asparagus	X			X				SNA		NNA
Betula papyrifera	Paper Birch	X					X	X	S5		N5
Bidens sp.	Beggarticks species		X	X					-----		-----
Bromus inermis	Smooth Brome	X			X				SNA		NNA
Cardamine pensylvanica	Pennsylvania Bittercress					X			S5		N5
Carex aurea	Golden Sedge		X	X					S5		N5
Carex gracillima	Graceful Sedge		X	X					S5		N5
Carex intumescens	Bladder Sedge		X	X					S5		N5
Carex lupulina	Hop Sedge		X						S5		N5
Carex vulpinoidea	Fox Sedge		X	X					S5		N5
Centaurea stoebe	Spotted Knapweed	X			X				SNA		NNA
Cichorium intybus	Wild Chicory	X			X				SNA		NNA
Cicuta virosa	Northern Water-hemlock		X	X					S4?		N5
Clinopodium vulgare	Wild Basil	X	X		X				S5		N5
Cornus alternifolia	Alternate-leaved Dogwood					X			S5		N5
Cornus racemosa	Grey Dogwood		X						S5		N5
Cornus rugosa	Round-leaved Dogwood				X	X			S5		N5
Cornus sericea	Red-osier Dogwood	X	X		X		X		S5		N5
Crataegus douglasii	Douglas' Hawthorn	X							S4?		N4N5
Dactylis glomerata	Orchard Grass	X			X				SNA		NNA
Daucus carota	Wild Carrot	X			X				SNA		NNA
Desmodium canadense	Canada Tick-trefoil	X				X			S4		N5
Echium vulgare	Common Viper's Bugloss	X							SNA		NNA
Epipactis helleborine	Broad-leaved Helleborine					X			SNA		NNA
Erigeron annuus	Annual Fleabane				X				S5		N5
Eurybia macrophylla	Large-leaved Aster					X			S5		N5
Euthamia graminifolia	Grass-leaved Goldenrod		X	X	X				S5		N5
Eutrochium maculatum	Spotted Joe Pye Weed		X	X					S5		N5
Fragaria virginiana	Wild Strawberry	X			X				S5		N5
Fraxinus americana	White Ash				X	X			S4		N5
Fraxinus pennsylvanica	Green Ash		X	X	X	X	X	X	S4		N5
Fraxinus nigra	Black Ash		X						S4	THR	N4
Galium odoratum	Sweet-scented Bedstraw		X		X				SNA		NNA
Geum urbanum	Wood Avens					X			SNA		NNA
Glyceria striata	Fowl Mannagrass		X	X	X				S5		N5
Impatiens capensis	Spotted Jewelweed		X	X					S5		N5
Jeffersonia diphylla	Twinleaf		X	X	X				S4		N4
Juglans nigra	Black Walnut				X				S4?		N4?
Juniperus communis	Common Juniper	X							S5		N5
Lactuca biennis	Tall Blue Lettuce		X	X					S5		N5
Lathyrus latifolius	Everlasting Pea				X				SNA		NNA
Leonurus cardiaca	Common Motherwort					X			SNA		NNA
Leucanthemum vulgare	Oxeye Daisy	X			X				SNA		NNA
Ligustrum vulgare	European Privet				X				SNA		NNA
Lonicera tatarica	Tartarian Honeysuckle	X						X	SNA		NNA
Lotus corniculatus	Garden Bird's-foot Trefoil	X							SNA		NNA
Lythrum salicaria	Purple Loosestrife		X						SNA		NNA
Maianthemum racemosum	False Solomon's Seal				X			X	S5		N5
Malus pumila	Common Apple	X							SNA		NNA
Medicago lupulina	Black Medick				X				SNA		NNA
Mentha spicata	Spearmint		X	X					SNA		NNA
Onoclea sensibilis	Sensitive Fern		X	X					S5		N5
Parthenocissus quinquefolia	Virginia Creeper	X	X	X	X	X			S4?		N4?
Persicaria punctata	Dotted Smartweed		X	X					S5		N5
Phalaris arundinacea	Reed Canarygrass		X	X					S5		N5
Phleum pratense	Common Timothy	X			X				SNA		NNA
Pinus sylvestris	Scots Pine	X							SNA		NNA
Plantago lanceolata	English Plantain	X			X				SNA		NNA
Poa compressa	Canada Bluegrass				X				SNA		NNA
Populus balsamifera	Balsam Poplar	X	X	X	X		X	X	S5		NNR
Populus tremuloides	Trembling Aspen				X			X	S5		N5
Potentilla recta	Sulphur Cinquefoil					X			SNA		NNA
Poterium sanguisorba	Small Burnet				X				SNA		NNA
Pteridium aquilinum	Bracken Fern					X			S5		N5
Ranunculus acris	Common Buttercup		X		X	X			SNA		NNA
Rhamnus cathartica	European Buckthorn		X		X	X	X		SNA		NNA
Rhus typhina	Staghorn Sumac	X			X				S5		N5
Ribes americanum	Smooth gooseberry				X	X			S5		N5
Ribes cynosbati	Eastern Prickly Gooseberry				X	X			S5		N5
Rosa multiflora	Multiflora Rose	X							SNA		NNA
Rubus allegheniensis	Allegheny Blackberry				X				S5		N5
Rubus idaeus	Red Raspberry		X		X				S5		N5
Rubus pubescens	Dwarf Raspberry		X						S5		N5
Rumex crispus	Curled Dock	X							SNA		NNA

Scientific Name	Common Name	MEGM4-1	SWDM2-2	SWDM4-5	THDM2-6	FODM3-1	FODM7-2	FODM8-1	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
Salix euxina	Crack Willow				X				SNA		NNA
Salix nigra	Black Willow				X				S4		N4N5
Salix sp.	Willow species						X		-----		-----
Sambucus canadensis	Common Elderberry		X					X	S5		N5
Scirpus atrovirens	Dark-green Bulrush		X						S5		N5
Shepherdia canadensis	Soapberry				X				S5		N5
Silene vulgaris	Bladder Campion	X							SNA		NNA
Sium suave	Common Water-parsnip		X						S5		N5
Solanum dulcamara	Bittersweet Nightshade		X	X					SNA		NNA
Solidago canadensis	Canada Goldenrod	X							S5		N5
Solidago juncea	Early Goldenrod	X							S5		N5
Solidago rugosa	Rough-stemmed Goldenrod							X	S5		N5
Solidago sp.	Goldenrod species				X				-----		-----
Streptopus lanceolatus	Rose Twisted-stalk		X	X	X	X			S5		N5
Symphyotrichum cordifolium	Heart-leaved Aster				X				S5		N5
Symphyotrichum ericoides	White Heath Aster					X			S5		N5
Symphyotrichum lateriflorum	Calico Aster					X			S5		N5
Symphyotrichum novae-angliae	New England Aster	X				X			S5		N5
Symphyotrichum pilosum	Old Field Aster	X							S5		N5
Taraxacum officinale	Common Dandelion				X	X			SNA		N5
Thuja occidentalis	Eastern White Cedar			X				X	S5		N5
Tilia americana	Basswood		X			X			S5		N5
Toxicodendron radicans	Poison Ivy	X	X	X	X	X			S5		N5
Tragopogon dubius	Yellow Goatsbeard	X							SNA		NNA
Trifolium campestre	Low Hop Clover	X							SNA		NNA
Trifolium pratense	Red Clover	X			X				SNA		NNA
Ulmus americana	White Elm	X	X			X	X		S5		N5
Urtica dioica	Stinging Nettle		X	X					SNA		N5
Viburnum acerifolium	Maple-leaved Viburnum				X	X			S5		N5
Viburnum opulus	Highbush Cranberry				X				S5		N5
Vicia cracca	Tufted Vetch	X			X				SNA		NNA
Vitis riparia	Riverbank Grape	X	X		X			X	S5		N5

Local status; South Grey County (Owen Sound Field Naturalists, 2023): * - Exotic, ** - Invasive Species, (^) - Likely Introduced Native, ^ - Introduced Native, C - Common, R - Rare
Subnational (Provincial) Rank: S1 - Critically Imperiled, S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, S#? - Inexact Numeric Rank, SNA - Not Applicable, SNR - Unranked
National Rank: N1 - Critically Imperiled, N2 - Imperiled, N3 - Vulnerable, N4 - Apparently Secure, N5 - Secure, N#? - Inexact Numeric Rank, NNA - Not Applicable, NNR - Unranked
Endagered Species Act: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

Appendix F

Breeding Bird Survey Data

Dawn Breeding Bird Data

Family	Scientific Name	English Common Name	Point Count Stations [A,B]			Incidental	Breeding Evidence [C]	Conservation Rank		
			1	2	3			National N-rank[D]	Subnational (Provincial) S-rank[E]	Provincial Endangered Species Act[F]
Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird	C[A]/S[B]				Possible	N5B,N5N,N5M	S5	
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing			C/FO[A]		Possible	N5B,N5N,N5M	S5	
Cardinalidae	*Cardinalis cardinalis*	Northern Cardinal	S[A]	S[B]			Probable	N5	S5	
Cathartidae	*Cathartes aura*	Turkey Vulture				X	Observed	N5B,N5M	S5B, S3N	
Cuculidae	*Coccyzus erythropthalmus*	Black-billed Cuckoo	S/H[A]				Possible	N5B,N5M	S4S5B	
Corvidae	*Corvus brachyrhynchos*	American Crow		S[B]	FO[B]		Possible	N5B,N5N,N5M	S5	
Corvidae	*Cyanocitta cristata*	Blue Jay	S[B]		S[B]		Possible	N5B,N5N,NNRM	S5	
Picidae	*Dryobates pubescens*	Downy Woodpecker		C[A]			Possible	N5	S5	
Mimidae	*Dumetella carolinensis*	Gray Catbird	S[B]		S[B]	X	Possible	N5B,N5M	S5B, S3N	
Parulidae	*Geothlypis trichas*	Common Yellowthroat	S[B]	S[B]	S[A]		Probable	N5B,N5M	S5B, S3N	
Icteridae	*Icterus galbula*	Baltimore Oriole	S[A,B]	S[B]	P[B]		Probable	N5B,N5M	S4B	
Picidae	*Melanerpes carolinus*	Red-bellied Woodpecker				X	Observed	N4B,N4N,N3M	S5	
Passerellidae	*Melospiza melodia*	Song Sparrow	S[B]	S[A,B]	S[B]	X	Probable	N5B,N5N,N5M	S5	
Mimidae	*Mimus polyglottos*	Northern Mockingbird				X	Observed	N5	S4	
Cardinalidae	*Pheucticus ludovicianus*	Rose-breasted Grosbeak	S[A]	S[A]			Possible	N5B,N5M	S5B	
Paridae	*Poecile atricapillus*	Black-capped Chickadee	S[B]		S[B]		Possible	N5	S5	
Scolopacidae	*Scolopax minor*	American Woodcock				X	Observed	N5B,N5M	S4B	
Parulidae	*Setophaga petechia*	Yellow Warbler		S[A]	S[B]		Probable	N5B,N5M	S5B	
Parulidae	*Setophaga ruticilla*	American Redstart	S[B]	S[A,B]	S[A,B]		Probable	N5B,N5M	S5B	
Fringillidae	*Spinus tristis*	American Goldfinch	S/FO[A]	S[A]		X	Possible	N5B,N5N,N5M	S5	
Passerellidae	*Spizella pusilla*	Field Sparrow		S[A]			Possible	N4B,NUM	S4B, S3N	
Troglodytidae	*Troglodytes aedon*	House Wren	S[A]				Possible	N5B,N5M	S5B	
Troglodytidae	*Troglodytes hiemalis*	Winter Wren	S[B]				Possible	N5B,N5M	S5B, S4N	
Turdidae	*Turdus migratorius*	American Robin	C[A]				Possible	N5B,N4N5N,N5M	S5	
Vireonidae	*Vireo gilvus*	Warbling Vireo	S[A]	S[A,B]			Probable	N5B,N5M	S5B	
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo	S[B]	S[B]	S[A]		Probable	N5B,N5N,N5M	S5B	
Columbidae	*Zenaida macroura*	Mourning Dove	S[B]	S[B]	S[B]		Possible	N5B,N5N,N5M	S5	

Surveys Conditions:

[A]June 11, 2021; Start Time 0732hr/ End Time 0759hr; Temperature 22°C; Wind B0; Cloud Cover 70%; Precipitation Nil; Observer: S. Brady & M. Fuller

[B]June 25, 2021; Start Time 0652hr/End Time 0709hr; Temperature 23°C; Wind B0; Cloud Cover 100%; Precipitation Light; Observer: M. Fuller

[C]OBBA Breeding Evidence Codes:

A - Aggitated behaviour

C - Call heard (male or female), in suitable nesting habitat in nesting season.

FO - Flyover

S - Singing male Present, or breeding calls heard, in suitable nesting habitat in nesting season.

T - Territorial defence.

H - Species observed in its breeding season in suitable nesting habitat

P - Pair observed in suitable nesting habitat in nesting season

Conservation Rank

[D]National Rank: National Rank: N1 - Critically Imperiled, N2 - Imperiled, N3 - Vulnerable, N4 - Apparently Secure, N5 - Secure, N#? - Inexact Numeric Rank, NNA - Not Applicable, NNR - Unranked, N#B - Breeding, N#N - Non-breeding, N#M - Migrant

[E]Subnational (Provincial) Rank: S1 - Critically Imperiled, S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, SNR - Unranked, SNA - Not Applicable, S#? - Inexact Numeric Rank, S#B - Breeding, S#N - Non-breeding, S#M - Migrant

[F]Endangered Species Act, 2007 (ESA): Extirpated; Endangered; Threatened; Special Concern; Not At Risk

Appendix G

Significant Woodland Assessment

Natural Heritage Reference Manual Recommended Significant Woodland Evaluation Criteria and Standards (MNR, 2010; Table 7-2)

CRITERIA	STANDARDS	ASSESSMENT
Woodland Size Criteria		
• Size refers to the aerial (spatial) extent of the woodland (irrespective of ownership) • Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20m or less in width between crown edges. • Size value is related to the scarcity of woodland in the landscape derived on a municipal basis with consideration of the differences in woodland coverage among physical sub-units (e.g., watersheds, biophysical regions). • Size criteria should also account for differences in landscape-level physiography (e.g., moraines, clay planes) and community vegetation types.	Where woodlands cover: • Is less than about 5% of land cover, woodlands 2ha in size or larger should be considered significant • Is about 5-15% of land cover, woodlands 4ha in size or larger should be considered significant • Is about 15-30% of land cover, woodlands 20ha in size or larger should be considered significant. • *Is about 30-60% of land cover, woodlands 50ha in size or larger should be considered significant* • Occupies more than 60% of the land, a minimum size is not suggested, and other factors should be considered	• No forest cover information for the Town of The Blue Mountains or from GSCA for the subwatershed was available. Given that the property is immediately adjacent to the boundary, forest conditions from the Nottawasaga Valley Conservation Authority Blue Mountains Subwatershed Health Check (NVCA, 2023) was utilized for forest cover to assess significance based on size. • According to the Blue Mountains Subwatershed Health Check (NVCA, 2023), there is 30.9% of forest cover in the subwatershed. • Therefore, a woodland must be 50 ha in size or larger to be considered significant. • The woodlands on the property are part of continuous woodlands that extend beyond the property. The total area of the woodlands that extend to the west and south has been measured as approximately 83.6 ha, and the woodlands that extend to the east and south are measured to be approximately 58.3 ha. • **Therefore, the woodland units would be considered significant based on Woodland Size criteria.**
Ecological Function Criteria		
Woodland Interior		
• Interior Habitat more than 100m from the edge (as measured from the limits of a continuous woodland as defined above) is important for some species. • For purposes of this criterion, a maintained public road would create an edge even if the opening was not wider than 20m and did not create a separate woodland.	Woodlands should be considered significant if they have: • Any interior habitat where woodlands cover less than about 15% of the land cover • 2 ha or more of interior habitat where woodlands cover about 15-30% of the land cover • *8 ha or more of interior habitat where woodlands cover about 30-60% of the land cover* • 20 ha or more of interior habitat where woodlands cover about 60% of the land cover	• The property does not contain any interior habitat as defined. However, the woodlands within the Study Area and adjacent lands appear to contribute to interior habitat within the contiguous woodland features. • The woodlands that extend to the west and south contain approximately 2.23 ha of interior habitat and therefore does not meet criteria for significance based on interior habitat. • The woodlands that extend to the east and south contain approximately 12.2 ha of interior habitat. **Therefore, the eastern woodland unit would be considered significant by the Woodland Interior criteria.**

Natural Heritage Reference Manual Recommended Significant Woodland Evaluation Criteria and Standards (MNR, 2010; Table 7-2)

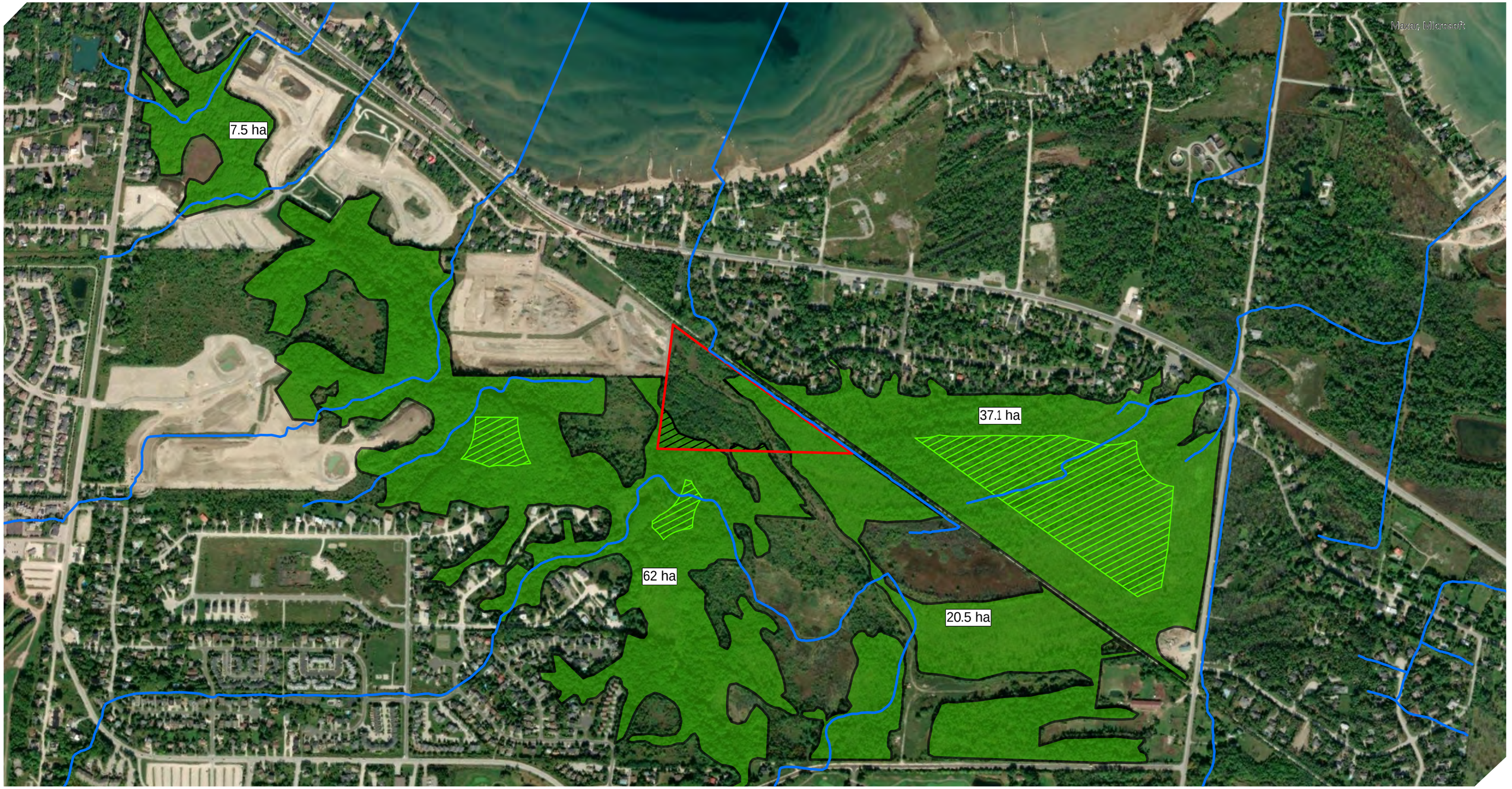
CRITERIA	STANDARDS	ASSESSMENT
Proximity to Other Woodlands or Other Habitats		
• Woodlands that overlap, abut or are close to other significant natural heritage features or areas could be considered more valuable or significant than those that are not. • Patches close to each other are of greater mutual benefit and value to wildlife.	Woodlands should be considered significant if: • A portion of the woodland is located within a specific distance (e.g., 30m) of a significant natural feature or fish habitat likely receiving ecological benefit from the woodland and the entire woodland meets the minimum area threshold (e.g., 0.5-20ha, depending on circumstance)	• The eastern and western woodland features are close to each other and contain watercourses (fish habitat) which could be receiving ecological benefit from the woodland unit. • The eastern woodland feature also contains Provincially Significant Wetland and mapped un-evaluated wetland habitats. • As determined above, both woodland features meet the minimum area size threshold. • **Therefore, based on Proximity to Other Woodlands or Other Habitats Criteria, both woodland units would be considered significant.**
Linkages		
• Linkages are important connections providing for movement between habitats. • Woodlands that are located between other significant features or areas can be considered to perform an important linkage function as “stepping stones” for movement between habitats.	Woodlands should be considered significant if they: • Are located within a defined natural heritage system or provide a connecting link between two other significant features, each of which is within a specified distance (e.g., 120m) and meets minimum area thresholds (e.g., 1-20ha, depending on circumstance)	• Both features are not within a defined natural heritage system. • The western woodland feature provides a narrow naturally vegetated corridor to the north-west and is in close vicinity to the eastern significant woodland feature/PSW/wetlands. However, the woodland features are generally bordered by municipal roads, residential properties, and trails (including the Georgian Trail) which impairs the linkage function of the woodlands to act as “stepping stones” to other significant features. • **Therefore, the woodland units would not be considered significant by the Linkages criteria.**
Water Protection		
• Source water protection is important. • Natural hydrological processes should be maintained.	Woodlands should be considered significant if they: • Are located within a sensitive or threatened watershed or a specific distance (e.g., 50m or top of valley bank if greater) or a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds (e.g., 0.5-10ha, depending on circumstance)	• The woodland features are mapped as being in an area of Highly Vulnerable Aquifers with a portion of the area in a Significant Groundwater Recharge Area. • The woodland units contain watercourses and fish habitat. • As determined above, both woodland features meet the minimum area size threshold. • **Therefore, based on Water Protection criteria, both of the woodland units would be considered significant.**

Natural Heritage Reference Manual Recommended Significant Woodland Evaluation Criteria and Standards (MNR, 2010; Table 7-2)

CRITERIA	STANDARDS	ASSESSMENT
Woodland Diversity		
• Certain woodland species have had major reductions in representation on the landscape and may need special consideration. • More native diversity is more valuable than less diversity.	Woodlands should be considered significant if they have: • A naturally occurring composition of native forest species that have declined significantly south and east of the Canadian Shield and meet minimum area thresholds (e.g., 1-20ha, depending on circumstance) • A high native diversity through a combination of composition and terrain (e.g., a woodland extending from a hilltop to a valley bottom or to opposite slopes) and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance)	• The forest communities within the Study Area are not representative of a rare vegetation community. • The woodland features on the property are not characteristic of a varying terrain and do not contain a high native diversity composition. • **Therefore, the woodland units within the Study Area would not be considered Significant by the Woodland Diversity criteria.**
Uncommon Characteristics Criteria		
• Woodlands that are uncommon in terms of species composition, cover type, age or structure should be protected. • Older woodlands (i.e., woodlands greater than 100 years old) are particularly valuable for several reasons, including their contributions to genetic, species and ecosystem diversity.	Woodlands should be considered significant if they have: • A unique species composition or the site is represented by less than 5% overall in woodland area and meets minimum area thresholds (e.g., 0.5ha, depending on circumstance) • A vegetation community with a provincial ranking of S1, S2 or S3 (as ranked by the NHIC and meet minimum area thresholds (*e.g.*, 0.5ha, depending on circumstance) • Habitat (e.g., with 10 individual stems or 100m^2 of leaf coverage) of a rare, uncommon or restricted woodland plant species and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance): vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9 or 10; tree species of restricted distribution such as sassafras or rock elm; species existing	• The woodlands within the property do not contain a unique species composition or rare plant species. • Woodland communities in the Study Area are not ranked rare by the NHIC. • Woodland communities in the Study Area do not contain characteristics of older woodlands. • **Therefore, the woodland units within the Study Area would not be considered Significant by the Uncommon Characteristics criteria.**

Natural Heritage Reference Manual Recommended Significant Woodland Evaluation Criteria and Standards (MNR, 2010; Table 7-2)

CRITERIA	STANDARDS	ASSESSMENT
	only in a limited number of sites within the planning area • Characteristics of older woodlands or woodlands with larger tree size structure in native species meet minimum area thresholds (e.g., 1-10ha, depending on circumstance): older woodlands could be defined as having 10 or more trees/ha greater than 100 years old; larger tree size structure could be defined as 10 or more trees/ha at least 50cm in diameter, or a basal area of 8 or more m^2/ha in trees that are at least 40cm in diameter	
Economic and Social Function Values Criteria		
• Woodlands that have high economic or social values through particular site characteristics or deliberate management should be protected.	Woodlands should be considered significant if they have: • High productivity in terms of economically viable products together with continuous native natural attributes and meet minimum area thresholds (e.g., 2-20ha, depending on circumstance) • A high value in special services such as air-quality improvement or recreation at a sustainable level that is compatible with long-term retention and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance) • Important identified appreciation, education, cultural or historical value and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance)	• The woodland features do not generate economically viable forest products. • The woodland features are not identified as providing education, cultural or historical value. • No formal recreational use of property; informal trails are present within the woodlands. • The Georgian Trail crosses through the eastern woodland feature, adjacent to the property line, thereby providing low-intensity recreational opportunities. • **Therefore, the woodland features would not be considered significant by the Economic and Social Function Values criteria.**



372 GREY ROAD 21 - WEST PARCEL

Town of the Blue Mountains

Appendix G: Woodlands - Updated 2025

Property Limit

Watercourse (Birks NHC/Ontario GeoHub)

Woodlands

Woodlands (Birks NHC)

100m Woodland Interior

Proposed Woodland Loss (0.67 ha)

MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA

MAP CREATED BY: SB
MAP CHECKED BY: BB
MAP PROJECTION: NAD 1983 UTM ZONE 17N

N W E S

0 112.5 225 450 675 900 Meters

FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\372GreyRoad2\West

PROJECT: 04-010-2021 STATUS: DRAFT DATE: 04/06/2025

Appendix H

Significant Wildlife Habitat Assessment

Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). • 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. Information Sources • 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 • Field Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	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" • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300m radius area, dependant 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). • Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures.	Open graminoid meadow and shrub thicket communities are present in the Study Area however do not provide suitable habitat for to provide waterfowl stopover and staging areas. No evidence of annual spring flooding. Areas are small and not large enough to provide this function.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4	• 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) Information Sources • Environment Canada.	Studies carried out and verified presence of: • 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 Significant	Suitable habitats are not present within the property; no ponds, lakes or coastal inlets are present. Swamp habitat in the Study Area does not provide suitable habitat for waterfowl stopover and staging areas (aquatic).

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	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	SWD5 SWD6 SWD7	• 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 • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas	Wildlife Habitat Technical Guide 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). • Significant Wildlife Habitat Mitigation Support Tool Index #7 provides development effects and mitigation measures.	NHIC does not list any element occurrence of Waterfowl Concentration Areas in the area.
Shorebird Migratory Stopover Area **Rationale:** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	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	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• 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. Information Sources • Western hemisphere shorebird reserve network. • Canadian Wildlife Service (CWS) Ontario Shorebird Survey. • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs	Studies confirming: • 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"	Suitable habitat is not present within the Study Area; no lakes, rivers, beach areas or unvegetated shoreline habitats. Listed species were not documented during field investigations.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
	Ruddy Turnstone Sanderling Dunlin		• Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	• Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures.	
Raptor Wintering Area **<u>Rationale:</u>** Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **<u>Special Concern:</u>** Short-eared Owl Bald Eagle	<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).	• 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 wind swept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting <u>Information Sources:</u> • 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.	Studies confirm the use of these habitats by: • 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” • Significant Wildlife Habitat Mitigation Support Tool Index #10 and #11 provides development effects and mitigation measures.	The property contains woodlands that continue outside of the Study Area however large open uplands are not present within the Study Area. Bald Eagle habitat is not present in the Study Area. There are no forest/swamp communities on shoreline areas within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Hibernacula **Rationale:** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• 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. Information Sources • 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.	• 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. • Significant Wildlife Habitat Mitigation Support Tool Index #1 provides development effects and mitigation measures.	No caves, mine shafts, karst or underground foundations have been identified within the Study Area.
Bat Maternity Colonies **Rationale:** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• 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. • 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 Information Sources • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; • >10 Big Brown Bats[E] • >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". • Significant Wildlife Habitat Mitigation Support Tool Index #12 provides development effects and mitigation measures.	**Woodland communities present within the study area, particularly the Swamp communities at the east may provide roosting tree for bat species.** **Further consideration provided in EIS report.**

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Turtle Wintering Areas **<u>Rationale:</u>** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **<u>Special Concern:</u>** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• For most turtles, wintering areas are in the same general area as their core habitat. Water must 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. <u>Information Sources</u> • 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)	• 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 • Significant Wildlife Habitat Mitigation Support Tool Index #28 provides development effects and mitigation measures for turtle wintering habitat.	Turtle wintering areas were not determined to be present on the property. The Study Area contains drainage features and components of swamp however the Study Area did not contain suitable conditions for this function (*i.e.,* deep water during winter months in areas with soft substrates).

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Reptile Hibernaculum **Rationale;** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Milksnake **Special Concern:** Eastern Ribbonsnake **Lizard:** **Special Concern** (Southern Shield population)**:** Five-lined Skink	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. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	• 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 . Information Sources • 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	Studies confirming: • 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 (eg. 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 • Significant Wildlife Habitat Mitigation Support Tool Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • Significant Wildlife Habitat Mitigation Support Tool Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.	**Features associated with this function appear to be common in the general landscape as reptile hibernaculum habitat may be found in almost any ecosite.** **Further consideration provided in EIS report.**

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) **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 populations are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• 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. Information Sources • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/birdmon/ • Field Naturalist Clubs.	Studies confirming: • 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" • Significant Wildlife Habitat Mitigation Support Tool Index #4 provides development effects and mitigation measures	Habitat in Study Area does not meet criteria and the listed wildlife species were not documented during field investigations. No bridges, steep slopes, cliffs or banks were observed.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• 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. Information Sources • 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. • MNRF District Offices. • Local naturalist clubs.	Studies confirming: • 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 • Significant Wildlife Habitat Mitigation Support Tool Index #5 provides	**NHIC indicates Mixed Wader Nesting Colony within the area (NHIC survey grid squares 17NK5429 and 17NK5529).** No lakes, islands or peninsulas are present in the Study Area. Wetland habitat is limited to swamp treed communities where flooding duration is seasonal. A number of dead standing trees were observed.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
				development effects and mitigation measures.	None of the listed species were documented on the property during the field investigations.
Colonially - Nesting Bird Breeding Habitat (Ground) **<u>Rationale;</u>** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> • 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.	Studies confirming: • 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" • Significant Wildlife Habitat Mitigation Support Tool Index #6 provides development effects and mitigation measures.	**The NHIC indicates Colonial Waterbird Nesting within the area of the property (NHIC survey grid squares 17NK5429 and 17NK5529).** Study Area habitat does not meet key criteria – no rocky islands or peninsulas were documented within the area. No farmlands with streams/ditches. No suitable habitat is present within the property or immediate adjacent lands (*i.e.*, within 120 m) to function as Colonially-Nesting Bird Breeding Habitat (Ground) SWH and none of the listed species were documented on the property during the field investigations.
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each land class: <u>Field:</u>	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. • 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	Studies confirm: • 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.	Study Area is not located within 5 km of Lake Ontario and thus this habitat function is not applicable.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.		CUM CUT CUS <u>Forest:</u> FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	• 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 <u>Information Sources</u> • OMNRF (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	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. • Significant Wildlife Habitat Mitigation Support Tool Index #16 provides development effects and mitigation measures.	
Landbird Migratory Stopover Areas **<u>Rationale:</u>** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds.: Canadian Wildlife Service Ontario website. All migrant raptor species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. • 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 . <u>Information Sources</u> • Bird Studies Canada • Ontario Nature • Local birders and naturalist club • Ontario Important Bird Areas (IBA) Program	Studies confirm: • 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" • Significant Wildlife Habitat Mitigation Support Tool Index #9 provides development effects	Study Area is not located within 5 km of Lake Ontario and thus this habitat function is not applicable.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Yarding Areas **<u>Rationale:</u>** 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.	White-tailed Deer	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. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	• 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.	No Studies Required: • 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 within this Schedule. • Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.	No deer wintering SWH is mapped by MNRF (LIO) in the Study Area.
Deer Winter Congregation Areas	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC	• Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment.	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation	No deer wintering SWH is mapped by MNRF (LIO) in the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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.		FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• 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. • 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. Information Sources • MNRF District Offices • LIO/NRVIS	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 below. • Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.	

Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris	Most cliff and talus slopes occur along the Niagara Escarpment. Information Sources • 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	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes • Significant Wildlife Habitat Mitigation Support Tool Index #21 provides development effects and mitigation measures.	Habitat in the Study Area does not meet key criteria to be considered significant. No cliff or talus slopes are present in the area.
Sand Barren **Rationale;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%	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%.	A sand barren area >0.5ha in size. Information Sources • OMNRF Districts. • Natural Heritage Information Center (NHIC) has location information available on their website. • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Sand Barrens • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) • Significant Wildlife Habitat Mitigation Support Tool Index #20 provides development effects and mitigation measures.	Habitat in the Study Area does not meet key criteria to be considered significant. No sand barren sites are present in the area.
Alvar **Rationale;** Alvars are extremely rare habitats in Ecosregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2	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	An Alvar site > 0.5 ha in size. Information Sources • 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.	• 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	Habitat in the Study Area does not meet key criteria to be considered significant. No alvar sites are present in the area.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	**Five Alvar Species:** 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E	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	• Conservation Authorities.	• Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures.	
Old Growth Forest **<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.	Forest Community Series: FOD FOC FOM SWD SWC SWM	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.	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. <u>Information Sources</u> • 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	Field Studies will determine: • If dominant trees species of the are >140 years old, then the area containing these trees is SWH • 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 • Significant Wildlife Habitat Mitigation Support Tool Index #23 provides development effects and mitigation measures.	The Study Area woodlands have been measured to be greater than 30 ha in size. Interior forest assuming a 100 m buffer at the edge of the forest was less than 10 ha for western woodland and greater than 10 ha for the eastern woodland. However, the woodland habitat is not considered to be old growth forest as the dominant trees are less than 140 years old and the woodland lacks the characteristics required to be considered old growth.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Savannah **Rationale:** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	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. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs. • Conservation Authorities.	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. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • Significant Wildlife Habitat Mitigation Support Tool Index #18 provides development effects and mitigation measures.	Habitat in the Study Area does not meet key criteria to be considered significant. No savannah sites are present in the area.
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	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. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs. • Conservation Authorities.	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 • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • Significant Wildlife Habitat Mitigation Support Tool Index #19 provides development effects and mitigation measures.	Habitat in the Study Area does not meet key criteria to be considered significant. There are no tallgrass prairie sites within the area.
Other Rare Vegetation Communities **Rationale:** Plant communities that often contain rare species which depend on	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide. Any ELC Ecosite Code that has a possible ELC Vegetation	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of Significant Wildlife Habitat Technical Guide. • Area of the ELC Vegetation Type polygon is the SWH. • Significant Wildlife Habitat Mitigation Support Tool Index #37 provides	No rare vegetation communities have been documented within the Study Area.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
the habitat for survival.	Type that is Provincially Rare is Candidate SWH.		• Field Naturalist clubs. • Conservation Authorities.	development effects and mitigation measures.	

Specialized Habitat for Wildlife

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Nesting Area **Rationale;** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands	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. • 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. Information Sources • 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.	Studies confirmed: • 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. • Significant Wildlife Habitat Technical Guide Index #25 provides development effects and mitigation measures.	The Study Area is predominantly partially treed with thicket and meadow, with forest and swamp lands. The thicket and meadow communities are adjacent to the swamp and not appropriate to provide this function. Large diameter trees were not present. Waterfowl nesting areas adjacent to wetland ecosites is not present within the Study Area.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **Rationale;** Nest sites are fairly uncommon in Eco-region 6E	Osprey **Special Concern** Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • 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).	Studies confirm the use of these nests by: • 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	Suitable habitat features are not present within the property; no shorelines, islands, lakes, rivers or open water wetlands are present.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.			<u>Information Sources</u> • 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	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" • Significant Wildlife Habitat Technical Guide Index #26 provides development effects and mitigation measures	The listed wildlife species were not documented during field investigations.
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer • 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. <u>Information Sources</u>	Studies confirm: • 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 28ha 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.	The Study Area woodlands have been measured to be greater than 30 ha in size but with less than 1 ha of interior forest assuming a 200 m buffer at the edge of the forest. No stick nests or any of the listed species were observed during site investigations.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			• 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.	• 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. • Significant Wildlife Habitat Technical Guide Index #27 provides development effects and mitigation measures.	
Turtle Nesting Areas **<u>Rationale;</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• 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. <u>Information Sources</u> • 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	Studies confirm: • 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 dependant 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.	Candidate ELC ecosites were not documented within the property. There are no areas of exposed soil suitable for turtle nesting within the Study Area. Note that nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
				Significant Wildlife Habitat Technical Guide Index #28 provides development effects and mitigation measures for turtle nesting habitat.	
Seeps and Springs **<u>Rationale;</u>** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	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.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species <u>Information Sources</u> • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and Ministry of the Environment, Conservation and Parks. • Field Naturalists clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of an 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. • Significant Wildlife Habitat Technical Guide Index #30 provides development effects and mitigation measures	Groundwater seepage was not observed within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Breeding Habitat (Woodland). **Rationale:** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD 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 risk to migrating amphibians	• 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 Information Sources • 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	Studies confirm; • 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. • Significant Wildlife Habitat Technical Guide Index #14 provides development effects and mitigation measures.	The call survey results indicate that the property and adjacent lands are not a candidate for significant amphibian breeding habitat (woodland).
Amphibian Breeding Habitat (Wetlands) **Rationale;** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within	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	ELC Community Classes SW, MA, FE, BO, OA and SA. 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.	• Wetlands>500m2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF 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.	Studies confirm: • 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.	The call survey results indicate that the property and adjacent lands are not a candidate for significant amphibian breeding habitat (wetlands).

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Central Ontario landscapes.			Information Sources • 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.	• 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 below. • Significant Wildlife Habitat Technical Guide Index #15 provides development effects and mitigation measures.	
Woodland Area-Sensitive Bird Breeding Habitat **Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	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 **Special Concern:** Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha, • Interior forest habitat is at least 200 m from forest edge habitat. Information Sources • 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.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding 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” • Significant Wildlife Habitat Technical Guide Index #34 provides development effects and mitigation measures.	The Study Area woodlands have been measured to be greater than 30 ha in size but with less than 1 ha of interior forest assuming a 200 m buffer at the edge of the forest. Winter Wren was recorded in the Study Area during one of the two dawn breeding bird surveys. Probable or confirmed nesting was not documented within the property for the listed species.

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	
Marsh Breeding Bird Habitat **Rationale;** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• 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. Information Sources • 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.	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 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" • Significant Wildlife Habitat Technical Guide Index #35 provides development effects and mitigation measures	The Study Area is predominantly wooded, with natural areas being deciduous thicket, forest and swamp. No meadow marsh or shallow aquatic habitats are present on the property and adjacent lands. None of the listed species were recorded on the property during site surveys.
Open Country Bird Breeding Habitat Sources Defining Criteria **Rationale;** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined	Upland Sandpiper Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl Grasshopper Sparrow	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha • 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. Information Sources	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls or Grasshopper Sparrow 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"	Vegetation communities within the Study Area are not appropriate to provide this function. None of the listed species were recorded on the property during site surveys.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
significantly the past 40 years based on CWS (2004) trend records.			• Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	• Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures	
Shrub/Early Successional Bird Breeding Habitat **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.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha in size. • 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. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding 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" • Significant Wildlife Habitat Technical Guide Index #33 provides development effects and mitigation measures.	Shrub thicket communities are present on the property, less than 10 ha in size. Black-billed Cuckoo was recorded during one of the two dawn breeding bird surveys. Probable breeding evidence or confirmed nesting was not documented for the listed species.
Terrestrial Crayfish **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • 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. Information Sources	Studies Confirm: • 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	Chimneys were not documented within the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
		CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	• Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998	often the only indicator of presence, observance or collection of individuals is very difficult • Significant Wildlife Habitat Technical Guide Index #36 provides development effects and mitigation measures.	
Special Concern and Rare Wildlife Species **<u>Rationale:</u>** 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> • 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: • 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 be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • Significant Wildlife Habitat Technical Guide Index #37 provides development effects and mitigation measures.	**<u>Snapping Turtle (Special Concern)</u> has recent occurrences recorded in survey squares which encompass the Study Area.**

Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Movement Corridors **Rationale;** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	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	Corridors may be found in all ecosites associated with water. • Corridors will be determined based on identifying the significant breeding habitat for these species	Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat –Wetland) Information Sources • MNRF District Office. • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• 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 <20mcxlix . • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • Significant Wildlife Habitat Technical Guide Index #40 provides development effects and mitigation measures	Amphibian movement corridors are to be determined when amphibian breeding habitat is confirmed as SWH. No Amphibian SWH was identified on the property.
Deer Movement Corridors **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	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when **Deer Wintering Habitat** is confirmed as SWH • A deer wintering habitat identified by the OMNRF as 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). Information Sources • MNRF District Office. • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• 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. • Significant Wildlife Habitat Technical Guide Index #39 provides development effects and mitigation measures	Deer wintering SWH is not present in the Study Area therefore deer movement corridors are not expected to be present.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
minimizing their vulnerability while travelling.					

Exceptions for Ecoregion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 **Rationale:** 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	• 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), Information Sources 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 Significant Wildlife Habitat Technical Guide Index #3 provides development effects and mitigation measures.	Not applicable, study area is not located on the Bruce Peninsula.

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
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	• 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. • 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> • 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. • 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 • Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures	Not applicable, study area is not located on Manitoulin Island.

Appendix I

MNRF PSW Delineation Approval

Stephanie Brady

From: Solomon, Lisa (NDMNRF) <lisa.solomon@ontario.ca>
Sent: June 2, 2022 8:21 AM
To: Stephanie Brady
Subject: RE: Silver Creek PSW

Follow Up Flag: Follow up
Flag Status: Completed

Hi Stephanie,

The updates have now been approved. It will be loaded into LIO in the next week or two and I'll send out the official notifications.

Do you have the contacts for the CA, municipality and of course the landowner?

Thank you,
Lisa

From: Stephanie Brady <sbrady@birksnhc.ca>
Sent: March 1, 2022 9:13 AM
To: Solomon, Lisa (NDMNRF) <lisa.solomon@ontario.ca>
Subject: RE: Silver Creek PSW

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning Lisa,

I am just about to finalize our report and I thought I would follow up with you to see where this file stands with your office.

Any updates are appreciated.

Thanks!

Stephanie Brady, HBES/Ecologist
Birks Natural Heritage Consultants, Inc.
p. (705)305-9102
w. www.birksnhc.ca
a. 23 Herrell Avenue, Barrie L4N 6T5

From: Solomon, Lisa (NDMNRF) <lisa.solomon@ontario.ca>
Sent: February 11, 2022 1:11 PM
To: Stephanie Brady <sbrady@birksnhc.ca>
Subject: RE: Silver Creek PSW

Perfect! Thanks.

Appendix J

Species at Risk Assessment

BIRKS NATURAL HERITAGE CONSULTANTS

Species at Risk Assessment (Threatened and Endangered Species protected under Section 9 and Section 10 of the ESA, 2007).

Common Name	Scientific Name	ESA Designation[1]	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
			Reptiles			
Blanding's Turtle	*Emydoidea blandingii*	Threatened	Shallow lakes, ponds and wetlands with mucky soft bottoms.	No known records for this species in the Study Area (ORAA).	Wetland habitat present within the property and adjacent lands could represent suitable conditions for the species, however this species is not known to occur within the Town of the Blue Moutnains.	No. Wetland habitat will be protected within the property with a 30m setback. **No further consideration required.**
Eastern Hog-nosed Snake	*Heterodon platirhinos*	Threatened	Fields, forest, shrublands, beaches, old dune habitats. Open, sandy soils. Eastern shore of Georgian Bay in forest clearings and rock outcrops.	No known records for this species in the Study Area (ORAA).	Although forest habitat is present, the property is not within a known population range for the species.	No. Species not expected to occur within the Study Area. **No further consideration required.**
Massasauga rattlesnake (Great Lakes – St. Lawrence pop.)	*Sistrurus catenatus*	Threatened	Populations in Great Lakes/St. Lawrence are concentrated in the upper Bruce Peninsula and east side of Georgian Bay. Massasaugas require semi-open habitat to provide both cover and opportunities for thermoregulation. In Georgian Bay, Massasaugas use a mosaic of bedrock barrens, conifer swamps, beaver meadows, fens, bogs, and shoreline habitats.	No known records for this species in the Study Area (ORAA).	Forested habitats within the property are not representative of key habitat for this species.	No. Species not expected to occur within the Study Area. **No further consideration required.**
			Birds			
Bank Swallow	*Riparia riparia*	Threatened	It nests in a wide variety of naturally and anthropogenically created vertical banks, which often erode and change over time; many nests are in active or former aggregate pits.	Ontario Breeding Bird Atlas square 17TNK52 indicates no breeding evidence recorded for this species in the area over the last 5 years; Bank Swallow has only been reported in 38% of the Ontario Breeding Bird Atlas survey squares in the Region.	The property does not contain any suitable features to support nesting for the species. Manmade vertical banks are absent from the Study Area.	No. Species not expected to occur within the Study Area. Species not documented during 2021 surveys. **No further consideration required.**
Chimney Swift	*Chaetura pelagica*	Threatened	Chimney Swift is highly specialized in its habitat requirements, requiring vertical cavities for roosting and nesting. Prior to European settlement, the species predominantly used large hollow trees for nesting and roosting. However, the species readily adapted to the creation of artificial	Ontario Breeding Bird Atlas square 17TNK52 indicates no known occurrences for the species in the general area.	The property does not contain any suitable features to support nesting for the species. No structures are present within the property.	No. Species not expected to occur within the Study Area. Species not documented during 2021 surveys. **No further consideration required.**

Species at Risk Assessment (Threatened and Endangered Species protected under Section 9 and Section 10 of the ESA, 2007).

Common Name	Scientific Name	ESA Designation[1]	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
			structures, and now primarily uses chimneys for nesting and roosting.			
Eastern Meadowlark	*Sturnella magna*	Threatened	Primarily tall native grasslands, such as pastures, savannahs and hayfields. Non-native pastures, hayfields, weedy meadows. Large tracts of open area are preferred over smaller fragments.	Breeding evidence has been reported in the area, within Ontario Breeding Bird Atlas square 17TNK52. This species has been reported in 97% of the Ontario Breeding Bird Atlas survey squares in the Region.	Potential habitat is not present in the Study Area: The central Cultural Open Graminoid Meadow community within the property is not representative of key habitat for this species and adjacent lands consist of forest/thicket communities.	No. Species not expected to occur within the Study Area. Species not documented during 2021 surveys. **No further consideration required.**
Bobolink	*Dolichonyx oryzivorus*	Threatened	Common in areas of agricultural grasslands such as hay and pasture farm fields but are also found in other open areas.	NHIC square 17NK5529 that encompasses the Study Area indicates occurrences of this species. Ontario Breeding Bird Atlas square 17TNK52 indicates breeding in the area.	Potential habitat is not present in the Study Area.	No. Species not expected to occur within the Study Area. Species not documented during 2021 surveys. **No further consideration required.**
Least Bittern	*Ixobrychus exilis*	Threatened	In Ontario, the Least bittern is found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels.	Ontario Breeding Bird Atlas square 17TNK52 indicates no known occurrences for the species in the general area, and has only been reported in 11% of the Ontario Breeding Bird Atlas survey squares in the Region.	No suitable wetland habitats present within the Study Area.	No. Species not expected to occur within the Study Area. Species not documented during 2021 surveys. **No further consideration required.**
Red-headed Woodpecker	*Melanerpes erythrocephalus*	Endangered	Considered generalist omnivores, feeding on a variety of plants, insects and even small vertebrates, and showing flexibility in habitat selection. However, they are cavity-nesters. As such, they rely on an abundance of dead older wood to excavate nests.	NHIC square 17NK5529 that encompasses the Study Area indicates occurrences of this species. Ontario Breeding Bird Atlas square 17TNK52 indicates this species has not been recorded in the area, and in only 13% of the Ontario Breeding Bird Atlas survey squares in the Region.	Forest communities within the property were documented to contain cavity trees, however not at a density expected to provide suitable habitat.	No. Species not expected to occur within the Study Area. Species not documented during 2021 surveys. **No further consideration required.**
Mammals						

Species at Risk Assessment (Threatened and Endangered Species protected under Section 9 and Section 10 of the ESA, 2007).

Common Name	Scientific Name	ESA Designation[1]	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
Eastern Small-footed Myotis	*Myotis leibii*	Endangered	Roosts in rock outcrops, buildings, under bridges, in caves, mines or hollow trees. Hibernates in caves and abandoned mines.	No known background sources.	Forest communities are not known to provide suitable maternity roosting habitat for the species; however, can provide day roosting habitat for males or non-reproductive individuals.	**Additional consideration for potential impacts to the species and habitat is provided in report.**
Little Brown Myotis	*Myotis lucifugus*	Endangered	Known maternity habitat for Little Brown Myotis in Ontario consists primarily of buildings (NHIC 2019, Heaven 2018) or features associated with buildings, such as artificial roosting structures. However, natural roosting sites such as rock crevices, exfoliating tree bark, and cavities and crevices in trees are also known to provide maternity habitat. (Source: Humphrey, Christy and Heather Fotherby. 2019).	According to the Recovery Strategy for the species, the property is located within the known range for this species.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat	**Additional consideration for potential impacts to the species and habitat is provided in report.**
Northern Myotis	*Myotis septentrionalis*	Endangered	Data on maternity habitat used by Northern Myotis in Ontario is generally lacking. Pregnant or lactating females have been confirmed in roosts in Ontario in one building and in one tree network in the province to date. (Source: Humphrey, Christy and Heather Fotherby. 2019).	According to the Recovery Strategy for the species, the property is located within the known range for this species.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat.	**Additional consideration for potential impacts to the species and habitat is provided in report.**
Tri-colored Bat	*Perimyotis subflavus*	Endangered	Maternity habitat for this species more poorly understood than habitat for Northern Myotis and Little Brown Myotis, but has been identified in the following features: - Dead leaf clusters in the shape of an umbrella, including dead leaf clusters belonging to broken branches, those formed by natural causes, and from the clusters of dead leaves and other	According to the Recovery Strategy for the species, the property is not within the known range for this species.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat.	**Additional consideration for potential impacts to the species and habitat is provided in report.**

Species at Risk Assessment (Threatened and Endangered Species protected under Section 9 and Section 10 of the ESA, 2007).

Common Name	Scientific Name	ESA Designation[1]	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
			material used in Eastern Gray Squirrel (Sciurus carolinensis) nests; - Dense clusters of live foliage; - Arboreal lichens or epiphytes; and - Buildings, including along outside walls beneath overhangs (e.g., porches, decks) and in garages, sheds and barns. (Source: Humphrey, Christy and Heather Fotherby. 2019).			
Eastern Red Bat	*Lasiurus borealis*	Endangered	Summer habitat is characterized as foraging, drinking and roost sites which are primarily deciduous and coniferous forests of any age class. Roosting occurs among the foliage of trees and occasionally shrubs but tend to be on large diameter and tall trees reaching or exceeding the height of the surrounding canopy (COSSARO 2024). Eastern Red Bats avoid conifer species when suitable deciduous species are present (COSEWIC 2024). Eastern Red Bat overwinter in the southern United States.	Eastern Red Bat's range spans most of Ontario and appears commonly on fatality data from wind energy facilities.	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat.	**Additional consideration for potential impacts to the species and habitat is provided in report.**
Hoary Bat	*Lasiurus cinereus*	Endangered	Similarly to Easten Red Bat, Hoary Bat using mostly treed habitats (coniferous or deciduous) for roosting or foraging, with a particularly strong dependence on trees as roosting sites (COSWEIC 2024). Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy (COSEWIC 2024).	Hoary Bat is a wide-ranging species across North America and is considered among the widest ranging native terrestrial mammals in the Western Hemisphere (COSSARO 2024).	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat.	**Additional consideration for potential impacts to the species and habitat is provided in report.**

Species at Risk Assessment (Threatened and Endangered Species protected under Section 9 and Section 10 of the ESA, 2007).

Common Name	Scientific Name	ESA Designation[1]	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
Silver-haired Bat	*Lasionycteris noctivagans*	Endangered	Roosting by Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available. Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees. Unlike lasiurines, where use of anthropogenic structures is rare, Silver-haired Bats may occasionally roost in or on buildings, especially during migration when natural roosting sites may be scarce.	The Silver-haired bat is widely distributed in North America, found from the northern boreal to the state of Tamaulipas, Mexico (COSSARO 2024).	Yes - the forest and treed swamp communities within the property and Study Area contain trees that may provide suitable roosting habitat.	**Additional consideration for potential impacts to the species and habitat is provided in report.**
Plants						
Butternut	*Juglans cinerea*	Endangered	In Ontario, Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges.	General known occurrences in Grey County.	Yes – open portions of the property contain suitable conditions for the species.	No. Species not documented within the property. **No further consideration required.**
Black Ash	*Fraxinus nigra*	Endangered	Black Ash is a facultative wetland species that occurs in moist bottomland habitats such as swamps, fens, floodplain forests and shorelines. It is most commonly found and grows best in well-aerated flooded areas. It occasionally occurs in upland habitats, but upland occurrences are typically in depressions or other moist microsites.	General known occurrences in Grey County.	Yes – swamp wetlands on the property and adjacent lands may contain suitable conditions for the species.	No. Wetland habitat will be protected within the property with a 30m setback. Species not documented within the property. **No further consideration required.**

[1]Designation Status
Provincial Status – Species at Risk in Ontario list maintained by the Ministry of the Environment, Conservation, and Parks, Ontario Regulation 230/08. *Endangered Species Act,* 2007