

Prepared By:



796060 Grey Road 19

Town of The Blue Mountains, County of Grey, Ontario

Environmental Impact Study

Project No. 03-016-2023

March 2026



**23 Herrell Ave
Barrie, Ontario
L4N 6T5**

March 9, 2026

Bydem Blue Mountain Inc.
156 Jozo Weider Boulevard
Unit 9B
Blue Mountains, Ontario
L9Y 0V2

Attention: Chris Walmsley, Director of Operations

**RE: Environmental Impact Study
796060 Grey Road 19, Town of the Blue Mountains, County of Grey
Birks NHC File #03-016-2023**

Dear Mr. Walmsley:

Thank you for retaining Birks Natural Heritage Consultants, Inc. ("Birks NHC") to prepare an Environmental Impact Study ('EIS') for the property identified as 796060 Grey Road 19 in the Township of the Blue Mountains, County of Grey.

We understand that this assessment is required to support a Minister Zoning Order due to the presence of natural features associated with the property and adjacent lands, including wetlands and woodlands mapped as Significant by the County of Grey.

Site specific data was collected by Birks NHC ecologists through desktop background review and one on-site surveys conducted in 2023 and 2024. This report outlines the process by which features are considered for their natural heritage function and value and an assessment of potential impacts associated with the proposed development. Where potential impacts are identified, mitigation measures are proposed to reduce the potential impacts that could result to those identified.



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

Birks Natural Heritage Consultants, Inc.

Melissa Fuller, H.B.Sc.
Ecologist



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1 INTRODUCTION

Birks Natural Heritage Consultants, Inc. ('Birks NHC') was retained by Bydem Blue Mountain Inc. (Bydem) to prepare an Environmental Impact Study ('EIS') for the lands located at 796060 Grey Road 19 ('the property') in the Town of The Blue Mountains ('Town'), County of Grey ('County'). It is our understanding that the proponent intends to apply for a Minister's Zoning Order (MZO) in order obtain zoning designations which would permit the development of purpose built rental unit housing. The County has identified natural heritage features within and adjacent to the property, including wetlands and Significant Woodlands, and as such consideration of these features is warranted when considering rezoning the lands.

1.1 PURPOSE

The purpose of the EIS is to identify and characterize natural heritage features and functions associated with the property and evaluate potential impacts to those features and functions that may be associated with the proposed rezoning and eventual development. Where potential impacts are identified, recommendations or mitigation measures are proposed to ensure that the appropriate natural heritage policies and legislation can be followed.

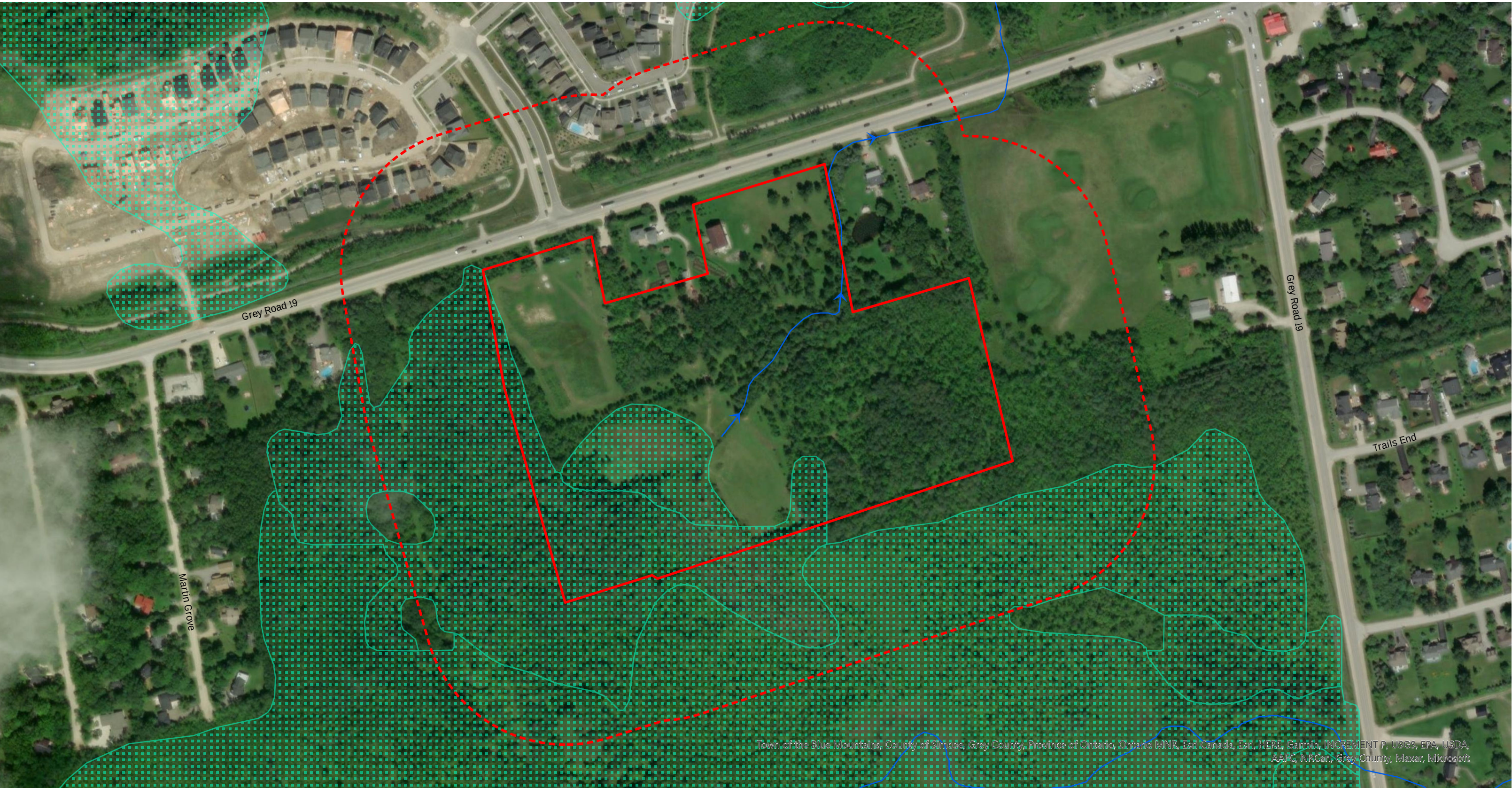
This report has been prepared to address the natural heritage requirements of the Provincial Planning Statement (2024), *Endangered Species Act* (2007), *Conservation Authorities Act* (1990), Niagara Escarpment Plan (2025), Town of The Blue Mountains Official Plan (2016), and the County of Grey Official Plan (2024).

1.2 SITE DESCRIPTION

The property is located in an urban settlement area in the Town of The Blue Mountains. It is approximately 8.0 ha in size and fronts Grey Road 19. The property is a mixture of woodlands (forest, cultural woodland, thicket), wetlands (swamp and marsh), and open residential and cultural meadow communities. A drainage feature crosses diagonally through the centre of the property. Informal trails pass through the property and cross the drainage feature. An outbuilding is present in the northern portion of the property with road access from Grey Road 19. Residential developments are located to the north, east and west, including Blue Mountain chalet rentals; a large (over 80 ha) natural woodland/wetland area is present to the south.

1.3 STUDY AREA

For the purpose of this EIS, the Study Area is focused within an area approximately 120 metres ('m') surrounding the property, as illustrated in Figure 1. The Ministry of Natural Resources ('MNR') 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).



Plan 950 Part Lot 63 RP
16R2789 Part 1

Town of the Blue Mountains

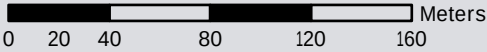
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Figure 1. Study Area

- 120m Study Area
- Property Limit
- Watercourse (LIO)
- Wetland (LIO)
- Unevaluated Wetland



MAP DRAWING INFORMATION:
ORTHOPHOTOS PROVIDED BY: ESRI
MAP CREATED BY: HM
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17



FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-016-2023
PROJECT: 03-016-2023 STATUS: DRAFT DATE: 23/05/2023



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)

Ontario's *Planning Act* requires that planning decisions shall be consistent with the Provincial Planning Statement ('PPS'). The PPS provides overall policy directions on matters of provincial interest related to land use planning and development in Ontario. The 2024 PPS is a streamlined province-wide land use planning policy framework that replaces both the Provincial Policy Statement, 2020 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019.

Section 4.1 of the PPS (2024) specifies policy related to protection of natural heritage features and functions.

According to Section 4.1.4 of the PPS, development and site alteration shall not be permitted in the following features:

- 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 ('SWH');
- e) Significant areas of natural and scientific interest ('ANSI's'); and,
- f) Coastal wetlands in Ecoregions 5E, 6E, and 7E that are not subject to policy 4.1.4(b).

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 Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) were used within this report to identify candidate features and functions not currently identified by the province and/or municipality.

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 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 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.

2.2 ONTARIO ENDANGERED SPECIES ACT, 2007

Ontario's *Endangered Species Act*, 2007 ('ESA') provides regulatory protection to Endangered and Threatened species as listed under Ontario Regulation ('O. Reg.') 230/08 Species at Risk in Ontario List. Currently, the ESA prohibits capture, harm and/or killing of individuals listed on the Species at Risk in Ontario List and prohibits destruction of their habitats, with habitat being defined as the following:

- For animal species:
 - a. 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;
 - b. the area immediately surrounding a dwelling place described above that is essential for the purposes mentioned.
- For vascular plant species:
 - a. the critical root zone surrounding a member of the species.
- For all other species (for example, lichens):
 - a. an area on which any member of the species directly depends to carry out its life processes.

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 habitat protection under the SWH provisions of the PPS. Note that under the *Protect Ontario by Unleashing Our Economy Act*, 2025, the ESA is to be repealed once the new *Species Conservation Act* (SCA) is proclaimed into force.

2.3 CONSERVATION AUTHORITIES ACT (1990)

Ontario's Conservation Authorities fall under the jurisdiction of the *Conservation Authorities Act*, which was most recently amended in April 2024. The purpose of *Conservation Authorities Act* is to "provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario".

An authority may issue a permit to a person to engage in an activity specified in the permit if, in the opinion of the authority, the activity is not likely to: a) affect the control of flooding, erosion, dynamic beaches or pollution or the conservation of land; b) 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, (c) any other requirements that may be prescribed by the regulations are met.



A portion of the property is mapped as being in a regulation area by Nottawasaga Valley Conservation Authority ('NVCA') under O. Reg. 41/24 *Prohibited Activities, Exemptions and Permits* (Appendix A).

2.4 NIAGARA ESCARPMENT PLAN (2025)

The Niagara Escarpment Plan ('NEP') came into effect June 2017, with the most recent office consolidation being April 2025. The NEP seeks to protect the geologic feature of the Niagara Escarpment and lands in its vicinity as a continuous natural environment while allowing only compatible development.

The NEP indicates that the Study Area is located within an Escarpment Recreation Area (Appendix B). Designated Recreation Areas are areas of existing or potential recreational development associated with the Escarpment. 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, recreation (*i.e.* Bruce trail, golf course, ski centre facilities), development associated with a ski centre or lakeshore residential area, and uses provided for in the Town of the Blue Mountains Official Plan given that the Official Plan is not in conflict with the NEP (NEP, 2025, Section 1.8.3).

If in the opinion of the implementing authority, a proposal for development within 120 m of a Key Natural Heritage Feature ('KNHF') or Key Hydrological Feature ('KHF') 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/EIS will be required (NEP, 2025, Sections 2.6 and 2.7). A vegetation protection zone ('VPZ') shall be of sufficient width to protect the KNHF/KHF and its functions from the impacts of the proposed change.

Official plans, secondary plans and/or by-laws for the designated Escarpment Recreation Areas may be amended without requiring an amendment to the Niagara Escarpment Plan, provided that these amendments are not in conflict with the objectives or the development objectives of the designation and the Development Criteria in Part 2 of the NEP.

2.5 COUNTY OF GREY OFFICIAL PLAN (2024)

The County of Grey Official Plan indicates that the property is within an area designated as Recreational Resort Settlement Area (Appendix C). The property is outside of the mapped County of Grey Natural Heritage System (Official Plan Schedule C) but is mapped as containing Significant Woodlands, Other Wetlands and Stream/River on Appendix B Constraint Mapping of the Official Plan (Appendix C).

The Recreational Resort Settlement Area land use type applies to areas within the Town of The Blue Mountains and the Municipality of Grey Highlands which exhibit a mix of seasonal and permanent residential and recreational growth. Lands with the Recreational Resort Settlement Area land use type are to serve the public interest and enhance recreational and tourism related activities. In addition to single detached dwellings, municipal zoning is to permit additional forms of housing such as semi-detached, townhouses, etc.; the County of Grey does not support residential zones within the



Recreational Resort Settlement Area that allow for single detached dwelling use only (County of Grey, 2024, Section 3.8).

Natural features within settlement areas are not to be considered prohibitive of development however no development or site alteration may occur within Significant Woodlands, wetlands or their adjacent lands 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, 2024, Section 7.3 and 7.4). Further, no development or site alteration is to occur in fish habitat, except in accordance with relevant provincial and federal requirements. The County of Grey requires a 30 m setback from the banks of a stream unless an EIS has been prepared that concludes the stream setback may be reduced and/or where it has been determined by the appropriate Conservation Authority.

2.6 TOWN OF THE BLUE MOUNTAINS (2016)

The property is located in an area identified as a Future Secondary Plan Area by the Town of The Blue Mountains Official Plan, 2016 (Appendix D). The Future Secondary Plan Areas identified by the Town are intended to be developed, with the following being permitted:

- single detached dwelling per lot;
- an accessory apartment to a single dwelling;
- home occupations;
- agricultural uses;
- conservation and forest management; and,
- uses which legally existed on the date that this Plan came into effect.

The determination of appropriate future land use designations for lands within a Future Secondary Plan Area shall be made based on the results of further study (*i.e.* town initiated comprehensive review, secondary plan, community or neighbourhood plan).

Natural heritage constraints on the property identified by the Town of The Blue Mountains Official Plan Constraint Mapping indicates Significant Woodlands, Wetlands and Stream/River on the property (Appendix D). No development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions (Town of The Blue Mountains, 2016, Section B.5.2.1) and no development or site alteration is permitted within the Wetland designation, except where such activity is associated with forestry and uses connect with the conservation of water, soil, wildlife and other natural resources and will not negatively impact on the integrity of the wetland (Town of The Blue Mountains, 2016, Section B5.3.2). Development adjacent to wetland areas may be subject to Site Plan Control and an accompanying Development Agreement (Town of The Blue Mountains, 2016, Section B5.3.2). Buildings and structures are to be setback 30 m from all watercourses (Town of The Blue Mountains, 2016, Section C2.1).



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:

- Grey County Maps Public GIS Site (County of Grey, accessed March 2025)
- Atlas of the Breeding Birds of Ontario (Birds Canada, accessed March 2025)
- Ontario GeoHub (MNR/GEO, accessed March 2026)
- Natural Heritage Information Centre ('NHIC'; MNR, accessed March 2025)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, accessed March 2025)
- Aquatic Species at Risk Map (DFO, 2025)
- Species at Risk in Ontario List (MECP, 2025)
- Town of The Blue Mountains Official Plan (2016)
- County of Grey Official Plan (2024)

3.2 FIELD SURVEYS

Natural heritage features and functions within the Study Area were characterized through completion of 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 property. The dates when all surveys were completed are included in Table 1 below.

Table 1: Summary of Field Surveys Conducted

Date(s)	Start/End Time	Type of Survey	Birks NHC Ecologist(s)
June 4, 2024 June 18, 2024	5:46 – 7:22 5:41 – 7:03	Breeding Bird Surveys	M. Fuller, H.B.Sc
April 8, 2024 May 6, 2024 June 3, 2024	20:28 – 20:50 21:06 – 21:23 21:30 – 21:50	Evening Amphibian Call Surveys	M. Fuller, H.B.Sc
May 19, 2023 September 21, 2023 July 29, 2024	10:00 – 15:00	Vegetation Community Mapping and Plant Surveys	M. Fuller, H.B.Sc S. Brady, H. B.E.S.
July 29, 2024	10:00 – 15:00	Wetland Boundary Delineation	M. Fuller, H.B.Sc
May 19, 2023 September 13, 2023	10:00 – 15:00	Fish Habitat Assessment	M. Fuller, H.B.Sc



Table 1: Summary of Field Surveys Conducted

Date(s)	Start/End Time	Type of Survey	Birks NHC Ecologist(s)
April 8, 2024 June 4, 2024			
February 12, 2024	10:00 – 15:00	Snag Density Survey	M. Fuller, H.B.Sc S. Brady, H. B.E.S.

3.2.1 Vegetation Community Mapping and Plant Surveys

As a first step in identifying and assessing for 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 throughout the 2023 and 2024 field seasons. The ELC system for Southern Ontario (Lee *et al.*, 1998) was used with modifications. In early 2007, the MNR 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.

Wetland Delineation

Wetland boundaries were established in the field using the Ontario Wetland Evaluation System (‘OWES’) to identify the boundary between upland and wetland habitat based on vegetation cover (MNR, 2022). Where the transition point was difficult to establish based on vegetation, a test for soil moisture regime was completed to confirm the wetland boundary. The wetland boundary indicated on Figure 2 was marked July 29, 2024 by Birks NHC utilizing a hand-held GPS unit.

The resulting mapping from the vegetation community classification and wetland delineation exercises is illustrated in Figure 2; a formal list of vegetation species is included in Appendix E.

3.2.2 Breeding Bird Surveys

Breeding bird surveys followed methods outlined in the Ontario Breeding Bird Atlas Guide for Participants (Cadman *et al.*, 2001). Specifically, breeding bird surveys consisted of ten-minute point counts that were used to establish qualitative estimates of bird abundance, species presence, and breeding activity in habitat types within the property. Seven locations were surveyed on June 4 and June 18 of 2024 (Figure 2). A formal list of species encountered during the breeding bird surveys, as well as those incidentally encountered during completion of the field program, is included in Appendix F.

3.2.3 Evening Amphibian Call Surveys

Surveys were conducted following the Marsh Monitoring Program standards (Bird Studies Canada, revised 2008) to assess the function of wetland habitats as amphibian breeding habitat. According to this protocol, surveys are to be conducted generally between the months of April and July, at least 15 days apart, at the onset of three overnight temperature thresholds; 5°C for the first survey, 10°C for the second survey, and 17°C for the third survey. Each temperature threshold is designed to detect a



variety of frog species during their 'optimum' breeding window, including early breeders (*i.e.*, Chorus Frog, Spring Peeper, Wood Frog), and late-season breeders (*i.e.*, American Toad, Northern Leopard Frog, Gray Treefrog, Green Frog, etc.).

Two stations were established which corresponded to locations in proximity to features that were identified as potential amphibian breeding habitat. The location of each amphibian call survey station is illustrated on Figure 2. Each station was surveyed on April 8, May 6, and June 3, 2024 during evening hours, after sunset, and within the minimum temperature thresholds. Weather conditions were also taken into consideration for each survey; surveys were not performed during periods of intense rain and high winds.

Following the Bird Studies Canada Marsh Monitoring Protocol (2008), the calling activity of individuals estimated to be within 100 m of the monitoring station was documented during each survey. 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.

Results of the amphibian call surveys are discussed in Section 4.2.2 of this report.

3.2.4 Wildlife Surveys

A wildlife habitat assessment within the Study Area was completed through incidental observation 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 relating to 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 (MNRF, 2015). SWH functions were assessed utilizing expert knowledge of the site; habitat and species data sources were reviewed in addition to field data gathered by Birks NHC. The SWH assessment is included as Appendix G of this report.

3.2.5 Fish Habitat Assessment

A characterization of fish habitat for the area was completed through assessment of the following parameters: permanency, type of fish habitat present and fish species observed/known to be present based on field data and available background information. A photo appendix of the feature has been provided in Appendix H.

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 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, stormwater infrastructure).

3.3 SPECIES AT RISK

Birks NHC staff reviewed data obtained through desktop review and the field surveys related to potential habitat for provincially designated species, notably Species at Risk listed under O. Reg. 230/08 of the ESA as Threatened or Endangered. The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk reported to occur in the area to identify those having potential to occur within the Study Area. Habitat requirements of Threatened or Endangered species with habitat ranges overlapping the property were considered to document the presence or absence of suitable habitat.

3.3.1 Bat Habitat Assessment - Snag Density Survey

Seven species of bat are currently listed as Endangered in Ontario. Therefore, assessment and protection for bats and significant bat habitat (*i.e.* hibernacula, bat maternity colonies) is a consideration for site alteration/development proposals.

To assess potential for bat maternity roosting habitat, the methods described in the Maternity Roost Surveys (Forests/Woodlands) document provided by the MNR (2022) were utilized. Those methods are largely based on Appendix A: Methods for Evaluating Bat Significant Wildlife Habitat in the *Bats and Bat Habitats: Guidelines for Wind Power Projects* document (MNR, 2011). According to the protocol, maternity roosting habitat may include forest or swamp communities dominated by coniferous, deciduous or mixed woods.

Forest and swamp communities were identified on the property, and 31 plots were surveyed for candidate roost trees. These surveys took place while the trees were still in leaf-off conditions (February 2024), so the view of tree cavities and crevices was not obscured by foliage. All trees with a Diameter at Breast Height ('DBH') of ≥ 25 centimeters ('cm') were identified within each of the survey plots. Information relating to the species of tree, DBH, decay class, and presence of snag features (*i.e.*, loose bark, cavities, cracks) was recorded for each tree. Snag density per plot was then calculated and extrapolated upon to obtain a value for the number of snags per hectare.

Snag plot locations and density data are presented in Appendix I, the results of which are discussed in Section 4.2.3 of this report.



4 EXISTING CONDITIONS

Existing conditions were determined through the various field surveys and background research described in Section 3. The following sections present an examination of our observations and findings as they relate to natural heritage features and functions of the Study Area, in particular the proposed development area and adjacent lands.

4.1 VEGETATION COMMUNITIES AND PLANTS

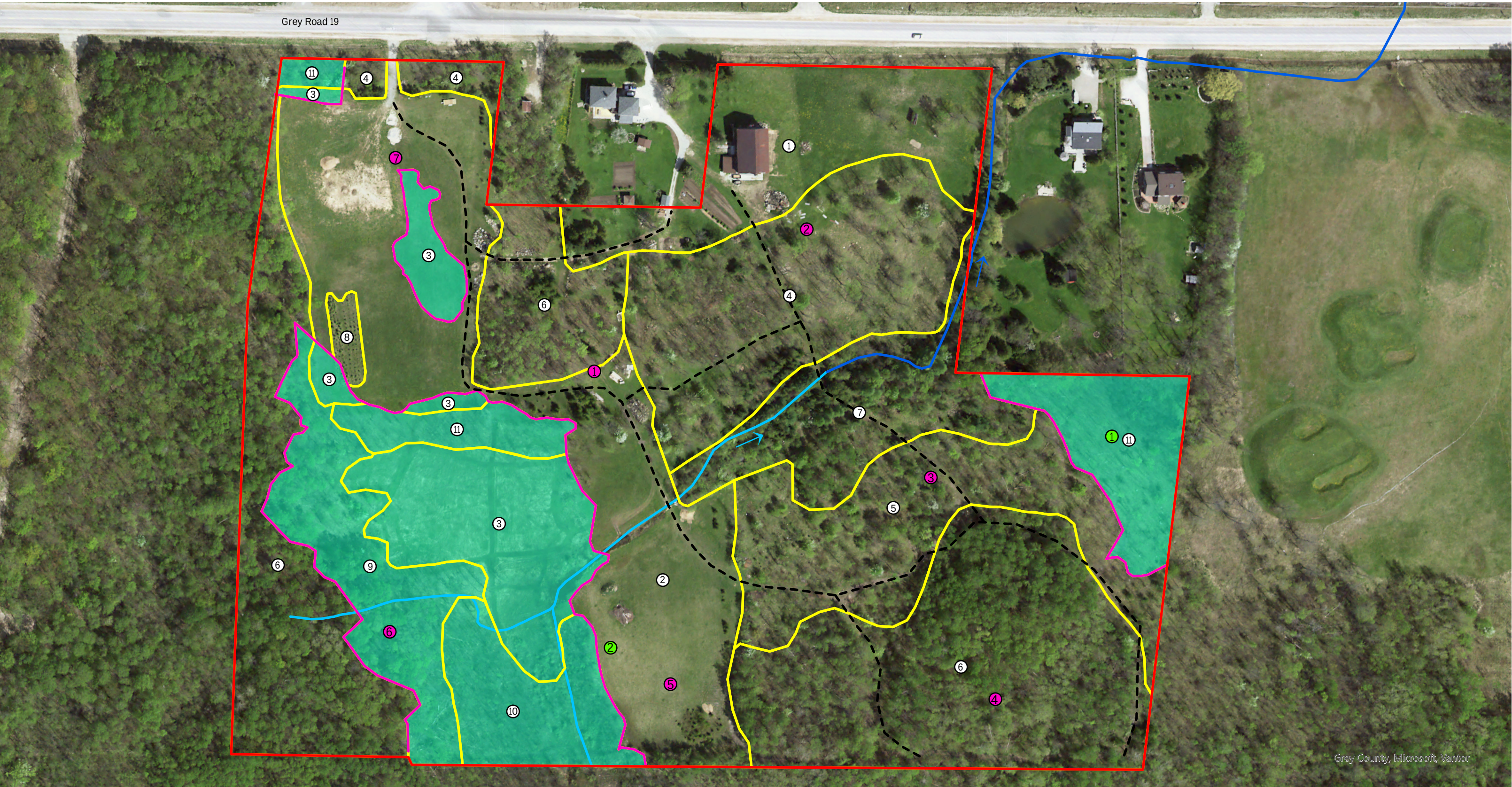
As previously mentioned, the property is a mixture of woodlands, wetlands, and cultural meadow communities. The cultural meadow areas and associated buildings are present in the north-eastern portion of the property bordered by Grey Road 19 to the north, and deciduous woodlands to the south. The woodlands continue into the southeastern portion of the property, with mixed forest (White Spruce – hardwood), Green Ash and Poplar dominated communities on the southern side of the drainage feature. In the most eastern corner of the property, the Green Ash – hardwood lowland forest changes into an Ash dominated swamp (Figure 2).

Open meadow habitat traverses the property from the northwestern corner to the south-central portion; the northern meadow community contains a lowland meadow marsh area (Figure 2). A second meadow area is present immediately east of an existing barn, between the riparian corridor and Grey Road 19 (Figure 2). Small marsh pockets within the northwestern meadow community are mapped as wetland inclusion (Figure 2).

A larger Reed-canary Grass meadow marsh bisects the upland meadow communities, on the north side of the drainage feature. Deciduous swamp communities (Ash and Poplar dominated) and a Slender Willow thicket swamp border the north, south and west sides of the Reed-canary Grass dominated meadow marsh, with wetland habitat comprising the majority of the remainder of the western portion of the property. The ash swamp community (number 11 on figure 2) experienced significant die-off between 2023 and 2024, with no live ash individuals observed in 2024. This die-back was a direct result of extensive Emerald Ash Borer activity on the property (and surrounding area).

The following vegetative communities were identified on the property:

- Cultural Meadow (CUM)
- Dry – Fresh Deciduous Woodland (WODM4)
- Coniferous Woodland (WOCM)
- Reed-canary Grass Graminoid Mineral Meadow Marsh (MAMM1-3)
- Slender Willow Mineral Deciduous Thicket Swamp (SWTM3-3)
- Poplar Mineral Deciduous Swamp (SWDM4-5)
- (Dead) Ash Mineral Deciduous Swamp (SWDM2)
- Fresh – Moist Green Ash - Hardwood Lowland Deciduous Forest (FODM7-2)
- Fresh – Moist Poplar Deciduous Forest (FODM8-1)
- Fresh - Moist White Spruce - Hardwood Mixed Forest (FOMM10-2)



Plan 950 Part Lot 63 RP
16R2789 Part 1

Town of the Blue Mountains

Figure 2.
Existing Conditions and Survey
Locations

Property Limit (9.8 ha)

Existing Trails

Wetland Limit (Birks NHC; July 2024)

Wetland Area (Birks NHC; July 2024)

Fish Habitat

Direct Habitat

Indirect Habitat

ELC Vegetation Communities

1. Residential

2. CUM: Cultural Meadow

3. MAMM1-3 Reed-canary Grass Graminoid Mineral Meadow Marsh

4. WODM4: Dry - Fresh Deciduous Woodland

5. FODM7-2: Fresh - Moist Green Ash - Hardwood Lowland Deciduous Forest

6. FODM8-1: Fresh - Moist Poplar Forest

7. FOMM10-2: Fresh - Moist White Spruce - Hardwood Mixed Forest

8. WOCM: Coniferous Woodland

9. SWDM4-5 Poplar Mineral Deciduous Swamp

10. SWTM3-3: Slender Willow Mineral Deciduous Thicket Swamp

11. SWDM2: Ash Mineral Deciduous Swamp

Survey Locations

Dawn BBS

Amphibian Calling

MAP DRAWING INFORMATION:
ORTHOPHOTOS PROVIDED BY: ESRI
MAP CREATED BY: SB
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17

FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-016-2023 Mountain Rd
PROJECT: 03-016-2023 STATUS: DRAFT DATE: 09/03/2026



Plant species recorded by Birks NHC are provincially and locally common, with the exception of Black Ash which is listed provincially as an Endangered species.

Species recorded in the swamp and marsh communities were indicative of the wet soil conditions and contained the following wetland indicators (as per the OWES Southern Manual, MNR 2022): Red-osier Dogwood, Swamp Red Currant, Alder-leaved Buckthorn, Shining Willow, Meadow Willow, Black Ash, Spotted Joe Pye Weed, Marsh Bedstraw, Water Aven, Fowl Mannagrass, Spotted Jewelweed, American Water-horehound, Purple Loosestrife, Soft-stemmed Bulrush, Purple-stemmed Aster, Narrow-leaved Cattail, Marsh Skullcap, Bebb's Sedge, Nodding Sedge, Bladder Sedge, and Fox Sedge.

The vegetative species observed in the meadow and forested communities were reflective of the upland conditions of the property, such as Black Walnut, Eastern Hop-hornbeam, Eastern White Pine, Northern Red Oak, Common Apple, Wild Chicory, Tufted Vetch, and Everlasting Pea. Non-native/'exotic' plant species were prevalent in the upland meadow communities and, to a lesser extent, the understory of the mixed forest and deciduous woodlands of the property.

4.1.1 Significant Woodland Identification

Significant Woodland mapping available from the County and Town identifies Significant Woodlands within the Study Area. Birks NHC has considered this mapping in conjunction with the vegetation communities identified and characterized during the 2023 field season and have revised the limits of the Significant Woodland feature within the property boundaries, as illustrated in Appendix J of this report. Specifically, we have removed highly anthropogenically influenced wooded areas outside of a 15 m setback to the eastern reach of the drainage feature (Dry-Fresh Deciduous Woodland; WODM4), which resulted in breakage of the connection to the Fresh – Moist Poplar Forest (FODM8-1) and therefore exclusion of the unit from the Significant Woodland. These modifications were undertaken based on the guidance within the Natural Heritage Reference Manual (MNRF, 2010) that large openings (>20 m) should be excluded from the Significant Woodland feature and that communities dominated by anthropogenic influence would not be considered as contributing to the feature. Both the FODM8-1 and more so the WODM4 communities have historically been occasionally mowed, with trees widely spaced, and farm materials (machinery, wood piles, farm storage) stored under the canopy. The Poplar forest is thus isolated from surrounding Significant Woodland and would not be considered as contributing to the larger feature.

4.2 WILDLIFE HABITAT

4.2.1 Birds

A total of 38 bird species were recorded on during breeding bird surveys and as incidental observations while on site. The majority of the species are considered common locally and provincially; two provincially designated Special Concern species were identified during breeding bird surveys: Golden-winged Warbler and Wood Thrush. Barn Swallow (Special Concern) nests were observed in the barn located in the northern area of the property however the nests appeared to be inactive; no Barn



Swallow individuals were observed on site during breeding bird surveys. Special Concern species are further discussed in the SWH section (Section 5.5.2) of this report.

Breeding was confirmed for House Sparrow (recently fledged young) and Common Grackle (adult carrying food for young). Probable breeding evidence was noted for common species such as Song Sparrow, American Robin, House Wren, Common Yellowthroat, Red-eyed Vireo, Northern Cardinal, and Indigo Bunting. These species reflect the forest, open woodland, woodland edge and shrubby habitats of the Study Area.

The woodlands on the property are part of a feature measured to be approximately 18.4 ha, with no interior woodland habitat (Appendix J). Due to the smaller size of the woodland feature, lack of interior habitat, and absence of indicator species, it was determined by Birks NHC that SWH function relating to woodland area-sensitive breeding birds and woodland raptor nesting is absent from the Study Area (Appendix G). Habitat for grassland breeding birds was also assessed as being absent from the Study Area; the open habitat on the property and adjacent lands would not be appropriate for open country breeding birds due to size and structure of the vegetation. Further, no indicator or common grassland bird species were documented during breeding bird surveys by Birks NHC.

4.2.2 Amphibians and Reptiles

The potential for amphibian habitat to be present in the Study Area was identified due to the presence of a drainage feature and wetland habitat. Amphibian call surveys were therefore conducted to assess the function of those habitats as amphibian breeding habitat. Two stations were established which corresponded to locations in proximity to features that were identified as potential amphibian breeding habitat. The location of each amphibian call survey station is illustrated on Figure 2. Each station was surveyed on April 8, May 6, and June 3, 2024, the results of which are presented in Table 2 below.

Table 2: Amphibian Call Survey Data

Survey Date	Survey Conditions	Station 1	Station 2
April 8, 2024	13°C; 0 wind, 0% cloud cover, no precipitation	Western Chorus Frog (L1 – 2)	Western Chorus Frog (L1 – 1)
May 6, 2024	13°C; 0 wind, 0% cloud cover, no precipitation	Spring Peeper (L1 – 2)	Spring Peeper (L1 – 2)
June 3, 2024	19°C, 0 wind, 0% cloud cover, no precipitation	Green Frog (L1 – 2)	-----

Call Level: L1 – # of individuals heard: Individuals can be counted, calls not simultaneous; L2 – # of individuals heard: Calls distinguishable, some simultaneous calling; L3: Full chorus; calls simultaneous and overlapping.

Green Frog, Spring Peeper, and Western Chorus Frog were recorded during the evening amphibian call surveys. Amphibian call activity was very low during the three survey dates, with a maximum of two individuals heard calling at a given time. The low individual abundance of calling amphibians indicates that the wetland habitats on the property do not function as significant habitat for breeding amphibians.



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, 2025), the following reptiles are expected to be present in the Study Area: Eastern Gartersnake, Eastern Milksnake, Snapping Turtle, and Midland Painted Turtle.

4.2.3 Mammals

Evidence of White-tailed Deer, Coyote, Red Squirrel, and Raccoon were recorded on site. Other common mammals that are expected to utilize the habitat types in the Study Area include Eastern Chipmunk, Grey Squirrel, Porcupine and Striped Skunk. Based on available background mapping from Ontario GeoHub, no deer wintering habitat is mapped by the MNR within the Study Area (MNR/GEO, 2025).

Bats

Important habitat functions for bats include hibernacula, maternity roosts, day roosts, and foraging habitat. Of these habitat types, no features with potential to function as hibernacula exist in the Study Area. Given the presence of wetlands and woodlands, bats are expected to utilize the habitats present in the Study Area for foraging. Males, non-reproductive females and juveniles are expected to utilize forested and wooded areas for day roosting.

Thirty-one plots (1.55 ha) were surveyed for snag trees to assess wooded areas of the property for the incidence of candidate maternity bat roost habitat. A total of 113 trees greater or equal to 25 cm DBH were identified within the survey plots, with 27 of those containing decay features that could be utilized for maternity roosting, including 15 being 'high quality' candidate roost trees (a high quality tree is one that is in early stages of decay with a cavity or crevice high in canopy of the tree [>10 m]). Overall, the survey data resulted in an average of 10.7 'high quality' candidate roost trees per ha. As per MNR survey methodology, if snag density is calculated to be equal to or greater than 10 snags per hectare, the community should be considered high quality potential maternity roost habitat. However, candidate roost trees were unevenly distributed within the property, with the majority of candidate roost trees recorded within the Poplar deciduous forest community located in the southwestern portion of the property (Appendix I).

4.2.4 Aquatic Habitat

The Study Area is located along the border of the Grey Sauble Conservation Authority ('GSCA') and the NVCA watersheds. More specifically, the property is located within the Silver Creek subwatershed. Silver Creek is a culmination of several spring-fed tributaries originating in the Niagara Escarpment. The creek flows northward through forests, agricultural lands and residential areas before entering Silver Creek Provincially Significant Wetland. Silver Creek has been identified as a cold-water creek by the NVCA (NVCA, 2009).

A small, unnamed drainage feature was identified as bisecting the property along the east-west axis. The feature flows in a north-northeast direction from the willow swamp wetlands, through the White Spruce- Hardwood mixed forest, where the feature then borders the north-western property limit,



outletting to the roadside ditch (Figure 2, Appendix H). The drainage feature continues flowing east along Mountain Road, crossing Grey Road 19 and Grey Road 21, eventually converging with Silver Creek approximately 1.45 km from the subject property. The drainage feature is contained within a confined channel within the spruce community and along the eastern property limit (spring wetted width ~30-200 cm; depth 20 cm). Within the meadow marsh and willow swamp, spring flows are more diffuse, with a man-made channel traversing the communities (wetted width 1 m; depth 30 cm). As the season progressed, the feature dried to a point where no flow was observed during the September 2023 site visit, along the entirety of the reach within the property boundaries.

During the completion of the field program, it was determined that a significant barrier to fish was present within the property (Appendix H, Photos 2-4). The barrier was comprised of an unknown number of corrugated steel pipe culverts crushed and buried in cobble and boulders, in order to create a vehicle crossing. The culverts were able to convey some flow under high water conditions, however, were not accessible to fish. No additional barriers were identified downstream of the crossing. Flows were observed both upstream and downstream of the barrier during spring conditions. During the May 13, 2023 site visit fish were observed in the southern ditch of Grey Road 19. As such, the reach of the feature downstream of the barrier has been identified as Seasonal Direct fish habitat. The reach upstream of the barrier is identified as Seasonal Indirect fish habitat (Figure 2).

A second crossing is present approximately 75 m upstream of the first, connecting the northern and southern cultural meadow communities. The crossing allows water passage through a corrugated steel pipe (CSP) culvert (Photo 6 and 7, Appendix X).

Ontario GeoHub administers fisheries information relating to drainages within the province of Ontario. This online resource indicates that the feature is considered to be coolwater and that the following species have been documented downstream of the property: Blacknose Dace, Blacknose Shiner, Bluntnose Minnow, Brown Trout, Central Mudminnow, Common Shiner, Creek Chub, Sticklebacks, Suckers, Carps and additional Minnow species (GeoHub, 2026). Of the identified species, most species prefer coolwater thermal regimes (Eakins, 2025). No aquatic species are mapped within the area (DFO, 2025).

5 KEY NATURAL HERITAGE FEATURES AND FUNCTIONS

In the following sections we summarize the range of KNHFs, KHF 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 PROVINCIALY SIGNIFICANT WETLAND (PSW)

No PSW has been mapped on the property or adjacent lands (sources: MNR – NHIC, Ontario GeoHub).



5.2 OTHER WETLANDS

Background mapping provided by MNR indicated un-evaluated wetlands in the Study Area. Birks NHC identified the following wetland communities within the property limits: Ash Deciduous Swamp, Slender Willow Deciduous Thicket Swamp, Poplar Deciduous Swamp, and Reed-canary Grass Meadow Marsh. Wetland boundaries within the property limits were established in the field by Birks NHC.

The resulting wetland boundaries are indicated on Figure 2, including wetland inclusions (less than 0.10 ha in size) within the meadow community in the northwestern portion of the property.

5.3 SIGNIFICANT WOODLANDS

The property is outside of the mapped County of Grey Natural Heritage System but is mapped as containing Significant Woodlands on the County's Official Plan Constraint Mapping (Appendix C).

Significant Woodlands mapping developed by the County of Grey was primarily a desktop exercise utilizing MNR data and airphoto analysis, along with data collected as part of the Natural Heritage System study. The following criteria was utilized by the County of Grey:

- In order to be considered significant, a woodland shall be either greater than or equal to 40 ha in size outside of settlement areas, or greater than or equal to 4 ha in size within settlement area boundaries.
- If a woodland fails to meet the size criteria outside a settlement area, a woodland can also be significant if it meets any two of the following three criteria:
 - proximity to other woodlands;
 - overlap with the boundaries of a PSW and Significant Coastal Wetlands, Core Area, Significant Valleylands, or an ANSI;
 - interior habitat of greater than or equal to 8 ha, with a 100 m interior buffer on all sides.

(County of Grey, 2024, Section 7.4).

Birks NHC undertook a woodland delineation exercise on site and has updated the Significant Woodland limits on the property, as discussed in Section 4.1.1 of this report and illustrated in Appendix J. The resulting size of the woodland feature is approximately 18.4 ha and therefore qualifies as a Significant Woodland under the County of Grey criteria as listed above.

5.4 SIGNIFICANT VALLEYLANDS

The Grey County Official Plan maps natural heritage constraints, including Significant Valleylands (Appendix C). No Significant Valleylands are mapped within the Study Area by the County of Grey and no features were identified by Birks NHC as candidate Significant Valleylands.

5.5 SIGNIFICANT WILDLIFE HABITAT

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015) were reviewed by Birks NHC as part of this study to determine whether any portion of the Study Area would meet the criteria for candidate or confirmed SWH. SWH functions were assessed utilizing expert knowledge of the site;



habitat and species data sources were reviewed in addition to field data gathered by Birks NHC. The SWH assessment is included as Appendix G of this report. Based on that assessment, the following SWH functions have been carried forward for consideration within the EIS:

Seasonal Concentration Areas of Animals

- Candidate SWH Bat Maternity Colonies – Poplar woodlands in southwestern area property
- Candidate SWH Reptile Hibernaculum – rodent burrows and tree root systems, upland areas

Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

- Confirmed SWH Terrestrial Crayfish – meadow marsh community on the property
- Confirmed SWH Special Concern Species – Barn Swallow nesting habitat (barn)
- Candidate SWH Special Concern Species – Golden-winged Warbler, Wood Thrush, Snapping Turtle

5.5.1 Seasonal Concentration Areas 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. The loss of, or damage to, these areas can result in a significant impact to populations. The Study Area may provide the following Seasonal Concentration Areas SWH functions:

Bat Maternity Colonies

Bat Maternity Colonies is 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 (snags) per ha are candidates for SWH designation.

The young and open habitats are not expected to provide habitat for bat maternity colonies due to the absence of larger sized trees with snag features (*i.e.*, loose bark, cracks, crevices, holes). The results of the snag density survey revealed that out of a total of 113 trees greater or equal to 25 cm DBH identified within the survey plots, only 15 would be considered candidate roost trees (in early stages of decay and containing a feature such as cavity or crevice high in the tree [>10 m]). The candidate roost trees were unevenly distributed, with the majority located within the southwestern area of the property (Appendix I). Given the density of candidate roost trees, the Poplar deciduous woodlands in the southwestern area of the property may provide this function to the listed bat species in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015).

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 in the upland areas. Notwithstanding, this SWH function is intended to protect areas where large congregations of reptiles overwinter. While on site, no reptile activity commonly associated with communal hibernaculum was noted and there is limited expectation that any features present on the property could be considered SWH.

5.5.2 Habitat for Species of Conservation Concern

Habitat of all Special Concern and provincially Rare (S1-S3, SH) plant and animal species, not including Endangered or Threatened species, is considered SWH. When a species record for a Special Concern or provincially rare species is identified within proximity of the Study Area, consideration for candidate habitat associated with the property is required.

Terrestrial Crayfish

According to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015), terrestrial crayfish are only found within south-western Ontario in Canada and their habitats are rare. Terrestrial crayfish construct burrows in wet meadows, mudflats, and edges of shallow marshes. Confirmation of one or more individuals of Chimney Crayfish, Digger Crayfish, Devil Crayfish or Meadow Crayfish, or their chimneys/burrows in suitable ecosites confirms this SWH type. Terrestrial crayfish burrows were observed by Birks NHC ecologists in the larger reed canary grass meadow marsh community in the southwestern area of the property thereby confirming presence of this SWH function in the Study Area.

Barn Swallow (Special Concern)

Before European colonization, Barn Swallows nested mostly in caves, holes, crevices and ledges in cliff faces. Following European settlement, they shifted largely to nesting in and on artificial structures, including barns and other outbuildings, garages, houses, bridges, and road culverts. Barn Swallow nests were observed in a barn located in the northern area of the property, however the nests appeared to be inactive at the time of survey; no Barn Swallow individuals were observed on site during breeding bird surveys or as an incidental sighting.

Wood Thrush (Special Concern)

Wood Thrush is a medium sized songbird that lives in mature deciduous and mixed forests. These birds prefer larger forests but will also use smaller stands of trees. Wood Thrush has occurrences recorded in survey grid squares that encompass the Study Area (NHIC square 17NK5626; Breeding Bird Atlas square 17TNK52) and was recorded during the first breeding bird survey conducted by Birks NHC on June 4, 2024 (breeding bird survey stations 1 and 2). No confirmed or probable breeding evidence was recorded for the species.

Golden-winged Warbler (Special Concern)



Golden-winged Warblers tend to nest in groups of up to ten pairs of breeding birds and often return to the same areas to nest year after year (MECP, 2021). This species prefers to nest in areas with young shrubs surrounded by mature forest – areas that have recently been disturbed, such as field edges, hydro or utility right-of-ways, and logged areas (MECP, 2021). Golden-winged Warbler was recorded during the first breeding bird survey at breeding bird survey stations 3 and 6. No confirmed or probable breeding evidence was recorded for this species.

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 encompass the Study Area (NHIC survey square 17NK5627; Ontario Reptile and Amphibian Atlas square 17NK52). Snapping Turtle has potential to utilize wetland habitats and drainage features within the Study Area.

5.6 AREAS OF NATURAL AND SCIENTIFIC INTEREST

Areas of Natural and Scientific Interest are areas of land and/or water containing natural landscapes or features that have been identified by MNR as important for natural heritage protection, appreciation, scientific study or education. No ANSIs are mapped in the Study Area.

5.7 FISH AND FISH HABITAT

A tributary of Silver Creek was identified bisecting the property. The drainage feature has been identified as having a coolwater thermal regime based on fish species present downstream of the property (GeoHub, 2026) and contributes to the coldwater habitat of Silver Creek. The eastern reach has been identified as seasonal direct fish habitat, given the seasonality of the feature and connectivity with confirmed fish habitat off property. The western reach has been identified as seasonal indirect fish habitat.

5.8 HABITAT OF THREATENED AND ENDANGERED SPECIES

The habitat requirements of species listed as Threatened or Endangered under the ESA were considered in relation to the habitat features noted within the property limits and the adjacent lands. Of the species identified, Black Ash and Endangered bat species are relevant to the Study Area and are therefore considered further.

5.8.1 Endangered Bat Species

Eight species of bats live in Ontario, seven of which are currently listed as Endangered in Ontario. Eastern Red Bat, Hoary Bat and Silver-haired Bat were recently added as Endangered species in January of 2025, along with Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis, and Tri-colored bat which have been listed as Endangered since 2013. The main threats to populations of these bat species are wind energy turbines (for migratory bat species - Hoary Bat, Eastern Red Bat, and Silver-haired Bat), White Nose Syndrome (a fungal disease), and loss of forested roosting habitats.



Important habitat functions for these species include hibernacula, foraging habitat, day roosts, 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 surveyed area of the property and are unlikely to be present within the Study Area. As discussed above, potential foraging habitat would be associated with woodland and wetland areas that provide an abundance of flying insects. Foraging habitat is widely available within wetland and wooded areas throughout the region.

Among the four non-migratory Endangered bat species, three are known to form maternity roosting colonies in forested habitats, utilizing mature trees in the early stages of decay with features such as cracks, crevices, and loose bark (Little Brown Myotis, Northern Myotis) or clusters of tree leaves/needles (Tri-colored Bat). Silver-haired Bats also are known to roost in a variety of large diameter trees; reproductive Silver-haired Bat females generally roost in small groups within tree cavities or under bark (COSEWIC, 2023). Hoary Bats and Eastern Red Bats are known to roost alone, or with their pups and do not form maternity colonies with other females. However, trees used as roosts by Hoary Bats and Eastern Red Bats are similar to those utilized by other bat species, including tall, large diameter trees (*i.e.*, super canopy trees). Therefore, generally speaking, for most of Ontario's bat species, maternity roosting habitat is found in woodlands providing a relatively high density of larger diameter wildlife cavity trees. As previously discussed, the younger woodlands and open habitats of the Study Area lacked trees of sufficient size (diameter and height) and characteristics for bat maternity roosting and therefore are not expected to provide this function. Potential bat roost trees were primarily identified within the southwestern Poplar woodlands of the property and therefore that ecological community may provide candidate bat maternity roosting habitat.

Eastern Small-footed Myotis are 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 and therefore is not considered suitable habitat for Eastern Small-footed Myotis roosting.

Day roosts are locations 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, or leaf clusters within those trees. Thus, candidate day roosting habitat is present within the Study Area.

5.8.2 Black Ash

Black Ash is a deciduous tree that is predominantly found in rich moist soils. As with all ash species, this tree has been impacted by the Emerald Ash Borer, an invasive beetle which has devastated large numbers of ash trees. Black Ash is highly susceptible to the invasive Emerald Ash Borer. It is expected that Emerald Ash Borer will cause declines in the total number of Black Ash trees by greater than 70% over the next two generations (MECP, 2024). Black Ash trees were identified on the property, particularly in the swamp communities and in the Poplar deciduous forest community.



5.9 NATURAL HERITAGE FEATURES AND FUNCTIONS SUMMARY

The results of the field surveys and review of background information indicate both confirmed and candidate KNHFs, KHFs and functions associated within the Study Area. Our impact assessment will consider potential impacts only to features and functions summarized in Table 3 below.

Table 3: Key Natural Heritage Features, Key Hydrologic Features and Functions Summary

Feature	Within the Property	Within 120 m of the Property	Actions Required
Provincially Significant Wetland	None	None	No further consideration required.
Other Wetland	Deciduous Swamp, Thicket Swamp and Meadow Marsh communities mapped on the property.	Unevaluated wetlands mapped by MNR.	Further consideration required for potential impacts.
Significant Woodlands	Mapped by the Grey County Official Plan and confirmed by Birks NHC	Mapped by the Grey County Official Plan	Further consideration required for potential impacts.
Significant Valleylands	None	None	No further consideration required.
Significant Wildlife Habitat	<u>Candidate</u> - Bat Maternity Colonies - Reptile Hibernaculum - Habitat for Species of Conservation Concern (Snapping Turtle, Wood Thrush, Golden-winged Warbler) <u>Confirmed</u> - Terrestrial Crayfish - Barn Swallow (Special Concern species) nesting habitat	<u>Candidate</u> - Bat Maternity Colonies - Reptile Hibernaculum - Habitat for Species of Conservation Concern (Snapping Turtle, Wood Thrush, Golden-winged Warbler, Barn Swallow)	Further consideration required for potential impacts.
Provincial Areas of Natural and Scientific Interest	None	None	No further consideration required.



Table 3: Key Natural Heritage Features, Key Hydrologic Features and Functions Summary

Feature	Within the Property	Within 120 m of the Property	Actions Required
Fish Habitat	Seasonal direct and indirect fish habitat	Seasonal/permanent direct fish habitat	Further consideration required for potential impacts.
Habitat of Threatened or Endangered Species	<u>Candidate</u> - Endangered bat species (foraging, potential day and/or maternal roosting habitat) <u>Confirmed</u> - Black Ash	<u>Candidate</u> - Endangered bat species - Black Ash	Further consideration required for potential impacts.

6 IMPACT ASSESSMENT

The intent of this study is to identify KNHFs, KHF and functions associated with the Study Area and determine if potential impacts could arise from the proposed development of the property. Impacts are evaluated based upon current knowledge of the Study Area as acquired through background information review and site specific data collected in 2023 and 2024 by Birks NHC, in consideration of the proposed activity. In the following sections we assess the potential for negative ecological impacts to the identified KNHFs, KHF and functions within the property and larger Study Area.

Because functions are generally grouped into features, impacts will be considered as they relate to the following identified key features and their associated functions:

Wetlands

- Confirmed: terrestrial crayfish SWH, Endangered Species - Black Ash
- Candidate: Snapping Turtle habitat (Special Concern species)

Woodlands

- Candidate: bat maternity roosting habitat, reptile hibernaculum, Special Concern species habitat (Wood Thrush), Endangered Species – Bats

Drainage feature

- Direct and indirect fish habitat



6.1 PROPOSED DEVELOPMENT

A purpose built rental development R2/R3 (low to medium density) consisting of 3 three-story and 5 five-story residential buildings is proposed, comprising of a total of 603 residential units, broken down as follows:

- Building A - three-story, 45 units;
- Building C and D – three-story, 54 units each; and,
- Building B, E, F, G and H – five-storey, 90 units each.

A crossing for the tributary of Silver Creek is proposed utilizing a High-Density Polyethylene (HDPE) 1050 mm diameter culvert, which has been sized to convey 1:25 year flows with a proposed grade of 0.25% (Tatham, 2026).

Main access to the residential development is proposed from Grey Road 19, opposite to Crosswinds Blvd. The residential buildings, associated access and at-grade parking areas are to occupy the northern and southeastern portions of the property, located on either side of the drainage feature (Figure 3). The Stormwater Management Plan ('SWMP') consists of internal storm sewers and underground storage chambers which will be designed to meet the requirements of the Ministry of the Environment, Conservation and Park (MECP) as outlined within the SWM Planning and Design Manual (Tatham, 2026). The underground storage chambers will feature oil grit separators to achieve water quality targets and will discharge to the drainage easement along Grey Road 19, and the drainage feature (DWG SWM1; Tatham, 2026). The chambers will also have an open system bottom which will allow passive release of water to the subsurface groundwater system.

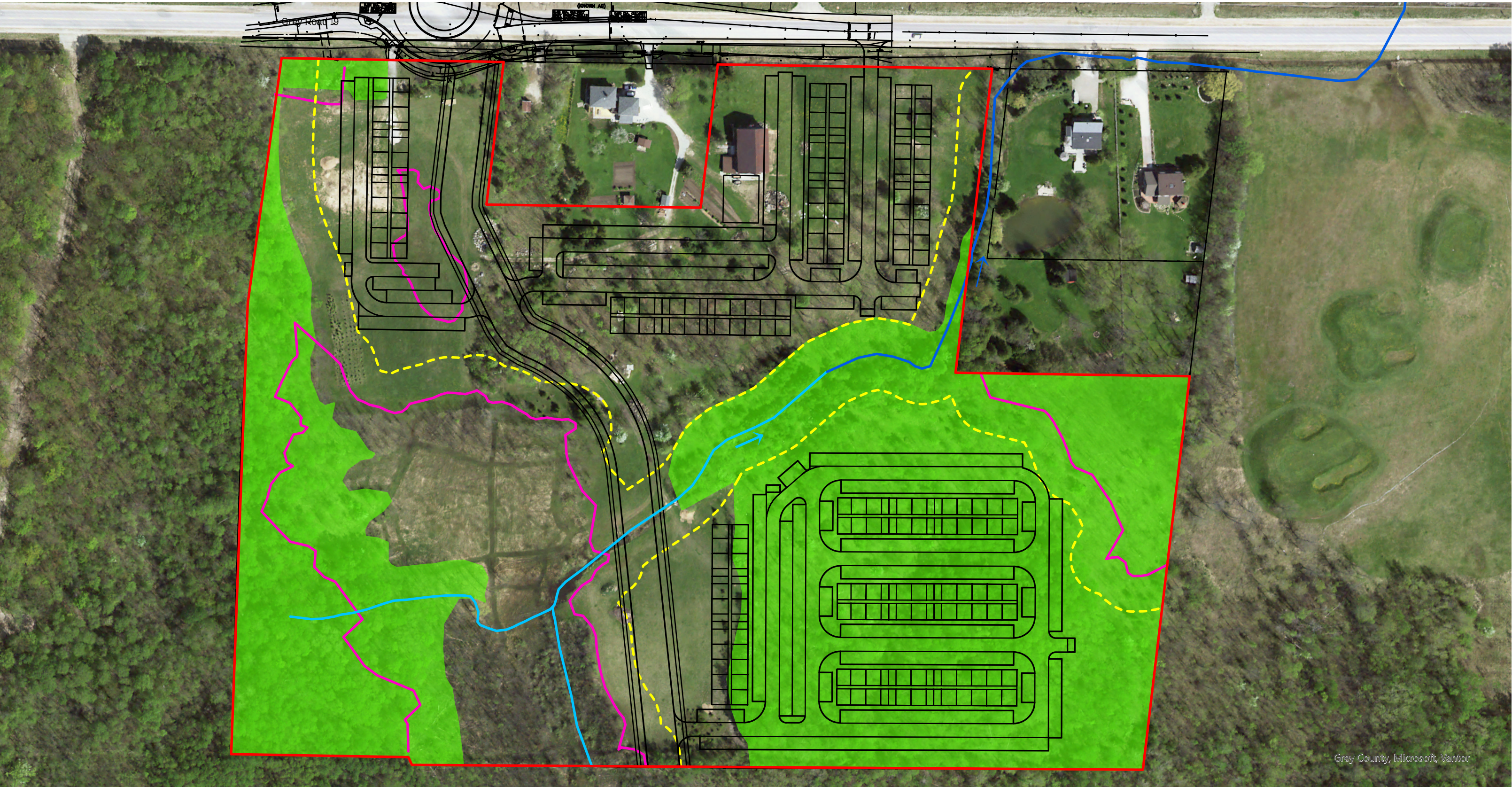
A water balance assessment for the property has been completed by Tatham Engineering (Tatham, 2026). The results of their study conclude that pre to post conditions can be maintained through use of unlined storage chambers and a stone bedding for the same. This would allow opportunity for infiltration of the calculated surplus (7,108 m³).

6.2 DIRECT IMPACTS

Direct impacts are those that are immediately evident as a result of a development. The results of direct impacts are often associated with complete or partial removal of a natural feature and alteration to a feature's function to the degree that it can no longer support wildlife species or their associated habitats. The following assesses the potential for, and degree of, potential negative impacts of the proposed development on the identified KNHFs, KHF's and functions in the Study Area.

6.2.1 Tree Removals and Significant Woodland Feature

As per provincial and local policies, no development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an EIS that there will be no negative impacts on the natural feature or its ecological functions.



Grey County, Microsoft, Vanior

Plan 950 Part Lot 63 RP
16R2789 Part 1
Town of the Blue Mountains

- Property Limit (9.8 ha)

Fish Habitat

Wetland Limit (Birks NHC; July 2024)

15m Natural Heritage Feature Setback
- Direct Habitat

Significant Woodland Area (Birks NHC; 4.65 ha)

Indirect Habitat



Significant Woodland mapping available from the County and Town indicates that Significant Woodland is present within the property and adjacent lands. As outlined in Section 4.1.1 above, Birks NHC has refined the Significant Woodland delineation based on the existing property conditions (Appendix J). As per the updated mapping, the proposed residential development would require woodland removal of 1.8 ha of the 18.4 ha Significant Woodland feature. The removal is proposed in the southeastern area of the property (Figure 3). The resulting size of the woodland feature would be 16.6 ha and therefore the remaining woodlands would continue to qualify as a Significant Woodland under the County of Grey criteria. Further, the ecological functions of the Significant Woodland feature, such as water protection, interior woodland habitat, proximity to other woodlands and natural habitats, and provision of wildlife habitat (further discussed below), are expected to remain post-development. Further, woodland benefits would be retained on the property and within the larger feature including soil erosion prevention, nutrient cycling, hydrological cycling, air purification and long-term storage of carbon and wildlife habitat. As such, alteration and development of the property, as proposed, is unlikely to negatively the ecological feature or function as it relates to Significant Woodland.

Woodlands in the northern portion of the property would be removed for the proposed development. Those communities are considered separate from the Significant Woodland feature, have experienced anthropogenic influence/disturbance, minimal structure and habitat diversity and provide limited habitat for wildlife.

Disturbance to Wildlife and Loss of Candidate Significant Wildlife Habitat

A variety of common wildlife species utilize the habitats within the Study Area. Most notably, woodland habitats within and adjacent to the property may function as bat maternity roosting habitat, reptile hibernaculum and Special Concern species habitat

The development, as proposed, will be altering candidate Significant Wildlife Habitat (Bat Maternity Colonies, Reptile Hibernaculum, Habitat for Species of Conservation Concern (Wood Thrush) as described above and therefore have potential to impact wildlife and wildlife habitat functions. The proposal would result in the removal of approximately 1.8 ha of Significant Woodland and removal of culturally influenced woodlands in the northern portion of the property, while retaining forest lands in the southwestern portion of the property. Habitat for Wood Thrush includes mature forest, forest clearings and forest edge habitats. Anticipated woodland removals are not expected to result in a negative impact to those the species as both woodland and woodland edge habitats will remain both on the property and adjacent lands.

No reptile hibernacula or features that indicated potential for reptile hibernacula (old wells, large rock piles, old foundations, etc.) were identified within the Study Area during field investigations. However, this habitat function is generally considered to be present in forests as the large roots of trees generally provide access to underground chambers, particularly on slopes. Large trees with exposed roots were observed in the southwestern woodland community. No tree removals or are proposed within this area of the property and thus this SWH function will be protected.



The highest concentration of snag trees, more specifically those suitable for maternity roosting, were identified within the FODM8-1 community in the south-western portion of the property. As such, candidate SHW for Bat Maternity roosting will be retained on the property post development.

The proposed development will bring increased human presence and associated anthropogenic disturbances in the form of increased noise and light. These impacts would be more prominent when a new development is proposed in un-developed areas. The property is, however, located in a settlement area, bound by Grey Road 19, and surrounded by residential developments to the north, east and west, including existing Blue Mountain chalet rentals. Given that the proposed development is within an area with existing human presence, it is not expected to result in a significant change of indirect human impacts/disturbance to wildlife and wildlife are expected to continue to access and utilize habitats on the property and adjacent lands. Additionally, setbacks to natural features are proposed and have been identified for naturalization to act as a buffer between the retained natural lands and the proposed residential development.

Endangered Bat Species

Natural bat roosting habitat can take the form of any tree with appropriate snag features such as loose bark, cracks or crevices. The results of the bat habitat snag survey indicate that candidate roost trees are unevenly distributed within the property, with the majority of candidate roost trees being recorded within the Poplar deciduous forest community located in the southwestern portion of the property (Appendix I). This forest community and candidate maternity roost habitat will be retained during development of the property.

As discussed above, any tree on the property could provide day roosting habitat for Endangered Bats. This habitat type is not considered to be a limiting factor, specifically within the Town, where numerous suitable roosting habitats (*i.e.*, woodlands, mature residential trees) exist. Further, the current interpretation of the ESA excludes day roosting habitat for bats from protection under Section 10 (which affords habitat protection for Threatened and Endangered species) of the ESA. That said, should tree removal occur within the species' active window, accidental injury to individuals day roosting on the property may occur, resulting in contravention of Section 9 of the ESA, which provides for species protection. As such, it is recommended that tree removal occur outside of the active season for bats, in keeping with species protection policies of the ESA. Tree removal timing restrictions are provided in Section 7 of this report.

Provided the recommendations and mitigation measures provided are applied accordingly, it is anticipated that the proposed development can proceed in accordance with the ESA in terms of Endangered bats and bat habitat.

6.2.2 Wetlands

Deciduous swamp, thicket swamp and meadow marsh communities were identified on the property. The residential development has been designed to retained the majority of the largest wetland units identified on the



property, as well as a variable width naturalized setback to those features, as illustrated on Figure 3. These wetland units support Terrestrial Crayfish and may provide habitat for Snapping Turtle. As such, these SWH functions will be retained on the property.

One wetland inclusion in the northwestern area of the property will be permanently altered as a result of this development proposal. Given the small size of the unit (<0.5 ha) the feature is not identified as an independent unit through OWES or ELC protocols and thus is not afforded protection under current planning policies. The wetland is located outside of the flood plain, and does not provide a surface water connection between adjacent hydrologic features. Further, the wetland did not demonstrate a high diversity of fauna, or wildlife. As such, removal of this feature would not impact the ecological function of the property.

Species at Risk - Endangered Bats

Potential foraging habitat for Endangered Bats would be associated with areas that provide an abundance of flying insects. Foraging habitat is widely available and common throughout the region; there is a significant amount of wetland habitat that would remain within the property and on adjacent lands that would be available for foraging. As such, no impact to wetland foraging habitat is anticipated as a result of the proposed development.

Species at Risk - Black Ash

Vegetation surveys indicated the presence of Black Ash within the property limits. In 2024, it was determined that significant Ash die off had occurred and no surviving individuals were documented. That said, the current absence of the species does not preclude future recruitment of individuals on the property, within appropriate habitats. Prior to site alteration it is recommended that a search for Black Ash occur, to ensure that the appropriate actions are taken relating to species protection and in keeping with the ESA and future SCA.

6.2.3 Alteration of Fish Habitat

The proposed site plan involves creating a formal crossing of the drainage feature in the location of the existing farm crossing (Figure 3). This reach has been identified as indirect fish habitat. As such, provided that the construction of the crossing occurs prior to removal of the downstream barrier, it is unlikely that direct impact to fish would occur. Impact to downstream riparian habitats are possible, however, if standard sediment and erosion control and contaminant securement protocols are implemented, it is unlikely that downstream habitats would be impacted. Specific mitigations for the protection of fish habitat include undertaking the works during low flow conditions and during the permitted in-water work window (July 15 – October 15), implementing sediment and erosion controls to prevent migration of disturbed sediments into the feature, and ensuring that equipment maintenance and refueling occurs more than 30 m from the watercourse.

Details are not available at this time, but the proposal will likely require the removal of riparian vegetation, grading within the riparian setback and the permanent alteration of habitat within the high water mark (1:2 year flood elevation). However, this project presents an unique opportunity to restore



fish habitat connectivity within this tributary of Silver Creek. In its current state, fish migration within the feature is limited, with a barrier preventing movement of fish into the willow thicket swamp. Should this development proceed, it is recommended that the barrier to fish be removed and the drainage feature stabilized and naturalized. Not only will this restore habitat connectivity and fish passage, it will also more easily allow the movement of benthic macro invertebrates, organic materials and nutrients to downstream reaches of the drainage feature, and Silver Creek proper. In the existing condition, the barrier limits the flow of nutrients from upstream wetland habitats, as well as reduces spring habitat availability for the baitfish community. Removing the barrier to fish would facilitate overall improvement of the system and ecosystem health.

Additional and specific mitigation measures to protect fish are outlined in Section 7 below.

6.2.4 Significant Wildlife Habitat – Special Concern Species

Golden-winged Warbler

The Golden-winged Warbler is considered a habitat specialist, strongly associated with early successional scrublands that feature a mix of herbaceous cover, low shrubs, scattered trees, and transitional forest edge habitat (COSEWIC, 2006). This habitat type is associated with the retained willow swamp as well as successional woodland vegetation communities present south of the property. This habitat will be retained following development of the property and thus no impact to the species is anticipated, provided that vegetation removal occurs outside of the species' nesting window, as recommended in Section 7, below.

Barn Swallow

Barn Swallow prefer to nest on horizontal and vertical structures including cliffs and caves, as well as human made structures (COSEWIC, 2021) as is the case with this property. Barn Swallow nests were determined to be present within the existing barn. Though not active during 2023 bird surveys, the species is known to reuse former nests, as a method of conserving energy and effort. Such structures are not considered to be unique to the landscape, and as such, would not be considered critical SWH. Individuals will forage over open meadow and wetland areas. As discussed in regards to bat ecology, these vegetation communities are not unique to the landscape and would not be considered significant in the context of this property. That said, removal of the barn and/or alteration of meadow communities may impact nesting individuals and brood success. As such, it is recommended that removal of the barn and site alteration occur outside of the nesting window for Barn Swallow, in accordance with the timing set out in Section 7 below.

6.3 INDIRECT IMPACT

6.3.1 Changes to the Hydrology/Water Quality Entering Sensitive Features

We understand that an on-site sewer and underground stormwater chamber system is proposed as the preferred stormwater management method for this site with Stormceptor oil grit separator ('OGS') stormwater treatment technology and vegetative drainage easements for water quality control (Tatham, 2026). Water quality controls such as limiting impervious surfaces, avoiding inappropriate



disposal of deleterious substances and ensuring successful operation the proposed stormwater management plan can limit the potential for contaminated water to enter adjacent retained natural features. Existing drainage patterns were considered and an evaluation of anticipated changes in the water balance between pre-development and post-development is provided in the hydrological assessment (Tatham Engineering, 2026). Where feasible, Low Impact Development ('LID') strategies will be considered as the site plan is advanced but it is anticipated that water balance can be achieved through exchange between the underground storage units and the surrounding lands.

Going forward, mitigation measures have been provided in Section 7 to ensure protection of retained wetlands.

6.3.2 Increased Potential for Invasion of Non-native Species

Site disturbance may increase the likelihood that non-native and/or invasive vegetation species will become established within the retained vegetation communities. Additionally, if construction equipment is not properly cleaned between use, invasive species transport may occur. Currently, non-native/'exotic' plant species are prevalent in the developable envelope. Mitigation measures are provided in Section 7 below to reduce further introduction of invasive species.

7 RECOMMENDATIONS AND MITIGATION MEASURES

Mitigation refers to the avoidance or reduction of impacts associated with the proposed activity through best practices. As previously discussed, potential impacts were identified which could affect that identified KNHFs/KHFs 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.

To support the implementation of local policies, mitigation and compensation measures have been proposed to avoid disturbance to the identified KNFs/KHFs and functions and provide additional protection. The following mitigation measures are recommended to minimize the potential natural heritage impacts identified within this report.

7.1 SPECIES AT RISK

Given the dynamic character of the natural environment, as well as changes to policy (*i.e.*, new species listing, changes in species health or habitat conditions, introduction of new legislation), annual consideration of current legislation and Species at Risk habitats is recommended in the interpretation of potential presence and impact to Threatened or Endangered species.



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 at such time that site alteration is contemplated. 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 (last amended March 2026) have been considered within this report.

7.1.1 Timing Windows – Tree Removals

Tree removals should occur outside of the active breeding/bat roosting/bird nesting season for all Species at Risk that may utilize habitats in the area. Any required tree cutting should be timed to occur during the period between November 1 to March 31 and no removals outside of the designated development area should occur. This will ensure that no At-Risk nesting birds or bats actively roosting in trees will be killed or harmed as a result of clearing activities.

7.1.2 Black Ash

Black Ash trees were identified on the property, and is associated with wetland communities. It is recommended that a Black Ash screening, and health assessment if applicable, a minimum of six months prior to any site works or alteration. Black Ash is classified as an Endangered species in Ontario and therefore Black Ash trees and their habitat are protected under the ESA. As per O. Reg. 6/24, the prohibitions of the ESA apply to any living Black Ash tree with a stem height greater than 1.37 m or with a DBH of 8 cm or more unless a report identifies the tree as "unhealthy" in accordance with the regulation. Further, as per O. Reg. 6/24, habitat protection is applied at a radial distance of 30 m around the stem of a protected Black Ash tree.

7.2 BREEDING BIRDS

Construction activities involving the removal of vegetation should be restricted from occurring during the bird breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 and the *Fish and Wildlife Conservation Act*, 1997. Environment and Climate Change Canada ('ECCC') provides information and guidelines to reduce the risk and avoid harm to migratory birds. The following ECCC webpage outlines dates when activities in any region have potential to impact nesting birds <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>.

For this location, vegetation removal should be avoided between April 1st and August 31st of any given year for protection of breeding birds. 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.



Note: Species at Risk timing window above for tree removals includes the breeding bird timing window.

7.2.1 Barn Swallow (Special Concern)

Barn Swallow nests were observed in the barn located in the northern area of the property. While the nests appeared to be inactive, the existing buildings have the potential to provide habitat for Barn Swallow in the future. As such, special care should be taken to ensure that individuals are not harmed or killed during deconstruction of the barn. Prior to demolition of the existing structures, a visual inspection should be undertaken to determine whether Barn Swallow may be using the structure for nesting. Alternatively, demolition work can be completed between September 1st and March 31st, outside of the active breeding season.

7.2.2 Fish Habitat

Mitigation measures are provided below to ensure that impact to fish and fish habitat can be avoided during construction of the crossing and removal of the in-stream fish barrier:

General recommendations

- Given the increase in crossing size and the removal of a barrier, it is recommended that the project be submitted to DFO for review through the agency's Request for Review process.
- Works should be scheduled to avoid wet, windy and rainy conditions that may result in high flow volumes and /or increase erosion and sedimentation.
- Should dewatering be required during construction, pumped water should be directed to a sediment filter bag situated within a vegetated area, more than 30 m from the watercourse and wetland habitats.
- Construction maintenance activities shall be performed more than 30 m removed from the drainage feature. Refueling and maintenance shall take place in a manner that prevents any substances from entering the drainage feature.
- All equipment shall at all times be free of excess or leaking fuel, lubricants, coolant and any other deleterious substances that could enter the drainage feature.
- Installation of the crossing and removal of the fish barrier shall occur under low flow conditions and shall adhere to the appropriate in-water work timing window. For this location, works are not permitted within the feature between October 1st and July 15th of the following year. That is in-works must occur between July 15th and October 1st of the same year.
- Equipment travel paths, stockpile areas and staging areas outside of the vegetation riparian setbacks shall be established to negate impacts to riparian vegetation.
- Erosion and sediment control measures shall be in place prior to any work activities, regularly inspected and maintained, and remain effective until the completion of site works, stabilization of soils, and the risk of sedimentation is no longer a concern.
- All disturbed areas should be stabilized and revegetated with native vegetation, prior to removal of erosion and sediment controls. Bare soils shall not be left exposed over the winter but



covered with a biodegradable erosion sediment control blanket, to be removed prior to planting in the spring.

- Access to the southern portion of the property may be required prior to installation of the crossing. If necessary, machinery fording may be permitted, provided that it is limited to a one-time event (over and back). Should more than one crossing be required, a temporary stream crossing should be installed as per the DFO Standard and Code of Practice (available: <https://www.dfo-mpo.gc.ca/pnw-ppe/practice-pratique-eng.html>)
 - If minor rutting is likely to occur, stream bank and bed protection methods (e.g., swamp mats, pads) should be used provided they do not constrict flows or block fish passage.
 - Grading of the stream banks for the approaches should not occur.
 - The one-time fording should adhere to fisheries timing window defined above.
 - Fording should occur under low flow conditions and not when flows are elevated due to local rain events or seasonal flooding.

Drainage Crossing

- The crossing shall be constructed perpendicular to the creek to minimize loss or disturbance to riparian vegetation and to minimize disturbance to fluvial processes within the active channel.
- Only vegetation required to accommodate installation and grading associated with the structure shall be removed. The limit of vegetation removal and grading shall be clearly identified on-site and heavy duty sediment fence shall be installed along the limit of vegetation removal.
- Altered lands below the ordinary high-water mark disturbed during installation of the crossing structure should be restored. Habitat feature restoration may include infilling with a cobble/soil mix that utilizes soil sourced from the excavated stream bank and stabilizing with riverstone, as required and subject to DFO review.

Barrier Removal

- If removal of the barrier under dry conditions is not feasible, sediment laden water must be managed until such time that the watercourse has stabilized.
- Erosion and sediment controls must be installed prior to the beginning of the project.
- Regularly observe the watercourse or water body for signs of suspended sediment during all phases of the project and take corrective action when and where required.
- Inspect the erosion and sediment controls regularly during all phases of the project.
- Remove all non-biodegradable erosion and sediment controls once the site has been stabilized.
- Dispose of, and stabilize, all excavated material above the active channel (1:2 year flood elevation) or top of bank of the drainage feature.
- Keep the erosion and sediment controls in place until all disturbed ground has been stabilized and suspended sediments have settled.
- The removal of the barrier should occur gradually if conducted under periods of flow. The removal should create a small breach, and work in stages to control flows and prevent sediment from being released downstream, and prevent fish stranding.



7.3 NATURAL HERITAGE FEATURE PROTECTION AND MITIGATION

- Activities relating to the proposed residential development should be contained within the proposed development area. This area should be appropriately delineated to ensure that no accidental deviation occurs from the area of disturbance and prevent encroachment into natural areas.
- The Town of the Blue Mountains requires compensation for all tree specimens > 10 cm DBH removed during property development. As such, future work relating to tree protection will be required include the completion of a Tree Inventory and Protection Plan, as well as a compensation plan to mitigate tree removals.
- It is recommended that protection sediment and erosion controls/fencing be installed to demark the limits of disturbance and act as natural feature protection for the adjacent woodland and wetland areas.
- Protection fencing is to be in place prior to any construction activities and remain in place until site works have been completed and the risk of sedimentation is no longer a concern.
- Equipment maintenance during and post construction should be undertaken in an appropriate area. Tool and vehicle maintenance and cleaning should be completed away from the retained natural areas in a manner that does not encourage the movement of cleaning or maintenance products including cleaners, oils or fuel into the natural 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 adjacent natural areas.
- Potentially contaminated materials (*i.e.*, fill, soil, gravel, excavated materials) shall be controlled and moved by equipment during construction to prevent the spread of invasive plants. Vehicles and equipment shall be inspected and cleaned prior to allowing access to the property to prevent the spread of invasive plant species into the site. It is recommended that the following document *Clean Equipment Protocol for Industry* is reviewed
https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf
- Where feasible, LID strategies are to be implemented to mitigate impacts of increased impervious surfaces post-development.
- Planting stock is to be of native species and complement the surrounding natural community. Naturalization plantings are recommended within the KNHF and KHF setback areas.

8 CONCLUSIONS

Birks NHC has undertaken this EIS for the proposed development of the property at 796060 Grey Road 19, in the Town of The Blue Mountains. Through the assessment, it was determined that the property and adjacent lands contain KNHFs, KHF and functions relating to the presence of woodland and wetland habitats. The intent of the EIS was to identify and characterize the pertinent natural heritage



features and functions present within and adjacent to the proposed development and to determine if potential ecological impacts to those features and functions could arise.

Mitigation measures recommended in this report have been developed to avoid and mitigate potential negative ecological impacts associated with the proposed development. Overall, potential ecological impacts are mitigable provided the listed mitigation measures are applied accordingly.



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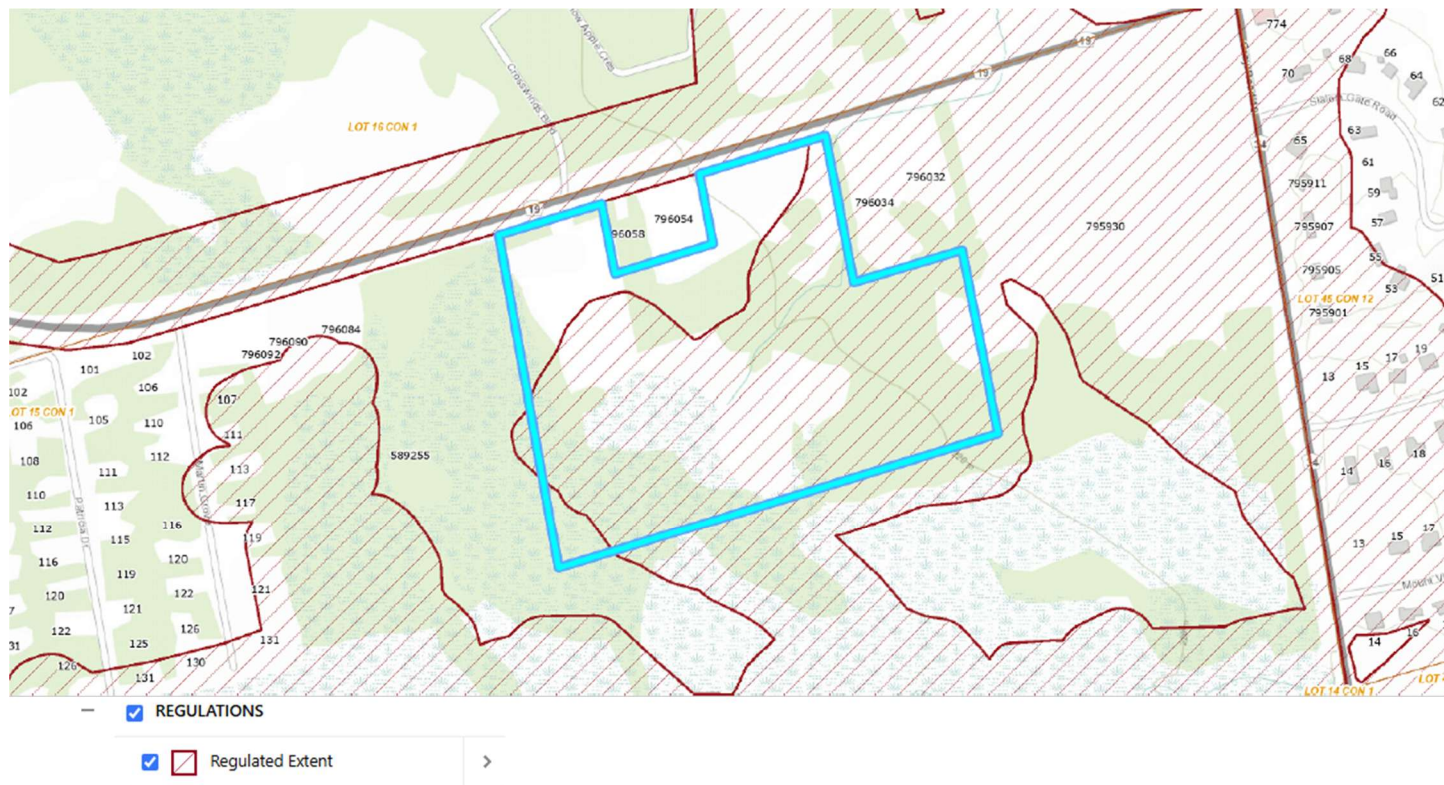
APPENDIX A

Nottawasaga Valley Conservation Authority Regulated Areas





NOTTAWASAGA VALLEY CONSERVATION AUTHORITY Regulated Areas



Interactive map https://co-geo.nvca.on.ca/Html5Viewer/index.html?viewer=NVCA_Public.NVCA_Interactive_Map
Accessed March 26, 2025

APPENDIX B

Niagara Escarpment Plan Designation Map



APPENDIX C

County of Grey Official Plan Maps





Legend

-  Assessment Parcel
-  Niagara Escarpment Minor Urban Centre
-  Niagara Escarpment Parks and Open Space System
-  Niagara Escarpment Plan Area
-  Area of Development Control
- Niagara Escarpment Plan Designation**
 -  Escarpment Natural Area
 -  Escarpment Protection Area
 -  Escarpment Rural Area
 -  Escarpment Recreation Area
 -  Mineral Resource Extraction Area
 -  Urban Area

0 1.3 km

Projection: Web Mercator



The Ontario Ministry of Natural Resources and Forestry shall not be liable in any way for the use of, or reliance upon, this map or any information on this map. This map should not be used for: navigation, a plan of survey, routes, nor locations.

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APPENDIX D

Town of The Blue Mountains Official Plan Maps



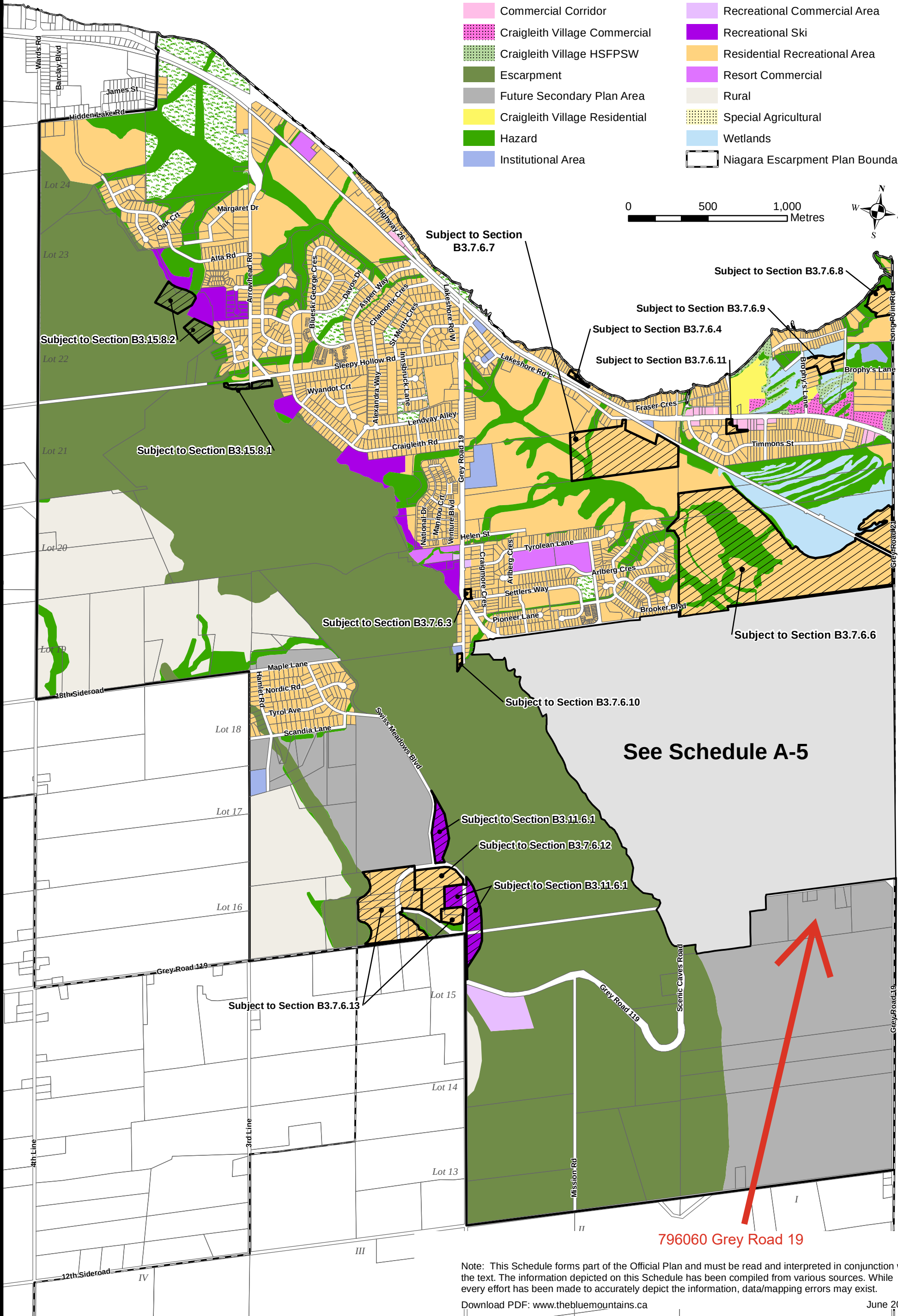


The Blue Mountains Official Plan Schedule 'A-4' Craigleith and Swiss Meadows

Designations

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

0 500 1,000 Metres

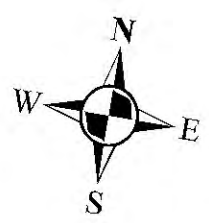
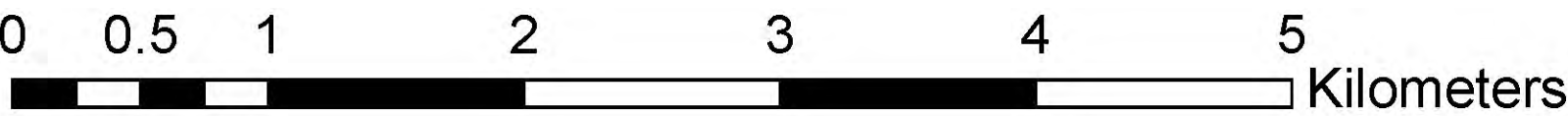


Note: This Schedule forms part of the Official Plan and must be read and interpreted in conjunction with the text. The information depicted on this Schedule has been compiled from various sources. While every effort has been made to accurately depict the information, data/mapping errors may exist.

The Blue Mountains Constraint Mapping Appendix 1

Designations

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



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



796060 Grey Road 19

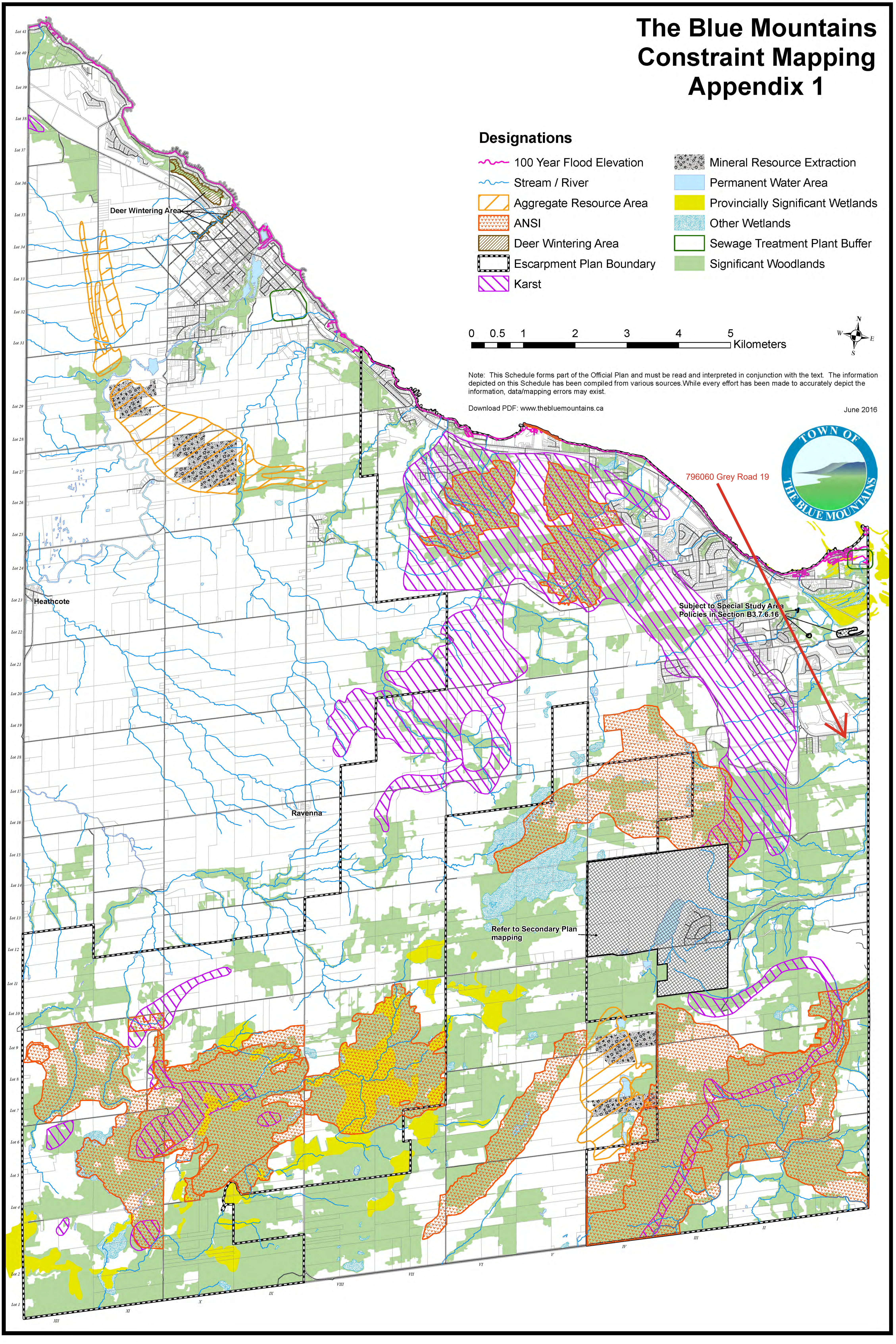
Subject to Special Study Area Policies in Section B3.7.6.16

Refer to Secondary Plan mapping

Deer Wintering Area

Heathcote

Ravenna



APPENDIX E

Plant List



Vascular Plant List

Scientific Name	Common Name	CUM Cultural Meadow	MAMM1-3 Reed-canary Grass Meadow Marsh	SWTM3-3 Slender Willow Deciduous Swamp	SWDM4-5 Poplar Deciduous Swamp	SWDM2 Ash Deciduous Swamp	FODM8-1 Poplar Deciduous Forest	FODM7-2 Green Ash - Hardwood Lowland Forest	FOMM10-2 White Spruce - Hardwood Mixed Forest	WODM4 Deciduous Woodland	Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
<i>Acer rubrum</i>	Red Maple								X		---	0	S5	---	N5
<i>Acer saccharinum</i>	Silver Maple			X							---	-3	S5	---	N5
<i>Acer saccharum</i>	Sugar Maple							X			---	3	S5	---	N5
<i>Achillea millefolium</i>	Common Yarrow	X		X						X	SE5?	3	SNA	---	NNR
<i>Agrimonia gryposepala</i>	Hooked Agrimony	X			X	X	X				---	3	S5	---	N5
<i>Agrostis gigantea</i>	Redtop	X									SE5	-3	SNA	---	NNA
<i>Alliaria petiolata</i>	Garlic Mustard								X		SE5	0	SNA	---	NNA
<i>Ambrosia artemisiifolia</i>	Common Ragweed	X						X		X	---	3	S5	---	N5
<i>Anemonastrum canadense</i>	Canada Anemone	X			X			X			---	-3	S5	---	N5
<i>Asclepias syriaca</i>	Common Milkweed									X	---	5	S5	---	N5
<i>Asparagus officinalis</i>	Garden Asparagus			X			X	X			SE5	3	SNA	---	NNA
<i>Betula papyrifera</i>	Paper Birch						X	X			---	3	S5	---	N5
<i>Carex bebbii</i>	Bebb's Sedge					X					---	-5	S5	---	N5
<i>Carex gracillima</i>	Graceful Sedge					X	X				---	3	S5	---	N5
<i>Carex gynandra</i>	Nodding Sedge			X							---	-5	S5	---	N5
<i>Carex intumescens</i>	Bladder Sedge		X			X					---	-3	S5	---	N5
<i>Carex vulpinoidea</i>	Fox Sedge		X		X						---	-5	S5	---	N5
<i>Centaurea stoebe</i>	Spotted Knapweed	X				X				X	SE5	5	SNA	---	NNA
<i>Chamaenerion angustifolium</i>	Fireweed						X				---	0	S5	---	N5
<i>Cichorium intybus</i>	Wild Chicory	X							X	X	SE5	5	SNA	---	NNA
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade				X		X		X		---	3	S5	---	N5
<i>Cirsium arvense</i>	Canada Thistle	X									SE5	3	SNA	---	NNA
<i>Cirsium vulgare</i>	Bull Thistle										SE5	3	SNA	---	NNA
<i>Clinopodium vulgare</i>	Wild Basil						X	X	X		---	5	S5	---	N5
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood							X			---	3	S5	---	N5
<i>Cornus sericea</i>	Red-osier Dogwood	X			X	X	X	X		X	---	-3	S5	---	N5
<i>Crataegus</i> sp.	Hawthorn species				X		X		X		---	---	---	---	---
<i>Dactylis glomerata</i>	Orchard Grass	X								X	SE5	3	SNA	---	NNA
<i>Daucus carota</i>	Wild Carrot	X							X		SE5	5	SNA	---	NNA
<i>Desmodium canadense</i>	Canada Tick-trefoil	X								X	---	0	S4	---	N5
<i>Dipsacus fullonum</i>	Common Teasel			X						X	SE5	3	SNA	---	NNA
<i>Endotropis alnifolia</i>	Alder-leaved Buckthorn				X						---	-5	S5	---	N5
<i>Epilobium strictum</i>	Downy Willowherb										---	-5	S4	---	N4
<i>Equisetum arvense</i>	Field Horsetail	X									---	0	S5	---	N5
<i>Erigeron annuus</i>	Annual Fleabane	X					X	X		X	---	3	S5	---	N5
<i>Euphorbia virgata</i>	Leafy Spurge	X		X	X				X		SE5?	5	SNA	---	NNA
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod		X		X	X	X	X			---	0	S5	---	N5
<i>Eutrachium maculatum</i>	Spotted Joe Pye Weed			X				X			---	-5	S5	---	N5
<i>Fragaria virginiana</i>	Wild Strawberry	X			X	X	X	X	X		---	3	S5	---	N5
<i>Fraxinus americana</i>	White Ash						X				---	3	S4	---	N4
<i>Fraxinus nigra</i>	Black Ash		X	X	X		X				---	-3	S4	END	N47
<i>Fraxinus pennsylvanica</i>	Red Ash		X		X	X	X	X	X	X	---	-3	S4	---	N5
<i>Galium palustre</i>	Common Marsh Bedstraw			X	X						---	-5	S5	---	N5
<i>Geranium pusillum</i>	Small-flowered Geranium	X			X				X		SE4	5	SNA	---	NNA
<i>Geranium robertianum</i>	Herb-Robert				X		X				---	3	S5	---	N5
<i>Geum rivale</i>	Water Avens					X		X	X		---	-5	S5	---	N5
<i>Glyceria striata</i>	Fowl Mannagrass				X	X					---	-5	S5	---	N5
<i>Hypericum perforatum</i>	Common St. John's-wort	X				X					SE5	5	SNA	---	NNA
<i>Impatiens capensis</i>	Spotted Jewelweed				X	X					---	-3	S5	---	N5
<i>Juglans nigra</i>	Black Walnut				X	X		X	X	X	---	3	S4?	---	N47
<i>Juncus dudleyi</i>	Dudley's Rush		X								---	-3	S5	---	N5
<i>Juniperus virginiana</i>	Eastern Red Cedar						X	X			---	3	S5	---	N5
<i>Larix laricina</i>	Tamarack					X			X		---	-3	S5	---	N5
<i>Lathyrus latifolius</i>	Everlasting Pea	X					X			X	SE4	5	SNA	---	NNA
<i>Leersia oryzoides</i>	Rice Cutgrass		X								---	-5	S5	---	N5
<i>Leonurus cardiaca</i>	Common Motherwort			X							SE5	5	SNA	---	NNA
<i>Leucanthemum vulgare</i>	Oxeye Daisy							X			SE5	5	SNA	---	NNA

Scientific Name	Common Name	CUM Cultural Meadow	MAMM1-3 Reed-canary Grass Meadow Marsh	SWTM3-3 Slender Willow Deciduous Thicket Swamp	SWDM4-5 Poplar Deciduous Swamp	SWDM2 Ash Deciduous Swamp	FODM8-1 Poplar Deciduous Forest	FODM7-2 Green Ash - Hardwood Lowland Forest	FOMM10-2 White Spruce - Hardwood Mixed Forest	WODM4 Deciduous Woodland	Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	X									SE5	3	SNA	---	NNA
<i>Lycopus americanus</i>	American Water-horehound			X							---	-5	S5	---	N5
<i>Lysimachia ciliata</i>	Fringed Yellow Loosestrife					X					---	-3	S5	---	N5
<i>Lysimachia nummularia</i>	Creeping Yellow Loosestrife		X		X						SE5	-3	SNA	---	NNA
<i>Lythrum salicaria</i>	Purple Loosestrife		X								SE5	-5	SNA	---	NNA
<i>Malus pumila</i>	Common Apple	X					X	X	X	X	SE4	5	SNA	---	NNA
<i>Mellilotus albus</i>	White Sweet-clover					X				X	SE5	3	SNA	---	NNA
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam				X			X	X		---	3	S5	---	N5
<i>Oxalis stricta</i>	Upright Yellow Wood-sorrel	X									SE5	3	SNA	---	N5
<i>Parthenocissus quinquefolia</i>	Virginia Creeper				X		X		X		---	3	S4?	---	N4?
<i>Phalaris arundinacea</i>	Reed Canarygrass		X	X	X	X		X		X	---	-3	S5	---	N5
<i>Phleum pratense</i>	Common Timothy	X									SE5	3	SNA	---	NNA
<i>Phragmites australis</i>	European Reed			X					X		SE5	-3	SNA	---	NNA
<i>Picea glauca</i>	White Spruce	X					X	X	X	X	---	3	S5	---	N5
<i>Pinus strobus</i>	Eastern White Pine					X	X	X	X		---	3	S5	---	N5
<i>Pinus sylvestris</i>	Scots Pine								X		SE5	3	SNA	---	NNA
<i>Plantago lanceolata</i>	English Plantain	X							X		SE5	3	SNA	---	NNA
<i>Poa pratensis</i>	Kentucky Bluegrass	X									---	3	S5	---	N5
<i>Populus balsamifera</i>	Balsam Poplar				X	X					---	-3	S5	---	NNR
<i>Populus tremuloides</i>	Trembling Aspen			X	X		X	X			---	0	S5	---	N5
<i>Prunella vulgaris</i>	Common Self-heal	X			X		X	X	X		---	0	S5	---	N5
<i>Prunus avium</i>	Sweet Cherry								X		SE4	5	SNA	---	NNA
<i>Prunus padus</i>	European Bird Cherry						X		X		SE1	5	SNA	---	NNA
<i>Prunus serotina</i>	Black Cherry						X				---	3	S5	---	N5
<i>Quercus rubra</i>	Northern Red Oak				X		X	X		X	---	3	S5	---	N5
<i>Ranunculus acris</i>	Common Buttercup	X									SE5	0	SNA	---	NNA
<i>Rhamnus cathartica</i>	European Buckthorn				X	X	X	X	X	X	SE5	0	SNA	---	NNA
<i>Rhus typhina</i>	Staghorn Sumac	X									---	3	S5	---	N5
<i>Ribes americanum</i>	Wild Black Currant				X						---	-3	S5	---	N5
<i>Ribes cynosbati</i>	Eastern Prickly Gooseberry				X				X		---	3	S5	---	N5
<i>Ribes triste</i>	Swamp Red Currant				X						---	-5	S5	---	N5
<i>Robinia pseudoacacia</i>	Black Locust								X		SE5	3	SNA	---	NNA
<i>Rosa multiflora</i>	Multiflora Rose						X				SE5	3	SNA	---	NNA
<i>Rubus idaeus</i>	Red Raspberry				X			X			---	3	S5	---	N5
<i>Rubus occidentalis</i>	Black Raspberry							X	X		---	5	S5	---	N5
<i>Rubus pubescens</i>	Dwarf Raspberry										---	-3	S5	---	N5
<i>Rudbeckia hirta</i>	Black-eyed Susan	X									---	3	S5	---	N5
<i>Rumex crispus</i>	Curled Dock	X	X							X	SE5	0	SNA	---	NNA
<i>Sabatia dodecandra</i>	Marsh Rose Gentian					X					---	---	---	---	---
<i>Salix euixina</i>	Crack Willow				X						SE	0	SNA	---	NNA
<i>Salix lucida</i>	Shining Willow			X							---	-3	S5	---	N5
<i>Salix petiolaris</i>	Meadow Willow			X							---	-3	S5	---	N5
<i>Schoenoplectus tabernaemontani</i>	Soft-stemmed Bulrush			X							---	-5	S5	---	N5
<i>Scirpus atrovirens</i>	Dark-green Bulrush		X								---	-5	S5	---	N5
<i>Scutellaria galericulata</i>	Marsh Skullcap			X							---	-5	S5	---	N5
<i>Solidago canadensis</i>	Canada Goldenrod	X		X				X	X	X	---	3	S5	---	N5
<i>Solidago nemoralis</i>	Grey-stemmed Goldenrod						X			X	---	5	S5	---	N5
<i>Solidago rugosa</i>	Rough-stemmed Goldenrod				X	X					---	0	S5	---	N5
<i>Symphotrichum cordifolium</i>	Heart-leaved Aster						X				---	5	S5	---	N5
<i>Symphotrichum lanceolatum</i>	Panicled Aster						X				---	-3	S5	---	N5
<i>Symphotrichum lateriflorum</i>	Calico Aster	X			X	X		X	X	X	---	0	S5	---	N5
<i>Symphotrichum novae-angliae</i>	New England Aster		X		X	X	X	X		X	---	-3	S5	---	N5
<i>Symphotrichum puniceum</i>	Purple-stemmed Aster		X			X					---	-5	S5	---	NNR
<i>Syringa vulgaris</i>	Common Lilac								X		SE5	5	SNA	---	NNA
<i>Taraxacum officinale</i>	Common Dandelion	X		X	X			X	X		SE5	3	SNA	---	N5
<i>Thuja occidentalis</i>	Eastern White Cedar						X	X	X	X	---	-3	S5	---	N5
<i>Tilia americana</i>	Basswood				X		X				---	3	S5	---	N5
<i>Toxicodendron radicans</i>	Poison Ivy				X		X	X	X		---	0	S5	---	N5
<i>Trifolium campestre</i>	Hop Clover	X									SE5	5	SNA	---	NNA
<i>Trifolium pratense</i>	Red Clover	X								X	SE5	3	SNA	---	NNA
<i>Tussilago farfara</i>	Coltsfoot	X									SE5	3	SNA	---	NNA
<i>Typha angustifolia</i>	Narrow-leaved Cattail			X							SE5	-5	SNA	---	N5
<i>Ulmus americana</i>	White Elm			X	X	X	X	X			---	-3	S5	---	N5

Scientific Name	Common Name	CUM Cultural Meadow	MAMM1-3 Reed-canary Grass Meadow Marsh	SWTM3-3 Slender Willow Deciduous Thicket Swamp	SWDM4-5 Poplar Deciduous Swamp	SWDM2 Ash Deciduous Swamp	FODM8-1 Poplar Deciduous Forest	FODM7-2 Green Ash - Hardwood Lowland Forest	FOMM10-2 White Spruce - Hardwood Mixed Forest	WODM4 Deciduous Woodland	Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
<i>Verbascum thapsus</i>	Common Mullein	X								X	SE5	5	SNA	---	NNA
<i>Viburnum lantanoides</i>	Hobblebush				X						---	0	S5	---	N5
<i>Viburnum lentago</i>	Nannyberry			X	X	X	X				---	0	S5	---	N5
<i>Vicia cracca</i>	Tufted Vetch	X		X		X	X	X			SE5	5	SNA	---	NNA
<i>Viola rostrata</i>	Long-spurred Violet								X		---	3	S5	---	N5
<i>Viola selkirkii</i>	Selkirk's Violet				X						---	5	S5	---	N5
<i>Viola sororia</i>	Woolly Blue Violet	X									---	0	S5	---	N5
<i>Vitis riparia</i>	Riverbank Grape	X			X		X		X		---	0	S5	---	N5

Subnational (Provincial) Exotic Status: SE1 to SE5 based on increasing abundance

Coefficient of Wetness: reflects species affinity for wet soil conditions; ranges from obligate wetland species (-5) to obligate upland species (5)

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

Endangered Species Act: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

APPENDIX F
Breeding Bird Data



Dawn Breeding Bird Data

Family	Scientific Name	English Common Name	Survey Station							Incidental	Breeding Evidence	Conservation Rank		
			1	2	3	4	5	6	7			National N-rank	Provincial S-rank	Provincial Endangered Species Act
Anatidae	<i>Anas platyrhynchos</i>	Mallard						P ^A		X (pair)	Probable	N5B,N5N	S5	
Anatidae	<i>Branta canadensis</i>	Canada Goose	FO ^A							X (pair)	Probable	N5B,N5N	S5	
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	S ^A			S ^A		FO ^B		X	Possible	N5B,N5N	S5	
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal	S ^A	S ^A	S ^A		S ^B	S ^{A,B}	S ^A	X	Probable	N5	S5	
Cardinalidae	<i>Passerina cyanea</i>	Indigo Bunting	S ^B		S ^B				S ^{A,B}	X	Probable	N5B	S5B	
Columbidae	<i>Zenaidura macroura</i>	Mourning Dove		S ^A					S ^A	X	Possible	N5B,N5N	S5	
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	FO ^B	A ^A	S ^A	FO ^{A,B}	FO ^B	FO ^A	FO ^B	X	Possible	N5B,N5N	S5	
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay		C ^A						X	Possible	N5	S5	
Fringillidae	<i>Spinus tristis</i>	American Goldfinch			S ^{A,B}				S ^B	X	Possible	N5B,N5N	S5	
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird								X	Possible	N5B,N5N	S5	
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle						CF ^A	FO ^B	X	Confirmed	N5B,N5N	S5	
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull	FO ^{A,B}		FO ^A		FO ^B		FO ^B		Observed	N5B,N5N	S5	
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird								X	Possible	N5B,N3N	S5B,S3N	
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	S ^A	S ^B	S ^A			S ^{A,B}		X	Possible	N5	S5	
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat	S ^{A,B}	S ^A	S ^{A,B}	S ^A	S ^{A,B}	S ^{A,B}	S ^{A,B}	X	Probable	N5B,N3N	S5B,S3N	
Parulidae	<i>Mniotilta varia</i>	Black-and-white Warbler					S ^A	S ^B		X	Possible	N5B	S5B	
Parulidae	<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler								X	Possible	N5B	S5B	
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler			S ^B				S ^A	X	Possible	N5B	S5B	
Parulidae	<i>Setophaga ruticilla</i>	American Redstart		S ^A	S ^A	S ^A	S ^B		S ^B		Possible	N5B	S5B	
Parulidae	<i>Vermivora chrysoptera</i>	Golden-winged Warbler			S ^A			S ^A			Possible	N3B	S3B	SC
Passerellidae	<i>Melospiza georgiana</i>	Swamp Sparrow	S ^A		S ^{A,B}				S ^A		Possible	N5B,N4N	S5B,S4N	
Passerellidae	<i>Melospiza melodia</i>	Song Sparrow	S ^{A,B}	S ^{A,B}	S ^{A,B}	S ^A	S ^A	S ^{A,B}	S ^{A,B}	X	Probable	N5B,N5N	S5	
Passerellidae	<i>Spizella passerina</i>	Chipping Sparrow						S ^B	S ^B	X	Possible	N5B	S5B,S3N	
Passeridae	<i>Passer domesticus</i>	House Sparrow						FY ^B	S ^A		Confirmed	NNA	SNA	
Phasianidae	<i>Meleagris gallopavo</i>	Wild Turkey								X	Possible	N5	S5	
Picidae	<i>Colaptes auratus</i>	Northern Flicker								X	Possible	N5B,N5N	S5	
Picidae	<i>Dryobates pubescens</i>	Downy Woodpecker		S ^A						X	Possible	N5	S5	
Regulidae	<i>Regulus satrapa</i>	Golden-crowned Kinglet								X	Possible	N5B,N5N	S5	
Scolopacidae	<i>Gallinago delicata</i>	Wilson's Snipe								X	Possible	N5B	S5B	
Scolopacidae	<i>Scolopax minor</i>	American Woodcock								X	Possible	N5B	S4B	
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	FO ^A								Possible	NNA	SNA	
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	S ^{A,B}	A ^A /S ^B			S ^A	S ^A	S ^B	X	Probable	NNRB	S5B	
Turdidae	<i>Hylocichla mustelina</i>	Wood Thrush	S ^A	S ^A							Possible	N4B,NUM	S4B	SC
Turdidae	<i>Turdus migratorius</i>	American Robin	S ^{A,B}		S ^B	S ^A	S ^B	H ^A /S ^B	S ^A	X	Probable	N5B,N5N	S5	
Tyrannidae	<i>Empidonax alnorum</i>	Alder Flycatcher			S ^A						Possible	N5B	S5B	
Tyrannidae	<i>Myiarchus crinitus</i>	Great Crested Flycatcher						S ^A			Possible	N5B	S5B	
Tyrannidae	<i>Sayornis phoebe</i>	Eastern Phoebe						S ^A			Possible	N5B	S5B	
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	S ^{A,B}	S ^B		S ^{A,B}	S ^{A,B}	S ^{A,B}	S ^{A,B}	X	Probable	N5B,N5N	S5B	

Surveys Conditions:

^A June 4, 2024¹ Start Time 0546hr/ End Time 0722hr; Temperature 15°C; Wind 0; Cloud Cover 10%; Precipitation none; Observer: M. Fuller^B June 18, 2024² Start Time 0541hr/ End Time 0703hr; Temperature 26°C; Wind B2; Cloud Cover 0 - 50%; Precipitation none; Observer: M. Fuller

Breeding Evidence Codes:

FO - Fly over

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

A - Agitated behaviour or alarm calls of an adult in suitable nesting habitat during the species breeding season.

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

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

FY - Recently fledged young or downy young incapable of sustained flight.

P - Pair observed in suitable nesting habitat during the species breeding season.

CF - Adult carrying food for young.

Conservation Rank:

S-rank: S1 - Critically Imperiled; S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, SNR - Unranked, SNA - Not applicable, SU - Unrankable, S#? - Inexact Numeric Rank, S#B - Breeding, S#N - Non-breeding, S#M - Migrant

N-rank: N1 - Critically Imperiled; N2 - Imperiled, N3 - Vulnerable, N4 - Apparently Secure, N5 - Secure, NNR - Unranked, NNA - Not applicable, NU - Unrankable, N#? - Inexact Numeric Rank, N#B - Breeding, N#N - Non-breeding, N#M - Migrant

Endangered Species Act Species at Risk in Ontario List: EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern), NAR (Not At Risk)

APPENDIX G

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 of SWH in Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Stopover and Staging Areas (Terrestrial) <u>Rationale:</u> 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. <u>Information Sources</u> - 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.	Meadow habitat is present on the property Meadow habitat in the northwestern portion of the property contains an area of meadow marsh; however overall, the meadow habitat is not known to flood during spring melt. Mallard was recorded during second breeding bird survey within swamplands; no other listed species were documented on site. No occurrence of waterfowl concentration area in NHIC squares that encompass the Study Area. SWH for waterfowl stopover and staging (terrestrial) therefore is considered to be absent in Study Area.
Waterfowl Stopover and Staging Areas (Aquatic) <u>Rationale:</u> Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback Ruddy Duck	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	- 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) <u>Information Sources</u> - Environment Canada. - Naturalist clubs often are aware of staging/stopover areas. - OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. - Sites documented through waterfowl planning processes - Ducks Unlimited projects - Element occurrence specification by Nature Serve: http://www.natureserve.org - Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas	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 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.	No ponds, lakes, bays, coastal inlets or watercourse that would be utilized during migration are present in the Study Area. Meadow marshes and swamp are present in the Study Area however would not be appropriate to support large aggregations of migrating waterfowl. NHIC does not list Waterfowl Concentration Areas as occurring in the area. None of the listed wildlife species were documented on the property during site visits; Canada Goose was observed as a flyover. SWH for waterfowl stopover and staging (aquatic) therefore is not present in Study Area.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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 Ruddy Turnstone Sanderling Dunlin	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. <u>Information Sources</u> - Western hemisphere shorebird reserve network. - Canadian Wildlife Service (CWS) Ontario Shorebird Survey. - Bird Studies Canada - Ontario Nature - Local birders and naturalist clubs - Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	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” - Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures.	No lakes, rivers, beach areas, bars or seasonally flooded, muddy and un-vegetated shoreline habitats are present in the Study Area. Study Area does not contain any Great Lakes coastal shoreline. NHIC does not list Shorebird Migratory Concentration Area as occurring in the area. Listed species were not documented during field investigations. SWH for migratory shorebird migratory stopover is therefore not present.
Raptor Wintering Area Rationale: 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 Special Concern: 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.	Although the Study Area contains both open meadow habitat and woodlands, the Study Area does not contain suitable habitat to provide Raptor Wintering SWH; the disturbed meadow on the property is no more than 1.5 ha with adjacent woodlands. NHIC does not list Raptor Winter Concentration Area as occurring in the area. Listed species were not documented during field investigations. SWH for raptor wintering is therefore not present.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		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. <u>Information Sources</u> - 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 hibernacula SWH is therefore not present.
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 <u>Information Sources</u> - 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[®] >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.	The Study Area contains swamp and forest communities. To assess for bat maternity roosting habitat, survey plots distributed through the woodlands of the property were surveyed for candidate roost trees. Candidate roost trees were unevenly distributed within the property, with the majority of candidate roost trees recorded within a Poplar deciduous community. Further discussion is provided in the EIS.
Turtle Wintering Areas Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle Special Concern: 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.	No core turtle habitat was noted in the Study Area and no drainage feature was observed on the property to contain suitable habitat (<i>i.e.</i> , permanent deep water) for turtle wintering.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		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 . <u>Information Sources</u> - 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) <u>Note:</u> If there are Special Concern Species present, then site is SWH <u>Note:</u> 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.	While potential overwintering habitat features are generally common within the landscape, this function is generally intended to protect congregations of individuals overwintering. There are no talus, rock barren, or alvar sites in the area. Within the Study Area reptiles may gain access to below the frost line for hibernation through rodent burrows and tree root systems.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		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. <u>Information Sources</u> - Reports and other information available from Conservation Authorities. - Ontario Breeding Bird Atlas - Bird Studies Canada; <i>NatureCounts</i> http://www.birdscanada.org/birdmon/ - Field Naturalist Clubs.	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	No bridges, steep slopes, cliffs or banks were observed within the Study Area and the listed wildlife species were not documented during field investigations. SWH for bank and cliff colonial nesting birds is therefore not present.
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. <u>Information Sources</u> - 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 development effects and mitigation measures.	NHIC does not list Mixed Wader Nesting Colony occurrence in the area. Ontario GeoHub Wildlife Values data does not have records of colonial nesting in the area. None of the listed species were documented during the field investigations. No lakes, islands or peninsulas are present in or adjacent to the property. No species were documented during breeding bird surveys. No further consideration is warranted.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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.	Meadow marsh habitat is present in the Study Area however no lakes, large rivers, rocky islands or peninsulas were present in the Study Area. The drainage feature riparian areas are a mix of open and vegetated (primarily vegetated) and is not located in an open field or pasture. NHIC does not list Colonial Waterbird Nesting Area as occurring in the area. None of the listed species were recorded on site; Ring-billed Gull was observed as a fly-over. SWH for ground colonial nesting breeding birds is therefore considered to be absent from the Study Area.
Migratory Butterfly Stopover Areas <u>Rationale:</u> Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	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> 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.	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 - 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	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. 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.	Study Area is not located within 5 km of Lake Ontario. Therefore, this SWH type is not applicable to the Study Area.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Landbird Migratory Stopover Areas Rationale: 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. Therefore, this SWH type is not applicable to the Study Area.
Deer Yarding Areas Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	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 woodlands within or adjacent to the property are mapped as deer wintering habitat by MNR (source: Ontario GeoHub).



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of SWH in Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Winter Congregation Areas 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.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	- Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. - Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands . - If deer are constrained by snow depth refer to the Deer Yarding Area habitat. - 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. <u>Information Sources</u> - MNRF District Offices - LIO/NRVIS	Studies confirm: - Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF - Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF - Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. - If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined below. - Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures.	No woodlands within or adjacent to the property are mapped as deer wintering habitat by MNR (source: Ontario GeoHub).



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. <u>Information Sources</u> - 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. <u>Information Sources</u> - 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 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Species: 1) <i>Carex crawei</i> 2) <i>Panicum philadelphicum</i> 3) <i>Eleocharis compressa</i> 4) <i>Scutellaria parvula</i> 5) <i>Trichostema brachiatum</i> These indicator species are very specific to Alvars within Ecoregion 6E	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover	An Alvar site > 0.5 ha in size. <u>Information Sources</u> - Alvars of Ontario (2000), Federation of Ontario Naturalists. - Ontario Nature – Conserving Great Lakes Alvars. - Natural Heritage Information Center (NHIC) has location information available on their website - OMNRF Districts - Field Naturalist clubs. - Conservation Authorities.	- 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 - Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures.	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	
Old Growth Forest Rationale: 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 woodland habitat is not considered to be old growth forest as the dominant trees are less than 140 years old and the woodlands lack the characteristics required to be considered old growth.
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. <u>Information Sources</u> - 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. <u>Information Sources</u> - 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 the habitat for survival.	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 Type that is Provincially Rare is Candidate SWH.	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. <u>Information Sources</u> - Natural Heritage Information Center (NHIC) has location information available on their website - OMNRF Districts - Field Naturalist clubs. - Conservation Authorities.	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 development effects and mitigation measures.	No rare vegetation communities have been documented within the Study Area.



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. <u>Information Sources</u> - 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.	Upland treed habitats extending 120 m adjacent to wetland habitats are present in the Study Area: Deciduous forest adjacent to swamp communities. ELC communities are present, but species presence was absent. No further consideration of this habitat function is warranted.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Rationale: Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	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). <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	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 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	Suitable habitat for Bald Eagle is not present as there are no lakes or rivers in the Study Area. Further, no Bald Eagle nesting sites are listed in the area (Ontario GeoHub) and Ontario Breeding Bird Atlas data indicates that there is only a small possibility of Bald Eagle being recorded in Grey Region. No Bald Eagles were documented during site surveys. No Osprey nest site is mapped in Ontario GeoHub for the area and no Osprey were recorded during site surveys. Suitable habitat features are not present within the Study Area; no shorelines, islands, lakes, ponds or rivers are present in the Study Area. Criteria for Bald Eagle and Osprey Nesting, Foraging and Perching SWH is not present in the Study Area.



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Woodland Raptor Nesting Habitat Rationale: 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> - 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.	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. - 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.	Natural woodlands are present in the Study Area contribute to a feature less than 30 ha in size. Interior habitat 200 m from the forest edge not present. None of the listed species were documented on site.
Turtle Nesting Areas Rationale: 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. Significant Wildlife Habitat Technical Guide Index #28 provides development effects and mitigation measures for turtle nesting habitat.	Suitable nesting habitat was not observed.



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seeps and Springs Rationale: 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.
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 <u>Information Sources</u> - 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 amphibian evening call surveys indicated that the Study Area is not a candidate for significant amphibian breeding habitat.
Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	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. <u>Information Sources</u> - 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.	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. - 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.	The amphibian evening call surveys indicated that the Study Area is not a candidate for significant amphibian breeding habitat.



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
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. <u>Information Sources</u> • 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.	Natural woodlands are present in the Study Area contribute to a feature less than 30 ha in size. No interior habitat measured 200 m from the forest edge is present in the Study Area. None of the listed species were documented on site.



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	No fen, bog, pond, open water or shallow aquatic community is present in the Study Area. Drainage feature is shallow with infrequent flow and would not be considered marsh bird breeding habitat. The meadow marsh habitat within the property (Reed-canary Grass) is small and inappropriate for marsh breeding bird use. None of the listed wildlife species were documented during field investigations. NHIC records do not indicate marsh breeding bird habitat in the area.
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 significantly the past 40 years based on CWS (2004) trend records.	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 - 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 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” - Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures	No large grassland areas are present in the Study Area. None of the listed species were recorded on site. Habitat for open country bird breeding SWH is not present in the Study Area.
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	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	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”	The Study Area contains woodland and thicket communities. No large fields succeeding to shrub or thicket habitats are present on the property or adjacent lands. None of the listed indicator or common species were recorded during site surveys, Golden-winged Warbler recorded during first breeding bird survey only. Suitable habitat for Shrub/Early Successional Bird Breeding SWH is therefore not present in the Study Area.



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
CWS (2004) trend records.			Reports and other information available from Conservation Authorities.	Significant Wildlife Habitat Technical Guide Index #33 provides development effects and mitigation measures.	
Terrestrial Crayfish Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (<i>Fallicambarus fodiens</i>) Devil Crayfish or Meadow Crayfish; (<i>Cambarus Diogenes</i>)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. - Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. - Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> - Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998	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 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.	Terrestrial Crayfish chimneys were documented on the property. Further discussion is provided in the EIS.
Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> - 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.	Wood Thrush and Golden-winged Warbler (Special Concern) were recorded on site. Barn Swallow (Special Concern) nests were observed in a barn located in the northern area of the property; the nests appeared to be inactive and no individuals were observed on site. Eastern Wood-pewee and Snapping Turtle (Special Concern) have occurrences recorded in the survey grid square which encompass the Study Area (NHIC 17NK5627). Wood Pewee was not identified during surveys and thus is not considered further. Further discussion is provided in the EIS.



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) <u>Information Sources</u> - 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	Assessment of the amphibian call survey results indicate that the Study Area does not contain significant amphibian breeding habitats therefore amphibian movement corridors is not expected to be present.
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 minimizing their vulnerability while travelling.	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). <u>Information Sources</u> - 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	No woodlands within and adjacent to the property are mapped as deer wintering habitat by MNR. Therefore, consideration for deer movement corridors SWH is not warranted.



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), <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 Significant Wildlife Habitat Technical Guide Index #3 provides development effects and mitigation measures.	Not applicable, Study Area is not located on the Bruce Peninsula.
6E- 17 Rationale: 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 H

Fish Habitat Photo Appendix





Photograph 1. drainage feature connection to roadside ditch at Grey Road 19. (May 2023)



Photograph 2. Drainage feature crossing, creating a barrier to fish, looking north. (April 2024)



Direction of Flow



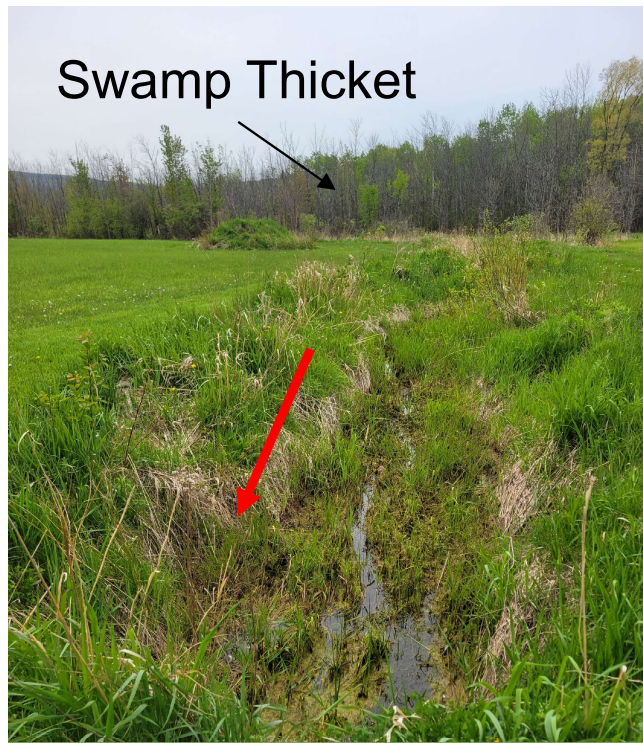
Photograph 3. Immediately upstream of barrier to fish (April 2024).



Photograph 4. Immediately downstream of barrier to fish (April 2024)



→ Direction of Flow



Photograph 5. Drainage feature bordering the cultural meadow community (left photo) and the meadow marsh community (right photo), facing south-west.. (May 2023).



Photograph 6. Drainage feature crossing, upstream of CSP culvert (May 2023).



Photograph 7. Drainage feature crossing, downstream of CSP culvert (May 2023).



 Direction of Flow

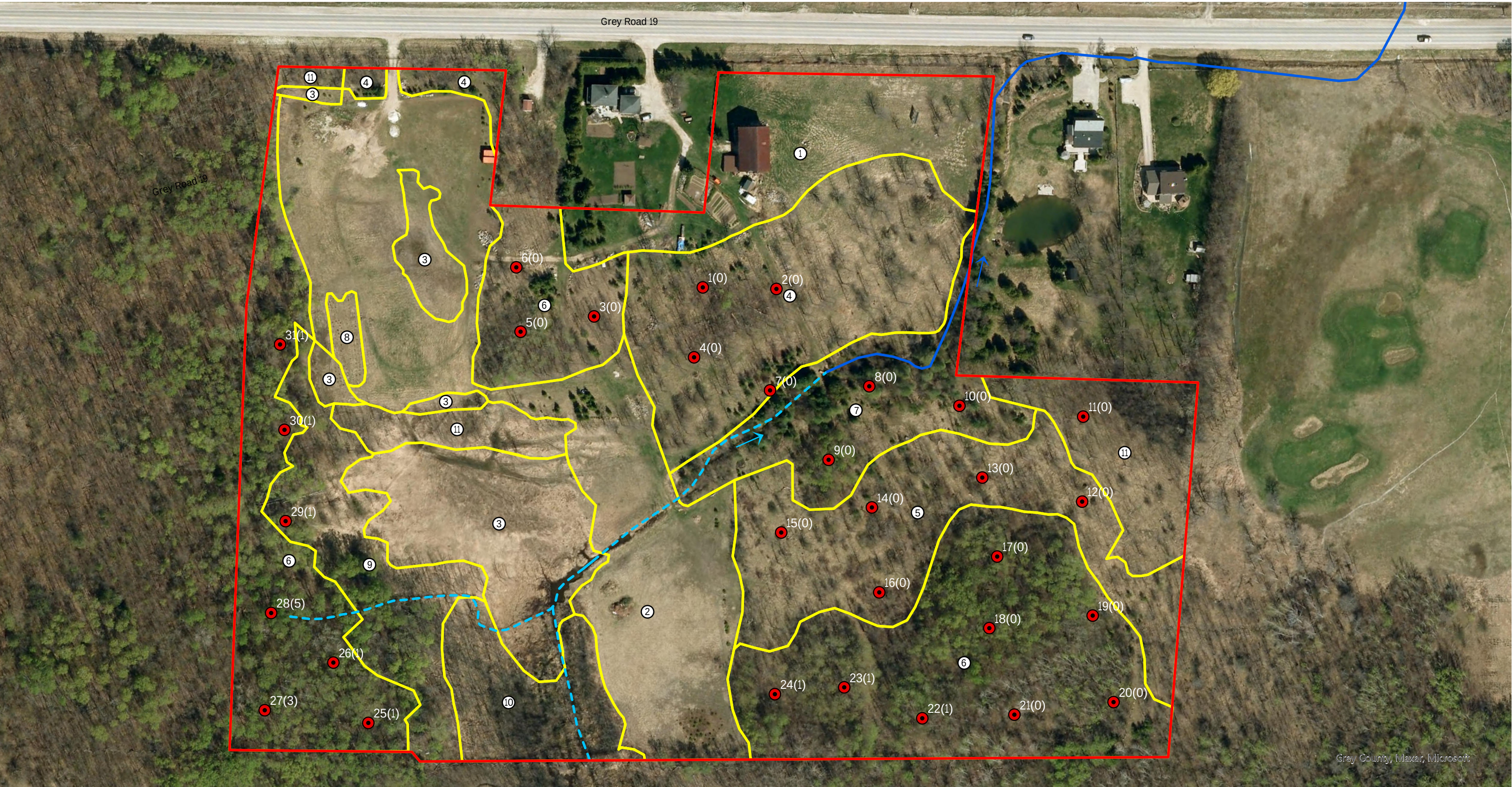
APPENDIX I

Snag Density Survey Data



				SNAG FEATURES																																									
Plot Number	ELC	Species	DBH	Dead Limb			Hollow			Hole			Dead Branches			Loose Bark			Cracks			Total Snag Feature (excluding dead limbs/branches)			Snag Features			Composite (tree contains snag features)	Decay Class	Composite Tree (contains snag features & has a decay class 1-3)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	Snag Tree? (field notes; Y - yes, N - no)	Canopy (O - open, C - closed)	Comments											
				<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m	<3m	3-10m	>10m																		
24	FODM8-1	Balsam Poplar Apple	29 27							x	x						x	x		x		1 0	3 0	1 0	Y N	Y N	Y N	Y N	2 -	Y N	Y N	Y N	O O	Sapsucker holes											
23	FODM8-1	Balsam Poplar	26			x						x						x				1 0 0	0 0 0	2 0 0	N N N	Y N N	Y N N	1 1 -	Y N N	Y N N	Y N N	Y N O													
		Balsam Poplar	27										x									0 0 0	0 0 0	0 0 0	N N N	N N N	N N -	N N N	N N N	N N N	N N O														
		Balsam Poplar	25		x																	0 0 0	0 0 0	2 0 0	N N N	0 N N	1 N -	1 N N	1 N N	1 N N	1 N O														
22	FODM8-1	American Elm	29			x											x	x				0 0 0	1 0 0	1 0 0	N N N	Y N N	Y N N	Y -	Y N N	Y N N	Y N N	Y N O													
		Trembling Aspen	29																			0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	29																			0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	30		x	x							x	x								0 0 0	0 0 0	0 0 0	N N N	N N N	N 1	N N N	N N N	N N N	N N O														
		Trembling Aspen	28		x	x							x	x								0 0 0	0 0 0	0 0 0	N N N	N N N	N 1	N N N	N N N	N N N	N N O														
		Trembling Aspen	28		x	x							x	x								0 0 0	0 0 0	0 0 0	N N N	N N N	N 1	N N N	N N N	N N N	N N O														
		Trembling Aspen	28																			0 0 0	0 0 0	0 0 0	N N N	N N N	N 1	N N N	N N N	N N N	N N O														
21	FODM8-1	Trembling Aspen Trembling Aspen	25 25		x	x								x	x						0 0 0	1 0 0	1 0 0	0 N N	1 N N	1 N N	1 -	1 N N	1 N N	1 N N	1 N O														
20	FODM8-1	Trembling Aspen	25																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	25																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N O															
19	FODM8-1	N/A																			0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
18	FODM8-1	Trembling Aspen	29			x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	28		x	x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	32			x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	27			x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	26																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	26		x																0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	26			x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
		Trembling Aspen	25		x																0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N -	N N N	N N N	N N N	N N O														
17	FODM8-1	Trembling Aspen	25			x	x										x				0 0 0	0 0 0	0 0 0	0 N N	0 Y Y	0 -	0 Y	0 Y	0 Y	0 Y	0 N	0 O													
		Trembling Aspen	30				x												x		0 0 0	0 0 0	0 1	N N N	Y N Y	1 -	Y Y	Y Y	Y Y	Y N	Y O														
		Trembling Aspen	28				x														0 0 0	0 0 0	0 0	N N N	N N N	-	N N	N N	N N	N N	N O														
		Trembling Aspen	25			x													x		0 0 0	0 0 0	0 1	N N N	Y N N	-	N Y	N N	N N	N N	N O														
12	FODM7-2	N/A																		0 0 0	2 0 0	1 0 0	0 N N	2 N N	1 -	3 N	1 N	1 N	0 N	0 N															
11	SWDM2	N/A																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N															
10	FOMM10-2	White Spruce	25		x																0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N	N O													
		White Pine	34		x																0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N O														
		White Pine	31		x																0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N O														
13	FODM7-2	Green Ash	36																	0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N	N O														
14	FODM7-2	Sugar Maple	41														x				0 0 0	1 0 0	0 0 0	N N N	Y N N	Y -	N N	N N	N N	N N	N N	N O													
		White Spruce	25																		0 0 0	0 0 0	0 1	N N N	N N N	-	N N	N N	N N	N N	N O														
16	FODM7-2	Sugar Maple	25																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N	N O													
15	FODM7-2	Apple	25																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N	N O	EAB												
		Green Ash	25																		0 0 0	0 0 0	0 0 0	N N N	N N N	1 -	N N	N N	N N	N N	N O														
9	FOMM10-2	N/A																			0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N	N O													
8	FOMM10-2	Eastern Tamarack	33		x	x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N N	N O													
		Eastern Tamarack	33		x	x															0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N O														
		Eastern Tamarack	33																		0 0 0	0 0 0	1 0 0	N N N	N N Y	Y -	N N	N N	N N	N N	N O														
		Eastern Tamarack	34																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N O														
		Eastern Tamarack	28																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N O														
		Eastern Tamarack	33																		0 0 0	0 0 0	0 0 0	N N N	N N N	N -	N N	N N	N N	N N	N O														
																				0 0 0	0 0 0	1 0 0	0 N N	1 0 1	1 -	0 N	0 N	0 N	0 N	0 N															

Page 2 of 3



Plan 950 Part Lot 63 RP
16R2789 Part 1

Town of the Blue Mountains

Bat Habitat Mapping

Property Limit (9.8 ha)

Fish Habitat

Direct Habitat

Indirect Habitat

ELC Vegetation Communities

1. Residential

2. CUM: Cultural Meadow

3. MAMM1-14 Rice Cut-Grass Graminoid Mineral Meadow Marsh

4. WODM4: Dry - Fresh Deciduous Woodland

5. FODM7-2: Fresh - Moist Green Ash - Hardwood Lowland Deciduous Forest

6. FODM8-1: Fresh - Moist Poplar Forest

7. FOMM10-2: Fresh - Moist White Spruce - Hardwood Mixed Forest

8. WOCM: Coniferous Woodland

9. SWDM4-5 Poplar Mineral Deciduous Swamp

10. SWTM3-3: Slender Willow Mineral Deciduous Thicket Swamp

11. SWDM2: Ash Mineral Deciduous Swamp

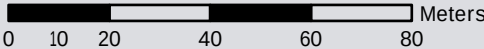
Survey Locations

Bat Snag Survey (Plot #/Cavity Tree #)



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



FILE LOCATION:

Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\03-016-2023 Mountain Rd

PROJECT: 03-016-2023

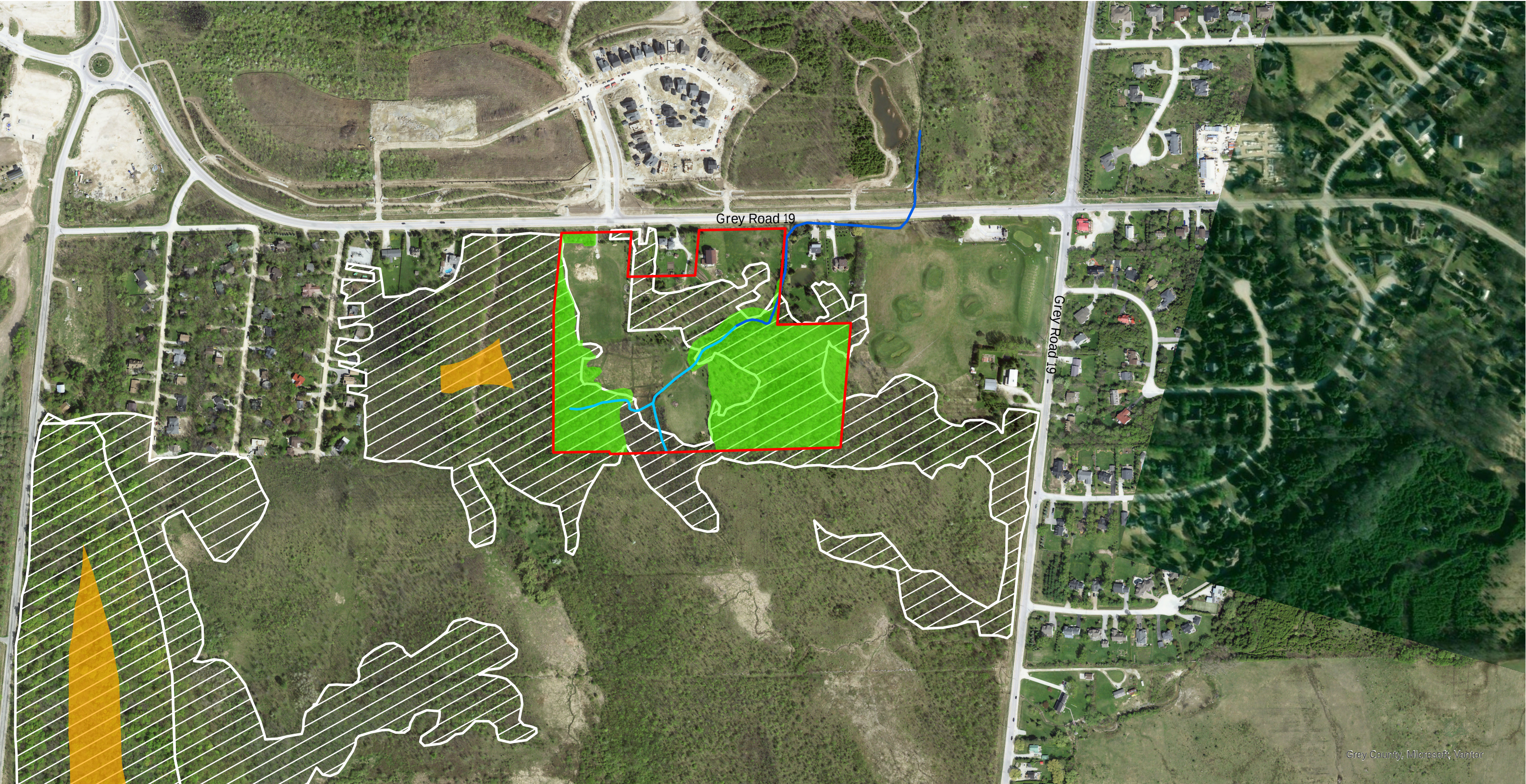
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DATE: 05/05/2025

APPENDIX J

Significant Woodland Mapping





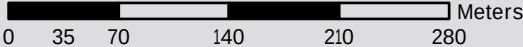
Plan 950 Part Lot 63 RP
16R2789 Part 1
Town of the Blue Mountains

- Property Limit (9.8 ha)
- Fish Habitat
- Significant Woodland Area (Birks NHC; 4.65 ha)
- Grey County OP - Significant Woodlands (19.3 ha)
- 100m Woodland Interior
- Direct Habitat
- Indirect Habitat

Woodland Mapping Appendix



MAP DRAWING INFORMATION:
ORTHOPHOTOS PROVIDED BY: ESRI
MAP CREATED BY: SB
MAP CHECKED BY: MF
MAP PROJECTION: NAD 1983 UTM ZONE 17



FILE LOCATION:
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PROJECT: 03-016-2023 STATUS: DRAFT DATE: 09/03/2026