

Prepared By:



983 Yonge Street Town of Midland Environmental Impact Study

Project No. 04-042-2021

September 2024



September 26, 2024

Delbrook Group
722 Seventh Avenue
Port McNicoll, Ontario
L0K 1R0

Attention: Mehdi Shafiei, Partner, CEO

**RE: Environmental Impact Study - 983 Yonge Street, Town of Midland
Birks NHC File #04-042-2021**

Dear Mr. Shafiei,

As requested, Birks Natural Heritage Consultants, Inc. ('Birks NHC') has prepared the following Environmental Impact Study ('EIS') for the property described above. It is our understanding that an EIS is required as part of a submission package for the property which would consist of a Zoning By-law Amendment, Official Plan Amendment, and Plan of Subdivision to allow for the proposed development of a residential subdivision. The EIS is required due to the presence of lands depicted within the Town of Midland Official Plan as 'Natural Heritage' lands, related to the presence of wetland and woodland habitats within the property.

Birks NHC has completed comprehensive field surveys with a focus on characterizing any candidate natural heritage features and functions within the property limits and study area. Through assessment of data acquired through field surveys, review of background information, and applicable policies and regulations, we have determined that the property and study area contain natural heritage features and functions relating to the presence of wetland and woodland habitat.

This report provides an assessment of significance of those identified natural heritage features and function and considers potential negative ecological impacts associated with the proposed



residential development of the property. Mitigation measures are provided to reduce any potential ecological impacts.

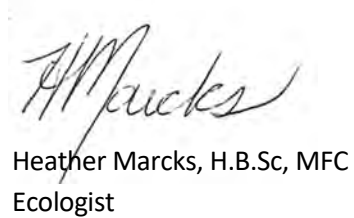
If you have any questions or concerns regarding this report, please do not hesitate to contact the undersigned.

Yours truly,

Birks Natural Heritage Consultants, Inc.



Stephanie Brady
Ecologist



Heather Marcks, H.B.Sc, MFC
Ecologist

Reviewed by:



Brad Baker, H.B.Sc.
Ecologist



Table of Contents

	page
Letter of transmittal.....	i
1 INTRODUCTION	5
1.1 Purpose	5
1.2 Study Area	5
1.3 Site Description	5
1.4 Adjacent Lands	5
2 ENVIRONMENTAL POLICY FRAMEWORK.....	7
2.1 Provincial Policy Statement (2020).....	7
2.2 Endangered Species Act (2007)	8
2.3 Town of Midland Official Plan (2019)	8
3 STUDY APPROACH	9
3.1 Background Data Review and Sources	9
3.2 Field Surveys	9
3.2.1 Vegetative Community and Plants	10
3.2.2 Dawn Breeding Bird Surveys.....	10
3.2.3 Amphibian Call Surveys.....	10
3.2.4 Bat Habitat Assessment and Acoustic Survey.....	10
3.2.5 General Wildlife Surveys.....	12
3.3 Species at Risk.....	12
4 EXISTING CONDITIONS.....	12
4.1 Vegetation Communities and Plants	12
4.2 Wildlife Habitat	13
4.2.1 Birds	13
4.2.2 Mammals	13
4.2.3 Amphibians and Reptiles	13
5 NATURAL HERITAGE FEATURES AND FUNCTIONS.....	15
5.1 Provincially Significant Wetland	15
5.2 Other Wetlands	15
5.3 Significant Woodlands	15
5.4 Significant Valleylands	16



5.5	Significant Wildlife Habitat	16
5.5.1	Bat Maternity Colonies	17
5.5.2	Reptile Hibernaculum	17
5.5.3	Waterfowl Nesting Area	18
5.5.4	Woodland Area-Sensitive Bird Breeding Habitat.....	18
5.5.5	Waterfowl Stopover and Staging Areas (Aquatic)	18
5.5.6	Turtle Wintering Areas.....	19
5.5.7	Marsh Breeding Bird Habitat	19
5.5.8	Special Concern and Rare Wildlife Species	19
5.6	Areas of Natural and Scientific Interest	19
5.7	Fish and Fish Habitat	20
5.8	Habitat of Threatened and Endangered Species	20
5.8.1	Endangered Bat Species.....	20
5.8.2	Blanding’s Turtle	22
5.9	Natural Heritage Features and Functions Summary	22
6	IMPACT ASSESSMENT	24
6.1	Development Plan	24
6.2	Direct Impacts	26
6.2.1	Tree and Vegetation Removals within Locally Significant Woodland	26
6.2.2	Erosion and Sedimentation into Natural Heritage Features	27
6.2.3	Changes to the Hydrology/Water Quality Entering Sensitive Features.....	27
6.2.4	Disturbance to Wildlife and Wildlife Habitat.....	28
6.2.5	Loss of Species at Risk Habitat and Incidental Harm	29
6.3	Indirect Impacts	30
6.3.1	Anthropogenic Disturbance	30
6.3.2	Increased Potential for Invasive or Non-native Species	30
7	RECOMMENDATIONS AND MITIGATION MEASURES	31
7.1	Species at Risk	31
7.1.1	General.....	31
7.1.2	Blanding’s Turtle	31
7.1.3	Endangered Bats	31
7.2	Migratory Birds	32
7.3	Operations	32
7.3.1	Materials and Equipment	32
7.3.2	Sediment and Erosion Control	33
7.4	Ecological Offsetting	33
7.5	Tree Protection Plan	33
7.6	Summary of Mitigation Plan	33



8	CONCLUSIONS.....	36
9	REFERENCES.....	37



Figures

Figure 1: Study Area	6
Figure 2: Existing Conditions and Survey Locations	14
Figure 3: Proposed Site Plan	25

Tables

Table 1: Summary of Field Surveys Completed	9
Table 2: Natural Heritage Features and Functions Summary	23
Table 3: Mitigation Measures Summary	34

Appendices

Appendix A: EIS Terms of Reference Correspondence
Appendix B: Town of Midland Official Plan Maps
Appendix C: Plant List
Appendix D: Breeding Bird Data
Appendix E: Species at Risk Information Request (MECP)
Appendix F: Significant Woodland Assessment
Appendix G: Significant Wildlife Habitat Assessment
Appendix H: Bat Habitat Data – Snag Plot Data and Acoustic Recording Data
Appendix I: Species at Risk Assessment



1 INTRODUCTION

Birks Natural Heritage Consultants, Inc. ('Birks NHC') was retained by Delbrook Group to undertake the preparation of an Environmental Impact Study ('EIS') for the proposed residential development of the property identified as 983 Yonge Street in the Town of Midland (Figure 1).

1.1 PURPOSE

The purpose of this EIS is to identify and characterize natural heritage features and functions present within the property. This information is then considered in the context of the proposed development activities to determine if potential ecological impacts to those features and functions could arise from the proposed development. The EIS is required due to the presence of natural heritage features within and adjacent to the property designated as 'Natural Heritage' by the Town of Midland Official Plan (2019).

This report has been prepared to address the natural heritage requirements of the Provincial Policy Statement (the 'PPS') (PPS, 2020), *Endangered Species Act* (the 'ESA') (ESA, 2007), and Town of Midland Official Plan (2019). Pre-consultation and terms of reference for the EIS was established with the Town of Midland and Severn Sound Environmental Association ('SSEA'); documentation of correspondence is provided in Appendix A.

1.2 STUDY AREA

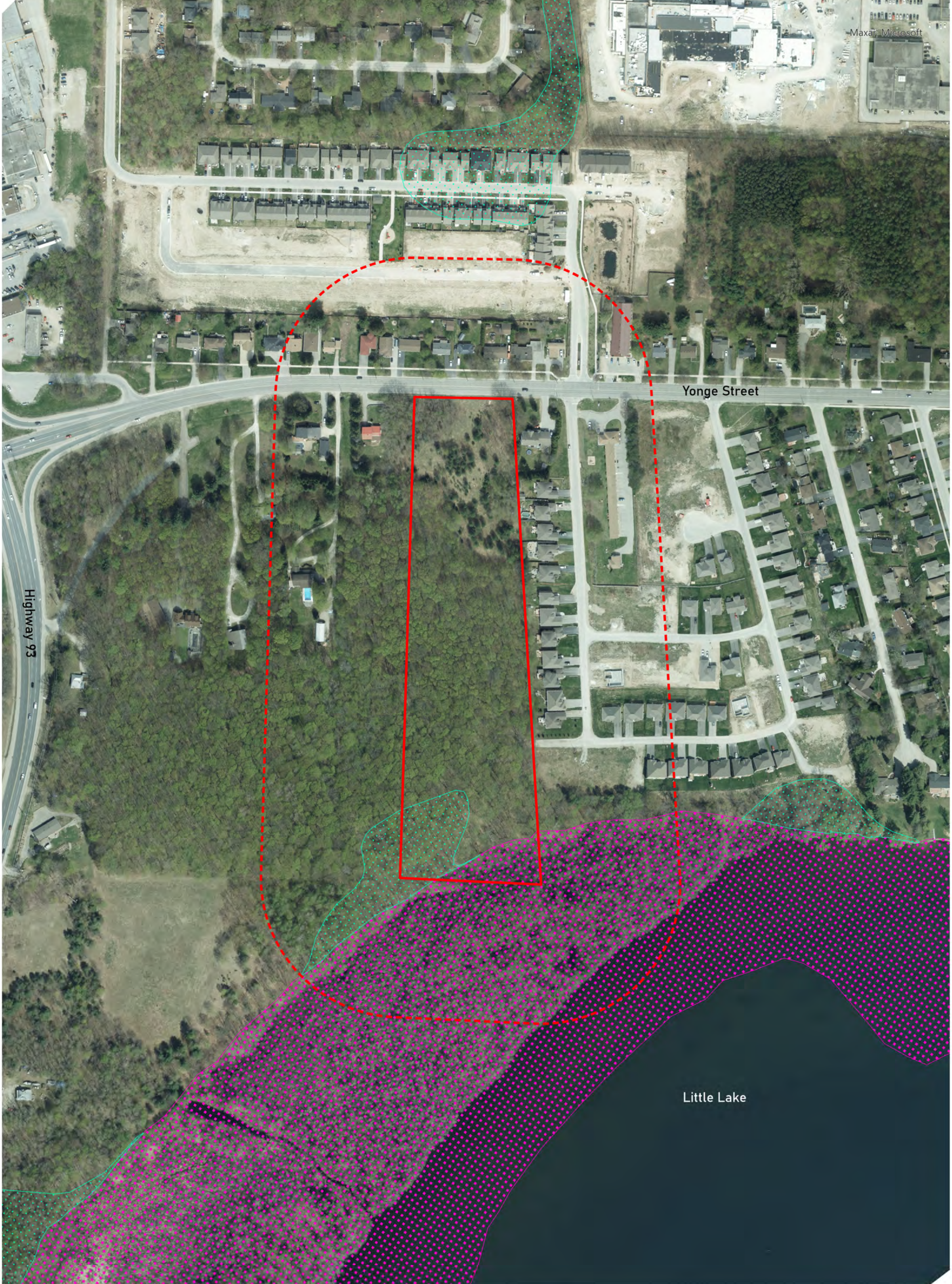
For the purpose of this EIS, the Study Area is focused on an area approximately 120 m surrounding the property as illustrated in Figure 1. The Ministry of Natural Resources and Forestry ('MNRF') recommends a distance of 120 m for consideration of development and/or site alteration impacts to adjacent features, as outlined within the Natural Heritage Reference Manual (MNR, 2010). For the purposes of the Natural Heritage policies the Study Area is located within Ecoregion 6E.

1.3 SITE DESCRIPTION

The property is rectangular shaped, approximately 4.3 ha in size, bordered by Yonge Street to the north and with residential properties to the north, east and west. It is located within the Town of Midland and is un-developed with treed communities (*i.e.*, woodland, forest, swamp). Little Lake lies approximately 85 m south-east of the property, with wetland communities along the outer edges of the lake contained within Midland Little Lake Provincially Significant Wetland ('PSW'; Figure 1).

1.4 ADJACENT LANDS

Lands to the west of the property are predominately low-density residential dwellings with woodland habitats contiguous beyond the 120 m Study Area. Yonge Street bounds the property to the north with existing residential developments north of Yonge Street. An existing residential subdivision is located directly to the east of the property boundary. Little Lake and associated PSW is located to the south.



983 Yonge Street

Town of Midland

- Property Limit (4.3 ha)
- 120m Study Area

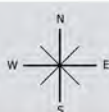
Wetland

- Un-evaluated Wetland
- Provincially Significant Wetland

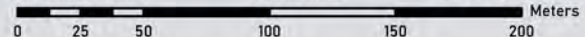
Figure 1:
Study Area



MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA
MAP CREATED BY: SB
MAP CHECKED BY: BB
MAP PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:
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PROJECT: 04-042-2021 STATUS: DRAFT DATE: 27/01/2022





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 POLICY STATEMENT (2020)

Ontario's *Planning Act*, 1990 requires that planning decisions be consistent with the PPS. Section 2.1 of the PPS specifies policy related to protection of natural heritage features and functions.

According to Section 2.1.4 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.

Additional features are protected by Section 2.1.5 of the PPS which states that development and site alteration shall not be permitted in the following natural features unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions:

- a) Significant woodlands in Ecoregions 6E and 7E;
- b) Significant valleylands in Ecoregions 6E and 7E;
- c) Significant wildlife habitat;
- d) Significant areas of natural and scientific interest (ANSI); and
- e) Coastal wetlands in Ecoregions 5E, 6E, and 7E that are not subject to policy 2.1.4(b).

Sections 2.1.6 and 2.1.7 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 2.1.8 extends protection of those features defined above in policies 2.1.4, 2.1.5 and 2.1.6 to adjacent lands, typically those within 120 m of the potential impact. Section 2.1.8 states that development and site alteration shall not be permitted on adjacent lands to natural heritage features identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function.

While many of these features are mapped and direction is available to allow for candidate features and functions to be identified, it remains the responsibility of the province and/or the municipality to designate areas identified within Section 2.1.4 and 2.1.5 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.



On August 20, 2024, the Province of Ontario released the final version of the updated 2024 PPS which is set to take effect on October 20, 2024. The PPS, 2024 will replace A Place to Grow: Growth Plan for the Greater Golden Horseshoe and the PPS, 2020 by integrating them into a single planning document which applies province wide. Based on a review of the natural heritage policies outlined in the 2024 PPS, there are no significant changes that will change the assessment process undertaken for the purpose of this EIS.

2.2 ENDANGERED SPECIES ACT (2007)

Ontario's ESA provides regulatory protection to Species at Risk, prohibiting harassment, harm and/or killing of individuals (Section 9) and destruction of their habitats (Section 10). Habitat of the species is defined as: the habitat features prescribed in the ESA; or, areas on which the species depends, directly or indirectly, to carry on its life processes, as described within reference documents (*i.e.*, species status reports and recovery strategies, technical reports, scientific articles) and based on internal data available from applicable agencies.

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

2.3 TOWN OF MIDLAND OFFICIAL PLAN (2019)

The property is mapped within Greenlands outside of the delineated Built Boundary and is designated as Natural Heritage (Appendix B). The Natural Heritage designation is comprised of Significant Wetlands, Significant Woodlands, Significant Valleylands, SWH, habitat of Species at Risk and rare plant communities, ANSI, fish habitat, and other natural heritage features which might not be designated as Significant (*i.e.*, thickets, meadows, woodlands less than 2 ha, unevaluated wetlands). Development and site alteration is not to be permitted in the Natural Heritage designation (Town of Midland, 2019, Section 4.5.3). Where buildings, development and/or site alteration are proposed within the Natural Heritage designation, the Town shall require that an EIS be prepared that demonstrates that there will be no negative impacts on any natural heritage features or ecological and hydrologic functions. Where buildings, development and/or site alteration are necessary and a negative impact is unavoidable, then the Town, in consultation with the County and any agency having jurisdiction, may accept an ecological offsetting mitigation approach (Town of Midland, 2019, Section 4.5.3). Changes to the boundaries of the Natural Heritage designation may be considered through an EIS (Town of Midland, 2019, Section 4.5.3.4).



3 STUDY APPROACH

The following activities and assessments were undertaken to fulfill the objectives of this study. Pre-consultation and terms of reference for the EIS was established with the Town of Midland and SSEA, documentation of correspondence is provided in Appendix A.

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:

- Ontario Reptile and Amphibian Atlas (Ontario Nature, accessed 2023)
- Ontario Breeding Bird Atlas Survey Square Summaries (Birds Canada, accessed 2023)
- Land Information Ontario ('LIO'; MNRF, accessed 2023)
- Natural Heritage Information Centre ('NHIC'; MNRF, accessed 2023)
- Species at Risk in Ontario List (MECP, 2023)

3.2 FIELD SURVEYS

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

Table 1: Summary of Field Surveys Completed

Dates	Start/End Time	Type of Survey	Birks NHC Ecologist(s)
September 29, 2021 June 2, 2022	----	Ecological Land Classification and vegetation surveys	S. Brady H. Marcks
June 1, 2022, to June 13, 2022	Daily from Sunset - sunrise	Bat Acoustic Monitoring	S. Brady B. Baker
December 13, 2021	----	Bat Habitat - Snag Density	S. Brady B. Baker
June 3, 2022 June 27, 2022	5:37 – 6:25 6:10 – 6:47	Dawn Breeding Bird Surveys	S. Brady K. Tuininga
April 12, 2022 May 12, 2022 June 14, 2022	21:00 22:16 22:49	Amphibian Call Surveys	S. Brady



3.2.1 Vegetative Community and Plants

The Ecological Land Classification ('ELC') system for Southern Ontario (Lee *et al.*, 1998) was used with modifications. In early 2007, the MNRF refined their original vegetation type codes to encompass the vast range of natural and cultural communities across Southern Ontario. These updated ELC codes have also been used for reporting purposes in this study. Vegetative community mapping for the property is presented in Figure 2; the plant list is provided in Appendix C.

3.2.2 Dawn Breeding Bird Surveys

Dawn breeding bird surveys within the property followed methods outlined in the Ontario Breeding Bird Atlas Guide for Participants (Cadman *et al.*, 2001), with modifications. Specifically, breeding bird surveys consisted of ten-minute point counts that were used to establish quantitative estimates of bird abundance, species presence, and breeding activity in the various habitat types within the property. Three survey locations were surveyed on June 3, 2022, and June 27, 2022 (Figure 2). Bird survey data is presented in Appendix D.

3.2.3 Amphibian Call Surveys

Amphibian breeding habitat was assessed using auditory surveys that followed the Marsh Monitoring Program Participant's Handbook for Surveying Amphibians (Bird Studies Canada, 2008). According to this protocol, surveys are to be conducted between the months of April and July, at least 15 days apart, to detect species during their 'optimum' breeding window, including early breeders (*i.e.* Chorus Frog, Spring Peeper, and Wood Frog), mid-season breeding (*i.e.*, American Toad, Northern Leopard Frog, and Pickerel Frog), and late-season breeders (*i.e.*, Bullfrog, Mink Frog, and Gray Treefrog). Weather conditions were also taken into consideration for each survey; surveys were not performed during periods of rain and high winds.

One amphibian call survey station was established and surveyed at the edge of the southern wetlands (Figure 2). The calling activity and approximate location of individuals estimated to be within 100 m of the monitoring station were 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 can be found in Table 2, Section 4.2.

3.2.4 Bat Habitat Assessment and Acoustic Survey

Snag density surveys are of importance in the identification of potential bat maternity roost habitat. Protocol followed Technical Note Species at Risk Bats (MNRF, 2015) survey methodology which is largely based on Appendix A: Methods for Evaluating Bat Significant Wildlife Habitat (MNR, 2011). The bat snag density survey was conducted in random plots across the property within the forested community. The



survey took place December 13, 2022, while the forest was in a leaf-off condition so view of tree cavities and crevices was not obscured by foliage. All trees with a Diameter at Breast Height ('DBH') of ≥ 25 cm were identified within the surveyed plots. Information related to the species of tree, DBH, decay class, presence of snag features (*i.e.*, loose bark, cavities, cracks) and location of snags was recorded for each tree. Snag density was then calculated to determine number of snags per hectare.

Acoustic surveys were conducted in June 2022 following the completion of the snag density survey and habitat assessment within the forest community of the property. Passive acoustic monitoring is a widely used and accepted method of detecting the presence of bats within a specific area. In addition, identification of species and time of activity can assist biologists in determining what function an area is providing for various bat species, including foraging, movement corridors, and roosting. These methods are largely based on the Survey Protocol for SAR Bats within Treed Habitats (MECP, 2022), with some modifications given site conditions (*e.g.*, small habitat ELC units) and study objectives.

Birks NHC Ecologists deployed three (3) Wildlife Acoustic Song Meter SM4Bat FS Bat Bioacoustic Recorders within the property from June 1 to June 13, 2022, to record ultrasonic calls that would be produced by a bat using the area. The location of each Bat Acoustic Monitor was generally selected based on proximity to snag density plots with a higher relative number of composite snag trees, with the lowest amount of clutter possible and in consideration of anticipated future tree removals within the property. Given the size of the property and diversity of potential foraging habitat, effort was also made to capture areas that offered various foraging opportunities (*i.e.*, under canopy, open meadow marsh, forest openings, forest edges, corridors). Each Bat Acoustic Monitor was configured to begin recording 30 minutes before sunset and cease recording 30 minutes after sunrise. The location of each Bat Acoustic Monitor deployed can be found on Figure 2.

Wildlife Acoustics Kaleidoscope Pro 3 Analysis Software was used to process the sound files recorded during the sampling event. The Kaleidoscope program converted call data into individual files and was used to filter out false trigger noise such as rain and wind. Each file (or pass) which was confirmed as a bat call was automatically classified with species identification using the Kaleidoscope software's bat classifiers. Calls were then manually vetted by Birks NHC ecologists to confirm or change the bat classifier. A conservative approach was used in the manual vetting of the recorded call files; if it is too difficult to assign a species to a call file, then a larger category is assigned (classifier group), such as MYOTIS (meaning calls could be of *Myotis lucifugus*, *Myotis leibeei*, or *Myotis septentrionalis*), HighF (calls can be assigned to a high frequency calling species such as *Myotis lucifugus*, *Myotis septentrionalis*, *Perimyotis subflavus*, *Myotis leibeei*, or *Lasiurus borealis*), EPFULANO (call can be assigned to either *Eptesicus fuscus* or *Lasionycteris noctivagans*), or LowF (call can be assigned to *Eptesicus fuscus*, *Lasionycteris noctivagans*, or *Lasiurus cinereus*). All call files were categorized by 30-minute intervals starting at sunset and ending at sunrise.



3.2.5 General Wildlife Surveys

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

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

3.3 SPECIES AT RISK

The Species at Risk assessment included an analysis of the habitat requirements of Species at Risk reported to occur in the region to identify those having potential to occur within the Study Area. Birks NHC staff reviewed data obtained through desktop review and the site visits 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.

A Species at Risk Information request was submitted to the MECP Species at Risk Branch which is provided within Appendix E.

4 EXISTING CONDITIONS

4.1 VEGETATION COMMUNITIES AND PLANTS

The majority of the property is wooded with a mature Sugar Maple dominated forest community. The northern portion of the property is primarily a Scots Pine dominated woodland, with a small Red Oak Forest community (young) and a Black Locust community within the northwestern portion of the property.

Vegetation communities and their respective locations are illustrated on Figure 2. The vegetation communities that occur on the property are as follows:

- WOCM1: Dry – Fresh Scots Pine Coniferous Woodland
- FODM1-1: Dry – Fresh Red Oak Deciduous Forest
- FODM4-11: Dry-Fresh Black Locust Deciduous Forest
- FODM5-1: Dry – Fresh Sugar Maple Deciduous Forest
- SWTM1-1: Speckled Alder Mineral Deciduous Swamp

Appendix C provides a list of vascular plants documented by Birks NHC ecologists within the property during the 2022 surveys.



4.2 WILDLIFE HABITAT

4.2.1 Birds

A total of 26 bird species were recorded for the property during the field surveys (Appendix D). The majority of the species recorded are considered provincially and locally common, such as American Crow, Black-capped Chickadee, Ovenbird and Red-eyed Vireo. Eastern Wood-pewee (provincially listed as Special Concern) was recorded within the Sugar Maple Forest during both breeding bird surveys and as an incidental observation during the June vegetation inventory site visit. See Section 5.5 for further discussion regarding Special Concern species.

Species more representative of forest, forest edge, and open woodland habitats were observed within the northern portion of the property including American Goldfinch, Cedar Waxwing, Blue Jay, American Crow, Chipping Sparrow, European Starling, and House Wren.

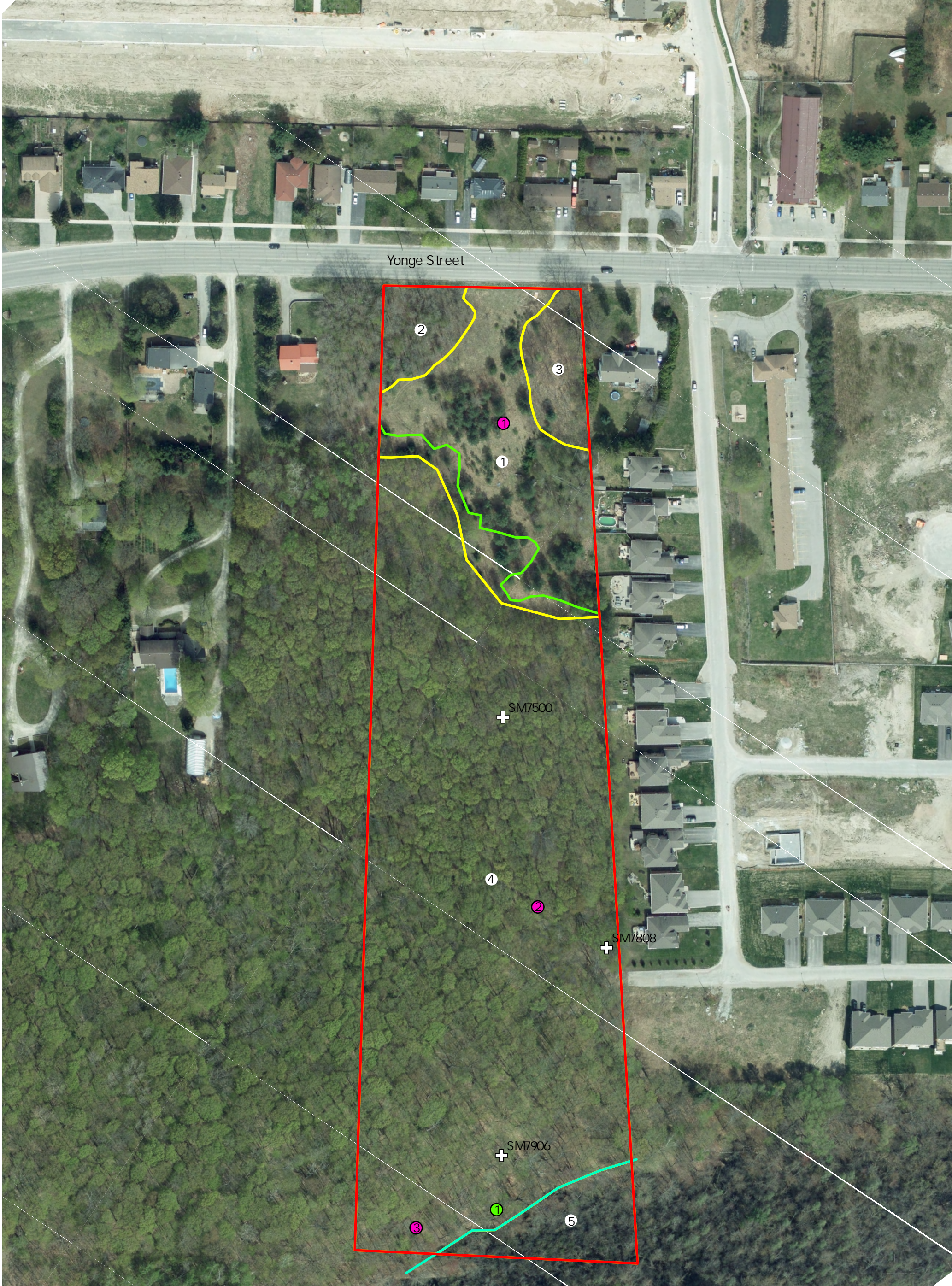
4.2.2 Mammals

Typical mammals observed in central-northern Ontario woodlands and developed areas are expected to utilize the habitats within the Study Area. These include Eastern Chipmunk, Red Squirrel, Raccoon, White-tailed Deer, and small rodents. Birks NHC ecologists observed individuals of Gray Squirrel and Eastern Cottontail on site. Based on available background information from LIO (MNRF, 2022), no deer wintering habitat has been mapped within the Study Area.

Given that the woodlands present within the Study Area contain standing mature trees with features such as cavities and crevices, it is also possible that bat species utilize the habitats present within and adjacent to the property. Acoustic recorders confirmed the presence of bat species (Big Brown Bat/Silver-haired Bat, Hoary Bat, Eastern Red Bat, and *Myotis* species) within the Sugar Maple Forest community.

4.2.3 Amphibians and Reptiles

No aquatic habitats for amphibian breeding were present within the Study Area. Given the habitats, species range maps, and observations in the area (Ontario Nature, 2023, atlas square 17NK85), the following reptiles could be potentially found in the Study Area: Eastern Gartersnake, Dekay's Brownsnake, and Snapping Turtle.



983 Yonge Street

Town of Midland

- Property Limits
- Wetland Limit (Birks NHC)
- Woodland Limit (Birks NHC)

- Vegetation Communities**
- 1 WOCM1: Dry - Fresh Scots Pine Coniferous Woodland
 - 2 FODM4- 1t: Dry - Fresh Black Locust Deciduous Forest
 - 3 FODM1- 1t: Dry - Fresh Red Oak Deciduous Forest (Young)
 - 4 FODM5- 1t: Dry - Fresh Sugar Maple Deciduous Forest
 - 5 SWTM1- 1 Speckled Alder Mineral Deciduous Thicket Swamp

- Survey Locations**
- + Bat Acoustic Monitor
 - Amphibian Calling
 - Breeding Bird Survey Station

Figure 2
Existing Conditions & Survey
Station Locations



M&P DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA
M&P CREATED BY: SB
M&P CHECKED BY: BB
M&P PROJECTION: NAD 1983 UTM ZONE 17N



0 5 10 20 30 40 Meters

FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\983YongeMidland
PROJECT: 04-042-2021 STATUS: DRAFT DATE: 17/10/2023



5 NATURAL HERITAGE FEATURES AND FUNCTIONS

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

5.1 PROVINCIALY SIGNIFICANT WETLAND

Wetland communities along the outer edges of Little Lake consisting of Midland Little Lake PSW are present on the south-eastern most corner of the property (Figure 1) and have been characterized as SWTM1-1 Speckled Alder Mineral Deciduous Thicket Swamp (Figure 2). The Little Lake PSW was evaluated in 2007 by the SSEA on behalf of the Town of Midland, following the 3rd Edition Ontario Wetland Evaluation System Southern Manual. According to the evaluation, the Midland Little Lake PSW contains two distinct wetland types: swamp and marsh, with wetland dominated by open water marsh occurring around the periphery of the lake (SSEA, 2007). A large portion of Midland Little Lake PSW is owned by the Town of Midland.

SSEA Biologist Michelle Hudolin was present with Birks NHC Ecologists while undertaking the wetland delineation on the property.

5.2 OTHER WETLANDS

Background mapping identifies the presence of un-evaluated wetlands within the property and Study Area (Figure 1). Field surveys conducted as part of this EIS has refined any wetland limits within the property as illustrated on Figure 2. Wetland habitat mapped within the property is considered to be part of the Midland Little Lake PSW wetland complex.

5.3 SIGNIFICANT WOODLANDS

The significance of the woodland feature in the Study Area was assessed by Birks NHC according to the Natural Heritage Reference Manual (MNR, 2010, Section 7.3.1, Table 7-1). The assessment table is provided as Appendix F of this report. The woodland feature is part of a continuous woodland that extends beyond the property to the west and south (Appendix F). The total area of the woodland was measured to be approximately 45.8 ha.

A Natural Heritage System Review for the Town of Midland (SSEA, 2009) determined that woodlands within the property (*i.e.*, Sugar Maple Forest community) contribute to locally significant woodlands, based on size (woodland patch greater than 2 ha in size within settlement area). The Black Locust Forest community at the north-western corner of the property is included in the document's mapping as a local woodland patch within a settlement area – not locally significant.

According to the Natural Heritage Reference Manual woodland size criteria (MNR, 2010), this woodland feature would not be considered provincially significant as it is smaller than the required 50 ha required



to meet this criterion. Further, the woodland feature would not be considered provincially significant based on lack of interior habitat, does not provide linkage between two other natural heritage features, does not contain a unique species composition, age or structure, and is not understood to provide high economic or social values. Notwithstanding, this woodland feature does meet other provincial criteria to be considered candidate significant, including *Proximity to Other Woodlands or Other Habitats* and *Water Protection*. Therefore, any potential ecological impacts to the woodland feature will be evaluated for those two criteria. Notwithstanding, it remains the responsibility of the municipality to assign a woodland as 'Significant'. Therefore, for our purposes, the woodland will be considered 'candidate Significant Woodland' given it meets some criteria set out within the Natural Heritage Reference Manual (MNR, 2010).

The limit of locally significant woodland within the property limits was delineated in the field by Birks NHC Ecologists and confirmed by SSEA Biologist Michelle Hudolin as shown on Figure 2.

5.4 SIGNIFICANT VALLEYLANDS

Similar to Significant Woodlands, the PPS protects Significant Valleylands south and east of the Canadian Shield. In highly urbanized or fragmented landscapes, such as in southern Ontario, valleylands may constitute the only remaining natural areas within the planning area and are often considered essential for establishing connectivity within a natural heritage system. As per Section 2.1.5 of the PPS, 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 Significant Valleylands in Ecoregions 6E and 7E, or on adjacent lands. No Significant Valleylands are mapped within the Study Area nor does the landscape suggest that Significant Valleylands need to be considered further.

5.5 SIGNIFICANT WILDLIFE HABITAT

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015) document was reviewed as part of this study to determine whether any portions of the Study Area would meet the criteria for candidate 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 ecologists. The full SWH assessment table is included as Appendix G of this report. The following presents those SWH functions potentially occurring within the Study Area:

- Bat Maternity Colonies – Study Area woodlands
- Reptile Hibernaculum – Study Area woodlands
- Waterfowl Nesting Area – Study Area woodlands
- Woodland Area-Sensitive Breeding Bird Habitat – Study Area woodlands
- Waterfowl Stopover and Staging Areas (Aquatic) – outside property (Little Lake)
- Turtle Wintering Areas – outside property (Little Lake)
- Marsh Breeding Bird Habitat – associated with Little Lake
- Special Concern and Rare Wildlife Species – Eastern Wood-pewee (confirmed), Snapping Turtle (potential)



5.5.1 Bat Maternity Colonies

Bat Maternity Colonies for Silver-haired Bat and Big Brown Bat are identified as candidate SWH because known locations of forested bat maternity colonies are extremely rare in Ontario. According to Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015), maternity colonies located in mature deciduous or mixed forest stands with more than 10 large diameter (greater than 25 cm dbh) wildlife trees per hectare are candidates for SWH designation.

The woodlands associated with the Study Area contain standing dead and dying mature trees with suitable bat roosting features. Onsite bat roosting habitat was assessed by Birks NHC ecologists which involved documenting details regarding potential suitable bat roosting 'snag' trees. The snag tree survey was conducted in plots within the Sugar Maple Forest community (Appendix H). Results of the assessment and detailed survey information are provided in Appendix H. A total of 157 trees greater than 25 cm dbh were identified within the survey plots, with 95 of those trees containing snag features (*i.e.*, dead limbs/branches, loose bark, crevices, holes) and 31 of those being 'high quality' candidate roost trees (in early stages of decay [decay class 1-3] and cavity or crevice high in tree [>10 m]). This results in 52 high quality candidate roost trees per hectare. 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. Therefore, high quality potential bat roosting habitat is present within the Sugar Maple Forest community.

Bat acoustic surveys completed for the property involved the deployment of three (3) Wildlife Acoustic Song Meter SM4Bat FS Bat Bioacoustic Recorders within the property from June 1 to June 13, 2022, to record ultrasonic calls that would be produced by a bat using the area. Analysis of the resulting data identified the presence of EPFULANO (call can be assigned to either *Eptesicus fuscus* or *Lasionycteris noctivagans*) at all three recorders (Appendix H). SM4 7808 recorded the highest level of calls with a total of 345 EPFULANO passes recorded, representing an average of 26 passes per night at this location. The other recorders, SM4 7500 and SM4 7906 documented lower activity levels, with 119 and 146 passes recorded, respectively.

On average, 47 EPFULANO bat passes per night were recorded for the entire property. This is considered relatively low activity and is representative of candidate bat day roosting habitat, rather than a maternity colony. Furthermore, SM4 7808 was placed in an area intended to record movement activity along the forest edge which supports the higher activity levels of the three recorders. Therefore, data collected for the property does not indicate the presence of a maternity colony for Big Brown Bat and Silver-haired Bat.

5.5.2 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 get below ground deep enough so they will not freeze. 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, particularly in the woodlands where reptiles may gain access to areas below the frost line through tree root systems.

5.5.3 Waterfowl Nesting Area

Waterfowl species listed in this SWH category nest in upland habitats located near marshes and other wetlands, ponds, and lakes. Upland habitat adjacent to the wetland should be wide enough so that predators have difficulty locating nests (MNR, 2015). Upland forested habitats of sufficient width (120 m) are present in the Study Area adjacent to wetland communities along the outer edges of Little Lake consisting of Midland Little Lake PSW. The Sugar Maple Forest community within the property contained cavity trees which could be utilized by waterfowl as cavity nest sites. While those upland habitats may contain candidate habitat for waterfowl nesting; none of listed species were recorded during site surveys. Nesting activity for the listed waterfowl species was not documented within the property during the completion of field surveys. Therefore, it is not expected that the property provides this SWH function.

5.5.4 Woodland Area-Sensitive Bird Breeding Habitat

Woodland Area-Sensitive Breeding Bird Habitat generally requires that large mature trees, typically greater than 60 years in age, are present in contiguous forest communities with interior forest habitat at least 200 m from the forest edge. The woodland feature was measured at approximately 46 ha in size, with no interior habitat at 200 m from forest edge. Two of the species listed in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, 2015) as area-sensitive birds were recorded in the Study Area (Veery and Ovenbird) at a location in the southern portion of the property (Appendix D). The two species were documented once during the June 3, 2022, dawn breeding bird survey and therefore only possible breeding has been assigned to this observation. Notwithstanding, woodland area-sensitive birds are present in the area, and it can be assumed that this SWH function can be associated with surrounding forested lands associated with the Study Area.

5.5.5 Waterfowl Stopover and Staging Areas (Aquatic)

Waterfowl stopover and staging areas are important for local and migrant waterfowl populations. During spring and fall migration, waterfowl require habitat that supplies adequate food, resting areas and cover. Migrating waterfowl typically prefer larger wetlands, especially those beside larger bodies of water such as lakes. Waterfowl also congregate in large flocks prior to fall migration, where up to a few hundred ducks move between feeding ponds and a large night roosting pond (MNR, 2000). 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 (MNR, 2015). Suitable habitats are not present within the property to function as Waterfowl Stopover and Staging Areas (Aquatic) SWH, and the listed species were not documented during the various field surveys. However, for the purpose of this assessment,



this SWH function is being considered further as Little Lake it is mapped by MNRF 'Waterfowl Staging or Migration Stopover Area' (source NHIC, MNRF, 2023).

5.5.6 Turtle Wintering Areas

For most turtles, overwintering occurs in the same general area as their core habitat. The water must also be deep enough not to freeze and have soft mud substrates. The Midland Little Lake PSW contains suitable habitat with permanent water conditions of suitable depths that could support turtle overwintering. No Midland Painted or Map Turtles were documented to occur within the property limits during the various field surveys in 2021 and 2022. Notwithstanding, potential remains for this function to occur given the challenging nature associated with surveying for turtles.

5.5.7 Marsh Breeding Bird Habitat

This SWH type refers to species that nest in marshes, fens or bogs. For Green Heron, habitat is at the edge of water sheltered by shrubs and trees. According to the SWH Criteria Schedules for Ecoregion 6E (MNRF, 2015), all wetland habitat is to be considered if there is shallow water with emergent aquatic vegetation. Therefore, the wetlands along the edges of Little Lake within the Study Area were considered potential Marsh Breeding Bird Habitat. One Green Heron was recorded in the Study Area during Birks NHC surveys; no evidence of breeding was recorded.

5.5.8 Special Concern and Rare Wildlife Species

Habitat for all Special Concern and provincially Rare (S1-S3, SH) plant and animal species is considered SWH. The following Special Concern and provincially rare wildlife species were identified as confirmed or potentially occurring within the Study Area:

Eastern Wood-pewee (Special Concern)

The Eastern Wood-pewee is a small forest bird that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-aged forest stands with little understory vegetation (MECP, 2021). Eastern Wood-pewee was recorded within the Sugar Maple Forest community during both dawn breeding bird surveys, and therefore probable breeding has been assigned to this observation for one breeding pair at survey station 2 (Figure 2).

Snapping Turtle (Special Concern)

The Snapping Turtle occurs in almost any freshwater habitat including small wetlands, ponds, and ditches. This species is known within the area and has recent occurrences recorded in the survey grid squares which encompasses the Study Area (NHIC square 17NK8754; Ontario Reptile and Amphibian Atlas square 17NK85). Snapping Turtles have the potential to utilize the lake, and adjacent wetlands present within the Study Area.

5.6 AREAS OF NATURAL AND SCIENTIFIC INTEREST

No Areas of Natural and Scientific Interest are located within the Study Area.



5.7 FISH AND FISH HABITAT

The shores of Little Lake are present approximately 85 m to the southeast of the property limits which provides direct fish habitat for various warm water fish species, including Rock Bass, Northern Pike, Largemouth Bass, and Black Crappie. Various invasive species have been documented within the lake, representative of an urban water system, with Eurasian Water-milfoil, Phragmites, Starry Stonewort, and Purple Loosestrife all documented within Little Lake (SSEA, 2023).

5.8 HABITAT OF THREATENED AND ENDANGERED SPECIES

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

5.8.1 Endangered Bat Species

Eight species of bats live in Ontario, four of which are provincially listed as Endangered (Tri-colored Bat, Northern Myotis, Little Brown Myotis, Eastern Small-footed Myotis), with three additional species to be listed as Endangered in Ontario by January 2025 (Eastern Red Bat, Hoary Bat, and Silver-haired Bat). The main threats to populations of these bat species are wind energy turbines (for migratory bat species), White Nose Syndrome (a fungal disease), and loss of forested roosting habitats.

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

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

Among the four currently listed Endangered bat species, three (3) are known to form maternity roosting colonies in forest habitats: Little Brown Myotis, Northern Myotis, and Tri-colored Bat. Evidence has shown that Little Brown Myotis and Northern Myotis tend to utilize crevices and holes in tree snags and old buildings, while Tri-colored Bat roosts in tree leaves and needles (R.W. Watt & Caceres, 1999). Additional studies on the foraging habits of Ontario bat species found that proximity to water and hibernacula were also factors in the presence of *Myotis* sp. (Furlong, Deward, & Fenton, 1986). The summer activities of Eastern Small-footed Myotis are poorly understood, but it is thought to primarily roost in open, sunny rocky habitats, including cracks and crevices in cliffs and boulders, in talus slopes, beneath stones on rock barrens and in rocky outcrops containing crevices; they have also occasionally



been found in buildings. The Study Area does not contain any type of rocky habitat or cliffs/slopes and there are no known hibernacula sites in vicinity to the property or the Study Area. Therefore, this area is not considered suitable habitat for the Eastern Small-footed Myotis. Bat acoustic monitoring did not identify the presence of Eastern Small-footed Myotis (Appendix H).

Acoustic monitoring surveys confirmed the presence of Little brown Myotis, as well as *Myotis sp.* which may or may not include Northern Myotis (Appendix H). SM4Bat 7906 recorded the highest number of *Myotis sp.* with a total of 441 passes, which represents approximately 34 bat passes per night on average. Activity levels at this location were generally constant throughout the night, with a slight increase in activity during the 21:30-22:00 30-minute window with 90 bat passes recorded during the entire 13-days survey period, which represents approximately 7 bat passes per night on average during this time window. The relatively increased activity observed at this location is likely due to the proximity to the Little Lake PSW habitat, which is expected to provide suitable foraging conditions with an abundance of flying insects and open conditions. In past and recent experience monitoring known bat maternity colonies, Birks NHC Ecologists recorded a high number of *Myotis sp.* passes with averages of 150-300 bat passes per night, with a significant increased activity recorded during the sunset and sunrise 30-minute intervals which would suggest bats exiting a roost to forage and returning prior to sunrise. Therefore, the acoustic data collected for this property does not suggest the presence of a bat maternity colony for *Myotis sp.* Notwithstanding, day roosting for non-reproductive individuals may be occurring within the Study Area.

Eastern Red Bat, Hoary Bat, and Silver-haired Bat

As discussed, three additional bat species have been assessed by COSSARO as Endangered: Eastern Red Bat, Hoary Bat, and Silver-haired Bat. As of January 2025, the three species will be afforded protection under the ESA and are therefore considered within this report.

Hoary Bats and Eastern Red Bats typically roost among the foliage of trees and occasionally shrubs. Trees used as maternity roosts by Hoary Bats and Eastern Red Bats tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. Roosting by Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available.

None of these species are documented to form maternity colonies. They roost alone, or with their pups. Individuals of all three species migrate from summer to winter areas and then hibernate. Relatively little is known about migration and hibernation. Both Eastern Red Bats and Hoary Bats overwinter in the southern United States, but their migration routes are not well documented. Due to their migratory behaviour, wind energy development has been reported as the greatest threat to all three species (COSEWIC 2023).



A small number (3 total passes) of Eastern Red Bats were recorded at two of the three monitoring locations (Appendix H). A total of 119 passes were recorded for Hoary Bat, with the highest at SMBat 7808 (96 passes).

As discussed in Section 5.5.1, on average, 47 EPFULANO bat passes per night were recorded for the entire property. The low activity indicates that it is unlikely that the woodland on the property supports a high number of roosting bats for those migratory species.

5.8.2 Blanding's Turtle

Blanding's Turtle (*Emydoidea blandingii*) has been reported by both the ORAA and the NHIC in atlas survey squares that encompass the Study Area and has been confirmed through consultation with the MECP (Appendix E). This species of turtle can be found in shallow waters of lakes, ponds and wetlands with clean water and mucky, soft bottom substrates. Blanding's Turtles are also known for their movements over land, travelling up to several km to nesting and overwintering sites. Habitat categorization for Blanding's Turtle under the ESA identifies the following (MECP, 2019):

- Category 1: Nest or overwintering sites and the area within 30 m;
- Category 2: The wetland complex and the area within 30 m of those suitable wetlands or waterbodies;
- Category 3 (highest tolerance to alteration): Area between 30 m and 250 m around suitable habitat wetlands/waterbodies identified in Category 2 (movement corridors).

Due to the presence of suitable habitat within the Study Area, and the presence of known records in the general area, consideration for the presence of Blanding's Turtle is warranted. Portions of the Midland Little Lake PSW that are within the property limits and Study Area are characterized as swamp thicket (SWTM1-1) wetland communities with standing water observed throughout the year. Therefore, it is expected that this type of wetland habitat would provide suitable overwintering conditions for the species and for the purposes of this study will be considered to be 'Category 2' habitat as defined above. The 30 m lands that are within the FODM5-1 forest community are also considered Category 2 habitat and may function as summer aestivation habitat. Category 3 habitat would extend further into the FODM5-1 community and may function as movement corridors.

5.9 NATURAL HERITAGE FEATURES AND FUNCTIONS SUMMARY

The results of the site visits, review of background information and analysis indicate both confirmed and candidate natural heritage features and functions to be associated within the Study Area. Our impact assessment will consider potential impacts only to features and functions summarized in Table 2 below.



Table 2: Natural Heritage Features and Functions Summary

Natural Heritage Feature and/or Function	Within Property Limits	Within 120m Study Area	Actions Required
Provincially Significant Wetland	Little Lake PSW Complex	Little Lake PSW Complex	Further evaluation is required for potential impacts.
Other Wetland	None	None	No further evaluation is required.
Significant Woodlands	Locally significant woodlands as designated within the Natural Heritage System Review for the Town of Midland (SSEA, 2009)		Further evaluation is required for potential impacts.
Significant Valleylands	None	None	No further evaluation is required.
Significant Wildlife Habitat	<p><u>Potential:</u></p> <ul style="list-style-type: none"> • Reptile Hibernaculum • Woodland Area-Sensitive Bird Breeding Habitat • Turtle Wintering Areas • Marsh Breeding Bird Habitat • Special Concern and Rare Wildlife Species – Snapping Turtle <p><u>Confirmed:</u> Special Concern and Rare Wildlife Species - Eastern Wood-pewee</p>	<p><u>Potential:</u></p> <ul style="list-style-type: none"> • Bat Maternity Colonies • Reptile Hibernaculum • Waterfowl Nesting Area • Woodland Area-Sensitive Bird Breeding Habitat • Waterfowl Stopover and Staging Areas (Aquatic) • Turtle Wintering Areas • Marsh Breeding Bird Habitat • Special Concern and Rare Wildlife Species (Snapping Turtle, Eastern Wood-pewee) 	Further evaluation is required for potential impacts.
Provincial Areas of Natural and Scientific Interest	None	None	No further evaluation is required.
Fish Habitat	None	Little Lake – Direct Fish Habitat	Further evaluation is required for potential impacts.
Habitat of Threatened or	<u>Confirmed:</u> Endangered bat species (day roosting)	<u>Confirmed:</u> Blanding’s Turtle	Further evaluation is required for potential impacts.



Table 2: Natural Heritage Features and Functions Summary

Natural Heritage Feature and/or Function	Within Property Limits	Within 120m Study Area	Actions Required
Endangered Species	<u>Potential:</u> Blanding’s Turtle	<u>Potential:</u> Endangered bat species	

6 IMPACT ASSESSMENT

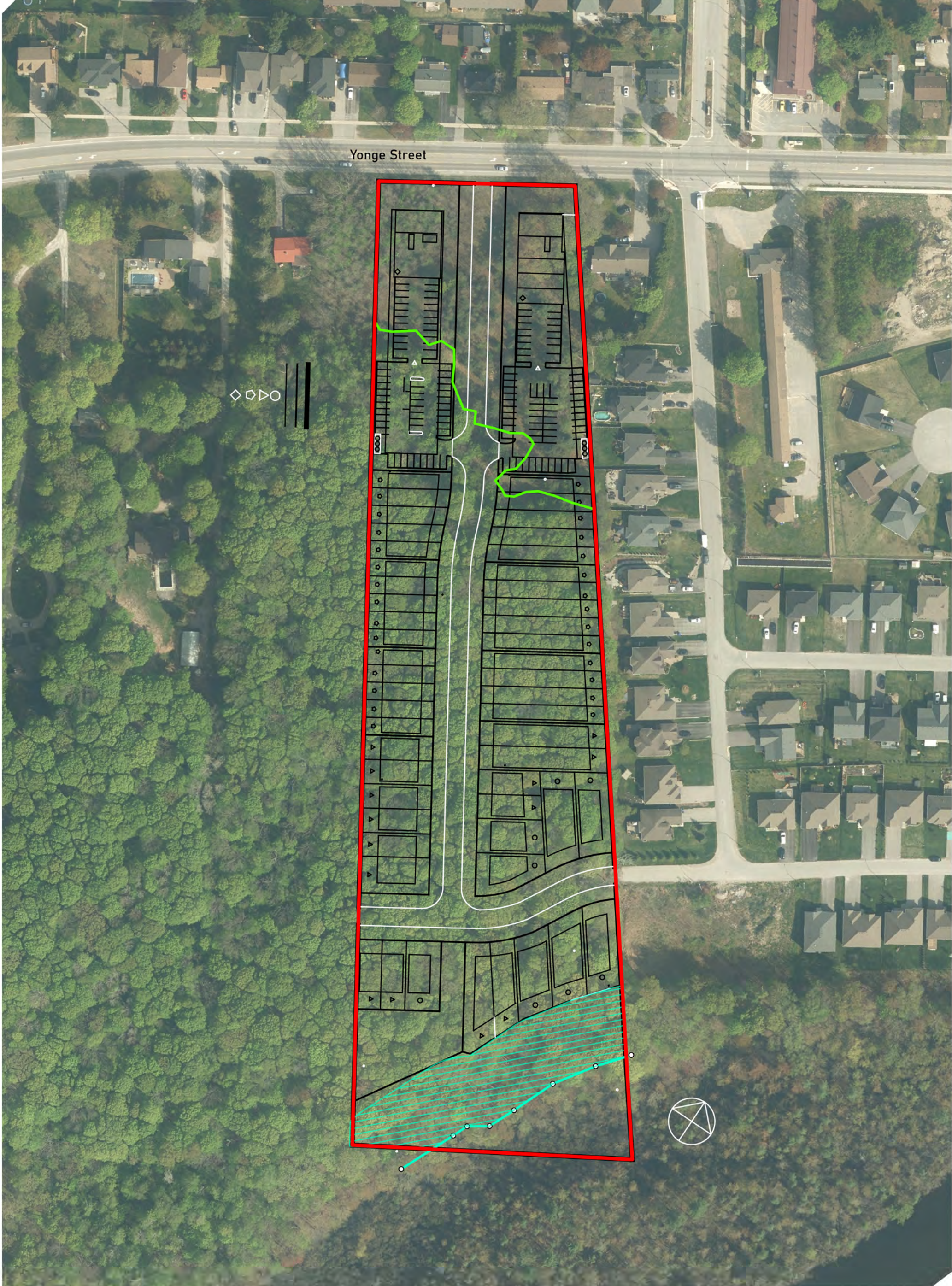
The intent of this study is to identify natural heritage features and functions associated with the Study Area and determine if potential ecological impacts could result from the proposed residential subdivision. Impacts are evaluated based on the current knowledge of the property and data collected in 2021 and 2022 by Birks NHC ecologists. These are considered in the context of the proposed activity.

6.1 DEVELOPMENT PLAN

The proposed development involves the construction of two 3-story apartment buildings, parking spaces, and on street apartments within the northern portion of the property. The southern portion of the property is proposed to be developed as street townhouses, semidetached dwelling units, and detached dwelling units to be accessed from Yonge Street through the northern lot (Figure 3). Access will be provided via Yonge Street as well as via the extension of Russ Howard Drive. A stormwater management plan has been developed as part of this application to address potential adverse impacts the development may have on the local surface water features, surface water quality and groundwater conditions (Tatham 2024).

No development or site alteration is proposed within the Midland Little Lake PSW. A 30m setback to the wetland is proposed. The Site Plan is presented in Figure 3.

At this time, it is our understanding that the EIS is being prepared for the submission of both an Official Plan and Zoning By-law Amendment.



983 Yonge Street

Town of Midland

- Property Limits
- Wetland Limit (Birks NHC)
- ▨ 30m Wetland Setback
- Wetland Delineation GPS Points (Birks NHC)

Figure 3:
Proposed Site Plan



MAP DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA
MAP CREATED BY: HM
MAP CHECKED BY: BB
MAP PROJECTION: NAD 1983 UTM ZONE 17N



0 5 10 20 30 40 Meters

FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\983YongeMidland

PROJECT: 04-042-2021 STATUS: DRAFT DATE: 28/08/2024



6.2 DIRECT IMPACTS

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

6.2.1 Tree and Vegetation Removals within Locally Significant Woodland

Vegetation removals would be required for the residential development which would result in the loss of woodland habitat within the property, including the FODM5-1, FODM4-11, FODM1-1, and WOCM1 vegetation communities. Of those communities, the FODM5-1 and portions of the WOCM1 form part of the mapped contiguous significant woodland feature determined to be locally significant. In total, 2.6 ha of the FODM5-1 and 0.13 ha of the WOCM1 are proposed for removal. These proposed tree removals within the property would constitute 6% of the 45.8 ha woodland feature. The swamp wetlands within the PSW will be preserved, as well as a naturalized 30 m setback to the PSW limit (Figure 3).

A Natural Heritage System Review for the Town of Midland (SSEA, 2009) determined that woodlands present within the property contribute to locally significant woodlands, based on size (woodland patch greater than 2 ha in size within settlement area). With the proposed development, the contiguous woodland feature would continue to meet the local size criteria for significant woodland within a settlement area and would maintain woodland cover within/adjacent to a wetland.

The Natural Heritage Reference Manual was reviewed to determine whether the contiguous woodland feature meets certain provincial criteria to be considered candidate significant woodland. Of those criteria, this woodland feature was determined to meet both the (1) water protection and (2) proximity to other habitats, and wildlife habitat criteria.

The loss of 2.73 ha of woodland habitat is not expected to result in any changes to the contiguous woodland feature's contribution to groundwater recharge. It is our understanding that a stormwater management plan will be completed as part of this application. The stormwater management plan should consider the existing conditions of the property and current functions associated with groundwater contribution. Mitigation measures such as the use of Low Impact Development (LID) practices should be employed which will ensure the property can continue to allow infiltration of stormwater into the soil, where it can be filtered and/or absorbed by plants. Examples of LIDs include the use of bioswales, rain gardens, infiltration trenches, permeable pavement, and rainwater harvesting.

As discussed, a 30 m natural setback will be applied to the limits of the wetland (Figure 3). This setback is expected to be sufficient in maintaining the ecological contribution of the woodland to the overall wetland habitat and associated wildlife habitat functions. This setback will provide erosion and sedimentation control, remove excess nutrients from surface runoff, and provide food, cover, travel corridors and breeding areas for wildlife.



The loss of 2.73 ha of woodland habitat within the Town of Midland does not constitute a significant loss. Notwithstanding, given the native composition, maturity, and wildlife function identified within the property, ecological offsetting for this loss is recommended to occur within the watershed or within areas mapped to be within the contiguous woodland and adjacent lands. The location and approach of the offsetting will be established and determined during the future stages of the application. This could include the creation of new woodland habitat through plantings, the enhancement of existing woodland habitat through the removal of invasive species, and/or a monetary contribution to a local organization that undertakes ecological services in the Town of Midland or Simcoe County area.

6.2.2 Erosion and Sedimentation into Natural Heritage Features

Construction activities can increase the availability of sediment for erosion and transport by surface drainage. In order to mitigate the adverse environmental impacts caused by the release of sediment-laden runoff into receiving natural communities, measures for erosion and sediment control are required for construction sites. As discussed, the establishment of a natural 30 m setback to the wetland will provide erosion and sedimentation control and remove excess nutrients from surface runoff. A sediment and erosion control plan should be completed specifically for this property and development plan.

Any potential direct impacts to natural habitats in the area, such as woodlands and wetlands, which could result from sedimentation can be mitigated through the application of erosion and sediment controls along the edges of the proposed soil disturbances. Erosion and sediment control measures are recommended to be implemented prior to and during the development and maintained until the disturbed areas of the site have been stabilized.

The property contains woodland habitat that is contiguous within the abutting lands. Tree and woodland removals within the property could result in impacts to the adjacent woodland via the creation of new forest edge habitats. Unintentional impacts to adjacent woodlands, specifically trees and shrubs, may occur as the property is cleared and developed. Changes in grade to accommodate the development plan has the potential to result in physical injury to adjacent trees, root cutting, and compaction of the soil in the tree root zones. These potential impacts to adjacent woodlands can be mitigated through the completion of a Tree Protection Plan by a certified Arborist.

6.2.3 Changes to the Hydrology/Water Quality Entering Sensitive Features

Alteration of land use may influence surface water run-off and water quality entering the wetland and features present within the Study Area. As previously mentioned, existing wetland communities would remain with a 30 m setback to protect the wetland feature from the impacts of the proposed change. Lot level water quality controls such as limiting lot coverage with hard surfaces, avoiding inappropriate disposal of deleterious substances (oil, gas, paint, *etc.*) and ensuring successful operation of wastewater



removal can further limit the potential for contaminated water to enter adjacent retained natural features.

A preliminary water budget assessment was undertaken by Tatham Engineering (Tatham 2024). The assessment concludes that the annual infiltration is estimated to decrease by 6,239 m³ under the proposed conditions without mitigation. Therefore, mitigation measures to reduce this deficit will be implemented via a proposed infiltration cell also acting as a Low Impact Development (LID) to provide quality control. With the proposed LID configuration, infiltration is anticipated to increase by 5,224 m³ annually compared with existing conditions (Tatham 2024).

A preliminary stormwater management plan has been undertaken by Tatham Engineering which incorporates a 4.5 m wide vegetated channel to convey the 1:100-year storm event flows through the parkette block at an approximate depth of 0.17 m, consistent with the depth of flow across the weir entering the block. This drainage will be conveyed to the proposed infiltration cell via continuation of the channel through the parkette block with a rip rap or similar erosion resistant material within the channel slope entering the infiltration cell. Finally, a sediment erosion control plan has been developed for the property (Tatham 2024) which will mitigate impacts to Little Lake PSW.

Therefore, through the use of appropriate sediment erosion control measures during construction stages, and LID measures, no direct impacts are expected to occur to the wetlands within adjacent lands provided the SWM design and mitigation measures are applied accordingly.

6.2.4 Disturbance to Wildlife and Wildlife Habitat

Typical wildlife species observed in settlement areas utilize the habitat within the Study Area. Woodland habitat within the Study Area may also function as SWH for bat maternity colonies, reptile hibernaculum, woodland area-sensitive breeding bird habitat and is confirmed Special Concern wildlife habitat for Eastern Wood-pewee, and Endangered bat habitat. Habitat features required for those SWH functions would include forested habitats, forest edge, and the snag and cavity trees contained within. The development, as proposed, would remove approximately 2.6 ha of Sugar Maple dominated forest which contains these habitat features. The remaining contiguous woodland feature measured at 45.8 ha, however, is expected to maintain current ecological functions and wildlife habitat features post-development (*i.e.*, forested habitat, snag/cavity trees). A naturalized 30 m setback to the PSW has also been applied to the wetland limits to provide a buffer to wildlife and habitats contained within the wetlands and adjacent Little Lake. It is expected that wildlife would continue to access and utilize adjacent natural habitats to the south and west of the development, given that the adjacent lands along Yonge Street and to the east have already experienced impacts from human presence.

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



6.2.5 Loss of Species at Risk Habitat and Incidental Harm

Endangered Bat Species

Acoustic recorders confirmed the presence of bat species within the Sugar Maple Forest community, including species designated as Endangered (*i.e.*, *Myotis* and migratory). Further, the onsite bat roosting habitat assessment results indicated that high quality potential bat roosting habitat is present within the Sugar Maple Forest community.

The site plan involves tree removals within the Sugar Maple Forest. As discussed within sections above, the acoustic data collected for this project does not suggest the presence of a bat maternity colony, for those species that form maternity colonies, nor does it indicate that the property supports a high number of migratory bat species within the property. Notwithstanding, day roosting for non-reproductive individuals may be occurring within the Study Area. The loss of day roosting habitat does not constitute a loss of key habitat for *Myotis* species. Day roosting habitat is not a limiting factor for the species and is prominently available throughout the Town of Midland and larger Simcoe County landscapes, including anthropogenic structures and woodlands. The remaining 45.8 ha woodland will contribute to provide day roosting opportunities post-development.

Following the implementation of mitigation measures provided in Section 7 (such as timing windows for vegetation removal), it is unlikely that a bat would sustain incidental harm during course of the proposed activities.

Blanding's Turtle

As discussed, Blanding's Turtle has been reported by both the ORAA and the NHIC in atlas survey squares that encompass the Study Area. The wetland habitats within the property and adjacent Midland Little Lake PSW are expected to provide suitable overwintering habitat. Furthermore, the adjacent 30 m lands may provide habitat for movement corridor and summer aestivation.

Habitat categorization for Blanding's Turtle under the ESA identifies Category 1 and Category 2 habitats as the area within 30 m of nest sites, overwintering sites, and the wetland complex/waterbody (MECP, 2019). The proposed development will be outside of the Category 2 habitat. Movement corridors for Blanding's Turtles (area between 30 m and 250 m around suitable habitat wetlands/waterbodies) are considered Category 3 habitat (highest tolerance to alteration; MECP, 2019). The 30 m setback will remain in natural state will continue to provide this movement corridor function to the species post-development. It is unlikely that any turtles would access other portions of the property beyond 30 m as the property does not provide linkage functions to other suitable habitats (*i.e.*, no nesting or overwintering habitats to the north of the wetland). Therefore, the proposed development is not expected to result in any contraventions to the ESA as it relates to Blanding's Turtle and associated habitat.



Mitigation measures are provided in Section 7 below to avoid accidental harm and contravention of the ESA.

6.3 INDIRECT IMPACTS

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

6.3.1 Anthropogenic Disturbance

Wildlife tolerance to human presence varies; while some species are highly tolerant and are common in developed areas (*i.e.*, Grey Squirrel, Raccoon), other species are more sensitive to human presence and disturbance. A residential development will bring increased human presence and associated anthropogenic disturbances in the form of increased noise and light, predation by pets, and supplemental feeding (*i.e.*, people depositing food for deer in the winter). These impacts would be more prominent when a new development is proposed in un-developed areas.

Increased noise and artificial lighting from a residential development may interfere with wildlife reproduction, movements and communications by interrupting breeding or alert calls, startling individuals, or causing accidental harm (*i.e.*, birds flying into windows). In addition, the increased presence of predators (cats and dogs) can have a negative impact on the local wildlife as well, with animals being injured or killed from outdoor pets that are not kept on a leash or within their yard.

These impacts would be more prominent when a new development is proposed in un-developed areas. The proposed development, however, is situated with a settlement area within the County of Simcoe, Town of Midland. The property is bordered by Yonge Street to the north and with residential properties to the north, east and west. Highway 93 is located approximately 335 m west of the property. Therefore, the proposed development would be in an area that has already experienced impacts from human presence. The proposed development, while it will result in an increase of human development and residence, is not expected to result in a significant intensification of indirect human impacts. It is recommended that access to retained natural areas outside of the lots be limited with permanent fencing along the lot boundaries.

6.3.2 Increased Potential for Invasive or 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, there is a number of exotic (non-native) species within the Area of Focus. It is recommended that a plan be created and implemented to control invasive species within the area. Management and control measures are provided in Section 7 below.



7 RECOMMENDATIONS AND MITIGATION MEASURES

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

7.1 SPECIES AT RISK

7.1.1 General

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

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

All current Threatened or Endangered species listed under O. Reg. 230/08 made under the ESA with an e-Law currency date of September 12, 2024, have been considered within this report.

7.1.2 Blanding's Turtle

To prevent accidental harm during the construction phases of the project, exclusion fencing for reptiles shall be installed along the limits of the 30 m wetland setback during winter dormancy (November 1 - April 30) and prior to any site alteration. Weekly inspection of the exclusion fence should occur during the spring breeding (May/June) and fall migration (September/October) seasons to ensure that the exclusion measures remain effective during the species' active periods. Consideration for seasonal variance when establishing inspection windows is pertinent. For the remainder of the species' active season (July/August) the fence should be inspected at regular intervals to ensure that it remains in good working condition.

7.1.3 Endangered Bats

Site alteration and vegetation removals should occur outside of the active roosting season for all bat species that may utilize the property. Therefore, tree cutting should be timed to occur between October 1 to March 31 and no cutting activity in forested areas should occur outside that period. This



will ensure that no bats actively roosting in trees will be accidentally killed or harmed as a result of clearing activities and tree removal will occur outside of the breeding bird timing window. If the work schedule requires that site alteration be completed during the active season, screening by an ecologist with knowledge of species present in the area should be undertaken to ensure that the risk of impacting Species at Risk has been evaluated and assumed to be low to non-existent.

7.2 MIGRATORY 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 Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html>)

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

7.3 OPERATIONS

7.3.1 Materials and Equipment

Development activities should be contained within the proposed development area. This area should be appropriately delineated prior to beginning grading and construction to ensure that no accidental deviation from the intended removals will occur.

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

Control of potentially contaminated materials (*i.e.*, fill, soil, gravel, excavated materials) moved by equipment during construction is recommended to prevent the spread of invasive plants. This would include inspection and cleaning of all equipment including vehicles, boots, clothing *etc.* prior to allowing access to the property and prior to leaving the site to prevent the spread of invasive plant species. Given the presence of non-native/exotic species in the northern woodlands of the property, reutilizing the soils from that site for regrading is not recommended.



7.3.2 Sediment and Erosion Control

All development activities shall comply with minimizing erosion and sedimentation and be contained within the proposed development area. It is recommended that sediment and erosion controls along the limits of the development areas be installed prior to all construction activities, including clearing and grubbing. Sediment and erosion controls shall remain in place until site works have been completed and the risk of sedimentation is no longer a concern. A sediment fence along the development limits will also aid in prevention of inadvertent encroachment into areas to be protected. No development activities (*i.e.*, material and equipment storage, grading, equipment activity) are permitted within the adjacent retained natural areas.

7.4 ECOLOGICAL OFFSETTING

Ecological offsetting for the loss of natural heritage features and upholding the principle of “no net loss” has become an important step towards achieving environmental sustainability in Ontario and is a common tool employed for development projects in Ontario. As discussed, the loss of 2.73 ha of woodland habitat within the property does not constitute a significant loss of the contiguous woodland feature. Notwithstanding, efforts should be made to offset this loss through the creation of new woodland habitat, enhancement of existing woodlands, and/or a monetary contribution to an established organization that undertake ecological projects.

In general, compensation projects should:

1. Be located within the same subwatershed as where the natural heritage feature is lost.
2. Preferably be located on sites that are currently owned by or that may be transferred to a public agency.
3. Expand or enhance the natural heritage system as defined by the municipalities in their Official Plans

The details of an Ecological Offsetting plan can be provided during future stages of the development application process.

7.5 TREE PROTECTION PLAN

Where there is the potential for a negative impact to important vegetation communities (*i.e.*, woodlots, wetlands) or significant individual trees (*i.e.*, heritage trees or rare species trees), special consideration should be given to preservation and mitigation measures of the tree specimens. A Tree Protection Plan should be completed at future stages of the application (*i.e.*, Site Plan) to ensure that appropriate measures are in place to mitigate any potential impacts to adjacent woodland habitat.

7.6 SUMMARY OF MITIGATION PLAN

Mitigation of potential impacts to identified natural features and functions during construction are as follows:



Table 3: Mitigation Measures Summary

Natural Heritage Feature and/or Function	Potential Impacts Identified	Recommended Mitigation/Additional Studies	Potential Impacts with application of Recommended Mitigation	Proposed Offsetting Measures
Provincially Significant Wetland	<ul style="list-style-type: none"> • Changes to the Hydrology/Water Quality Entering Sensitive Features • Erosion and Sedimentation into Natural Heritage Features 	<ul style="list-style-type: none"> • Sediment and Erosion Control Plan • Establishment and Maintenance of Natural 30 m Wetland Setback • Low Impact Development Strategies 	<ul style="list-style-type: none"> • Minimal potential for impacts with applied mitigation 	<ul style="list-style-type: none"> • None required
Significant Woodlands	<ul style="list-style-type: none"> • Loss of 2.73 ha of woodland habitat • Increased Potential for Invasive or Non-native Species • Changes to the Hydrology/Water Quality Entering Sensitive Features 	<ul style="list-style-type: none"> • Tree Protection Plan • Low Impact Development Strategies 	<ul style="list-style-type: none"> • Loss of woodland will still occur 	<ul style="list-style-type: none"> • Ecological Offsetting within Local Area to maintain contiguous woodland feature
Significant Wildlife Habitat	<ul style="list-style-type: none"> • Disturbance to Wildlife and Wildlife Habitat • Anthropogenic Disturbance 	<ul style="list-style-type: none"> • Tree Protection Plan • Timing Windows for Tree Clearing Activities • Permanent Fencing Along 30 m Wetland Setback 	<ul style="list-style-type: none"> • Minimal potential for impacts with applied mitigation 	<ul style="list-style-type: none"> • None required



Table 3: Mitigation Measures Summary

Natural Heritage Feature and/or Function	Potential Impacts Identified	Recommended Mitigation/Additional Studies	Potential Impacts with application of Recommended Mitigation	Proposed Offsetting Measures
Fish Habitat	<ul style="list-style-type: none">• Changes to the Hydrology/Water Quality Entering Sensitive Features• Erosion and Sedimentation into Natural Heritage Features	<ul style="list-style-type: none">• Sediment and Erosion Control Plan• Establishment and Maintenance of Natural 30 m Wetland Setback	<ul style="list-style-type: none">• Minimal potential for impacts with applied mitigation	<ul style="list-style-type: none">• None required
Habitat of Threatened or Endangered Species	<ul style="list-style-type: none">• Loss of Species at Risk Habitat and Potential for Incidental Harm	<ul style="list-style-type: none">• Reptile Exclusion Fencing and Inspection Plan• Tree Protection Plan• Timing Windows for Tree Clearing Activities	<ul style="list-style-type: none">• Minimal potential for impacts with applied mitigation	<ul style="list-style-type: none">• None required



8 CONCLUSIONS

This EIS was prepared for the proposed residential subdivision of the property 983 Yonge Street in the Town of Midland. An EIS is required due to the presence of natural features within and adjacent to the property designated as PSW and/or Natural Heritage by the Town of Midland Official Plan (2019).

The purpose of this EIS was to identify and characterize the natural heritage features and functions present within and adjacent to the proposed development area and to determine if potential impacts to those features and functions could arise from the proposed development. No development or site alteration is proposed within wetland limits. Existing wetland communities within the PSW would remain with a 30 m setback to protect the wetland feature from the impacts of the proposed change. Further mitigation measures and ecological offsetting recommended in this report have been developed to avoid and mitigate any potential negative ecological impacts associated with the proposed development. Through the completion of field surveys, review of background information, and applicable policies and regulations it was determined that potential ecological impacts are mitigable provided the listed mitigation measures herein are applied accordingly.



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Appendix A

EIS Terms of Reference Correspondence



Stephanie Brady

From: Adam Farr <afarr@midland.ca>
Sent: March 29, 2022 3:24 PM
To: kathleen@delbrookhomes.com; Eric Conroy; Pechkovsky, Kristin; Wes Crown; Shayne Connors; Stephanie Brady; Mehdi Shafiei
Cc: Steve Farquharson; Natalie Murdock; Andy Warzin; Michelle Hudolin; David Denault
Subject: A00-20-2021 983 Yonge Pre-consultation and Addendum Pre-consultation EIS Terms of Reference

Good afternoon:

Thanks for the signed check. We received it yesterday.

Please see terms of reference for the EIS regarding pre-consultation file A00-20-2021 983 Yonge St.

Pursuant to Town of Midland pre-consultation notes of October 19, 2021 and February 8 2022, in addition to the required study as set out in the associated legislation, policies and regulations and the terms of reference below as applicable to 983 Yonge St, the scope of required study is to include adjacent lands to the west which include a number of properties that carry alternately Neighbourhood Residential and Natural Heritage designations as part of an analysis of development potential (if any) in accordance with the applicable policies of the Town of Midland Official Plan. The intent is, in part, to demonstrate that these lands are not “orphaned” by development of 983 Yonge (if development is possible) and to evaluate the location, design and function of Town of Midland required road connections between the subject property, 983 Yonge St, (if development is possible) and the adjacent lands (where and if developable) and from the adjacent lands (where and if developable) to Yonge St. In the event that a formal application is filed, a review of the contents of the related study will be undertaken in order to assess completeness relative to these terms of reference and matters referenced in this email and the overall completeness of the application.

A site visit is required and shall be coordinated through the Town Planning Division and include a representative from Town planning and SSEA.

SSEA offers the following comments and clarification on the proposed scope of work, including modifications (shown in **red text**) to the proposed TOR (in *italics*). These comments only relate to natural heritage, and do not cover any other studies that approval agencies may require.

1. Site Assessment

- *Review available background information for the property and surrounding lands (within 120 metres) as well as available mapping from the Natural Heritage Information Centre (NHIC);*
- *Attend the site in fall of 2021 to review preliminary natural heritage constraints (**Completed**);*
- *Review policies related to the natural heritage components of the proposed development, including municipal and provincial policies;*
- *Complete a Species at Risk Assessment for the Study Area which will include submitting an Information Request to the Ministry of Environment, Conservation and Parks (MECP);*
- *Conduct field surveys to document existing natural heritage features, functions, and species. Surveys include:*

- a. Classification of vegetation communities using protocols of the Ecological Land Classification (ELC) for Southern Ontario (Lee et al. 1998. Ecological land classification for southern Ontario: first approximation and its applications. SCSS Field Guide FG-02);
- b. Feature delineation (Midland Little Lake PSW) with the SSEA and/or Ministry of Northern Development, Mines, Natural Resources and Forestry (if applicable); **note: SSEA would like to be involved with review of the wetland boundary on site, but ultimately the final delineation of provincially significant wetland boundaries is up to MNDMNR.**
- c. Two vascular plant surveys in the spring (2022) and fall (2021; **Completed**) to identify the potential for Species at Risk or rare plants;
- d. Two dawn breeding bird surveys based on protocols of the Ontario Breeding Bird Atlas and Canadian Wildlife Service to compile a list of birds which require two site visits in June (2022);
- e. **If habitat is suitable for SAR nightjars (e.g., Whip-poor-will), evening surveys under full- to near-full moon conditions during the appropriate breeding season are also required.**
- f. **Frog calling surveys and observation surveys for non-calling amphibians (salamanders) during the breeding season** to address potential for amphibian breeding habitat (three site visits from April through June 2022);
- g. Assess the property for potential bat roosting habitat:
 - i. Conduct a cavity tree density survey within suitable forest communities in Winter of 2021. This assessment will follow the MECP interim protocol to determine whether forested portions represent potential habitat for maternity roost colonies and whether additional field surveys (i.e., acoustic surveys) are required.
- h. Record incidental observations of wildlife and evidence of breeding, sheltering/nesting, travel corridors etc. during field investigations

2. Report Preparation and Submission

- Review the existing development plan upon which the EIS will be based. Impacts will be considered on the plans available at the onset of the EIS writing. Alterations to the plan after that time may result in the requirement for additional time/cost to be discussed in that eventuality dependent on the scale of the changes;
- Prepare one EIS report which will include the following:
 - a. The scope of development;
 - b. An outline of any significant natural heritage features or functions on the property or adjacent lands within 120 meters, as defined by the Natural Heritage Reference Manual (2010) **and the current Significant Wildlife Habitat Ecoregion Criteria Schedule;**
 - c. Mapping outlining:
 - i. The approximate boundary of the property or study area
 - ii. Ecological Land Classification communities with associated field data in table format
 - iii. The locations of any identified natural heritage features or functions on the property
 - d. An outline of any potential impacts to those features or functions associated with the proposed development;

- e. *Proposed mitigation to reduce the potential for any impacts to those features or functions including establishing appropriate buffers to natural heritage features based on an ecological rationale that will protect the features and their associated functions from anticipated or potential impacts of development, and identification of opportunities for enhancement, restoration, or monitoring;*
- f. *Conclusion, recommendations and mitigations that align with the overarching policy framework of the property or study area.*
- *A final (signed) electronic copy of the EIS report will be provided for submission.*

Clarification/additional information:

1. The EIS will describe existing biophysical conditions and appropriately address natural heritage features and areas and any applicable adjacent lands that are subject to regulations (e.g., Fisheries Act, Endangered Species Act) and policies (e.g., Provincial Policy Statement, upper- and/or lower-tier Official Plan, Growth Plan for the Greater Golden Horseshoe, etc.). This includes documenting and delineating the presence and location of any known or previously unknown or undocumented natural heritage features (e.g., wetlands, vernal pools, watercourses, Species At Risk habitat features, Significant Wildlife Habitat) during the appropriate season(s), taking into consideration any applicable federal or provincial policies/legislation and guidance documents.
2. The EIS must identify, map and describe all potential Significant Wildlife Habitat (SWH) within the study area, and provide sufficient detail to determine whether these areas meet the current criteria for candidate or confirmed SWH [refer to the current SWH Ecoregion Criteria Schedule]. Assessment of some features (e.g., amphibian breeding habitat, woodland area-sensitive bird breeding habitat, bat maternity/roosting habitat) requires site-specific information from surveys such as breeding bird surveys, amphibian surveys, etc. that must be collected during the appropriate season(s) and conditions.
3. The EIS must establish and address SAR species that have potential habitat or have potential to be on-site or the adjacent lands, based on the habitat and features present and as identified through field studies. Background information sources and species occurrence records/range maps will be consulted (e.g., information request to province, NHIC, Ontario Breeding Bird Atlas, Reptiles and Amphibian Atlas, etc.). If appropriate habitat exists, due diligence is required, regardless of whether a species has been previously recorded/confirmed on site or nearby. The records in NHIC and other databases are not exhaustive are not a substitute for on-site surveys; there are information gaps, especially on private land. Appropriate field work, including thorough searches, species-specific surveys and specialized survey effort or methodologies in the appropriate season(s), time of day, and habitat must be conducted to determine presence and address any potential SAR. Note: Information on the location of many federal and provincial SAR should be treated as sensitive data, and in these cases, information must be **disclosed to the municipality and applicable agencies in a manner that does not make it part of public record** (e.g., mapping/ information provided separate from the main report, subject to restricted access). If any SAR or SAR habitat is identified during field investigations, the approval agency must be notified as soon as possible so that the requirement for any additional field work or specific surveys can be assessed.
4. Determine and evaluate the implications of a proposal and its interactions with the natural heritage features/areas and ecological functions of a site. The EIS will inform the proposal and establish what portions of the subject lands can be developed based on an ecological rationale (e.g., assist in defining suitable development envelope which takes into consideration appropriate buffers/setbacks from natural heritage features). Depending on on-site conditions and features, the developable portion(s) of the lands may or may not be consistent with initial concept(s).

5. Copies of the approved Terms of Reference and correspondence with relevant agencies will be included as an appendix to the report.
6. The EIS and the biophysical surveys undertaken in support of it must be completed by appropriately qualified professional(s) with any applicable training or certification(s) relevant to the required work. Field work will be conducted during appropriate season(s), weather conditions and using suitable protocols to identify and evaluate the natural feature(s) and their ecological functions. All field work will be described to the following standards:
 - a. Date, time, and duration of field work/survey (including start time, end time of site investigations)
 - b. Sampling locations and/or area searched (i.e., identified on a map)
 - c. Purpose of field work and survey protocol(s) used/ summary of investigation methods
 - d. Relevant temperature and weather conditions during site investigations (cloud cover, wind speed [Beaufort scale or km/h], precipitation [type and amount])
 - e. Personnel involved (name and qualifications)

With the clarification and additions noted above in the entirety of this email, the proposed scope of work for the EIS is acceptable to SSEA and the Town of Midland.

Adam Farr, MCIP RPP
Executive Director, Planning, Building, By-law
Town of Midland
575 Dominion Avenue
Midland Ontario
Phone: 705-526-4275 ext 2217
Fax: 705-526-9971
TTY: 705-526-4275 ext 2824



Appendix B

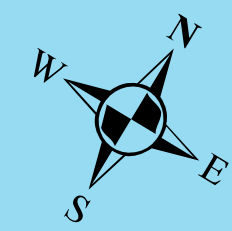
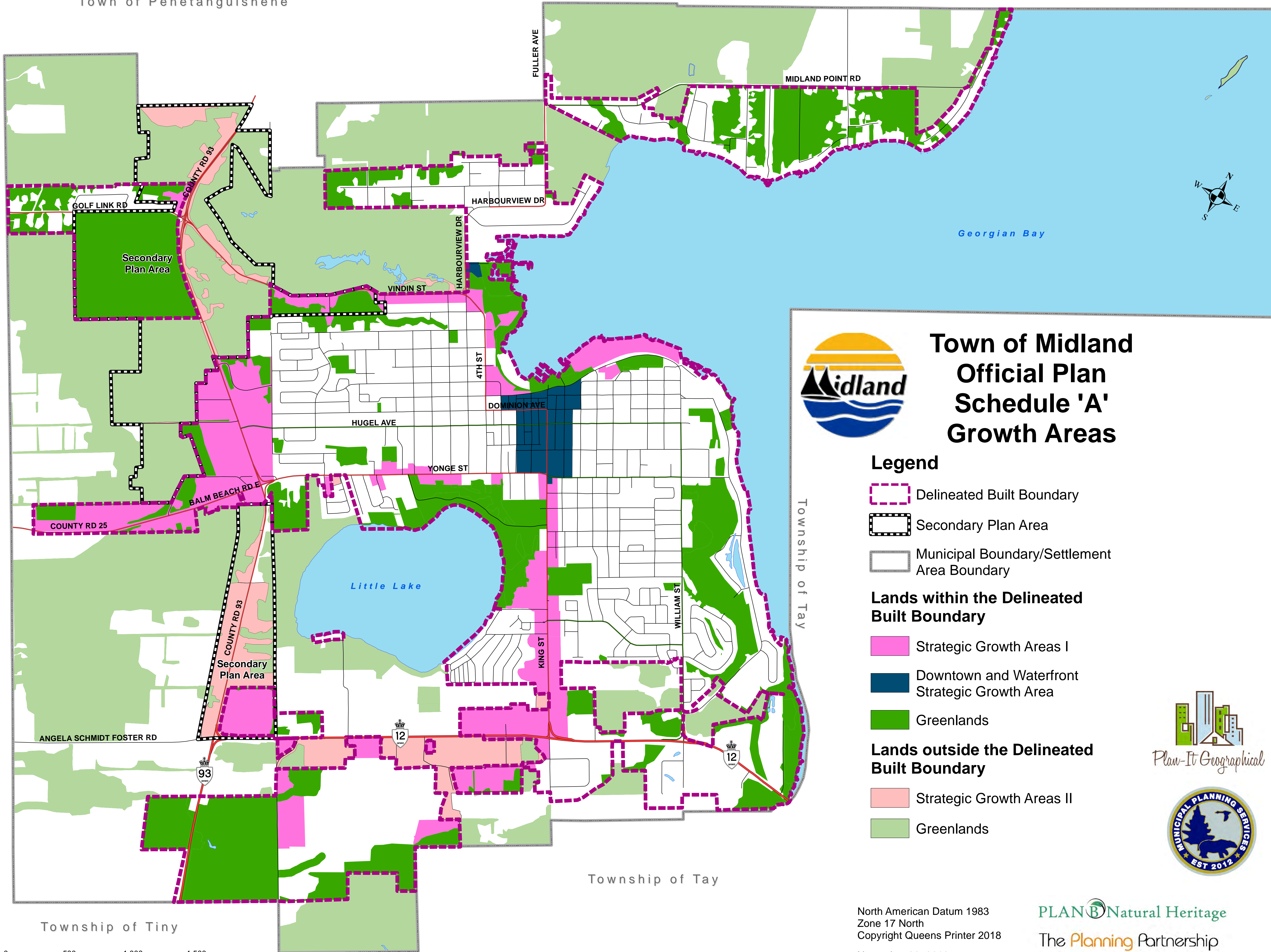
Town of Midland Official Plan Maps



Town of Penetanguishene

Town of Penetanguishene

Township of Tiny



Town of Midland Official Plan Schedule 'A' Growth Areas

Legend

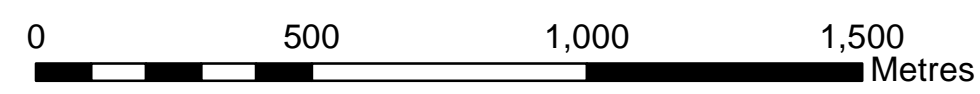
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- Secondary Plan Area
- Municipal Boundary/Settlement Area Boundary

Lands within the Delineated Built Boundary

- Strategic Growth Areas I
- Downtown and Waterfront Strategic Growth Area
- Greenlands

Lands outside the Delineated Built Boundary

- Strategic Growth Areas II
- Greenlands

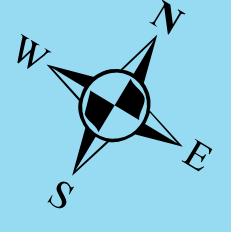
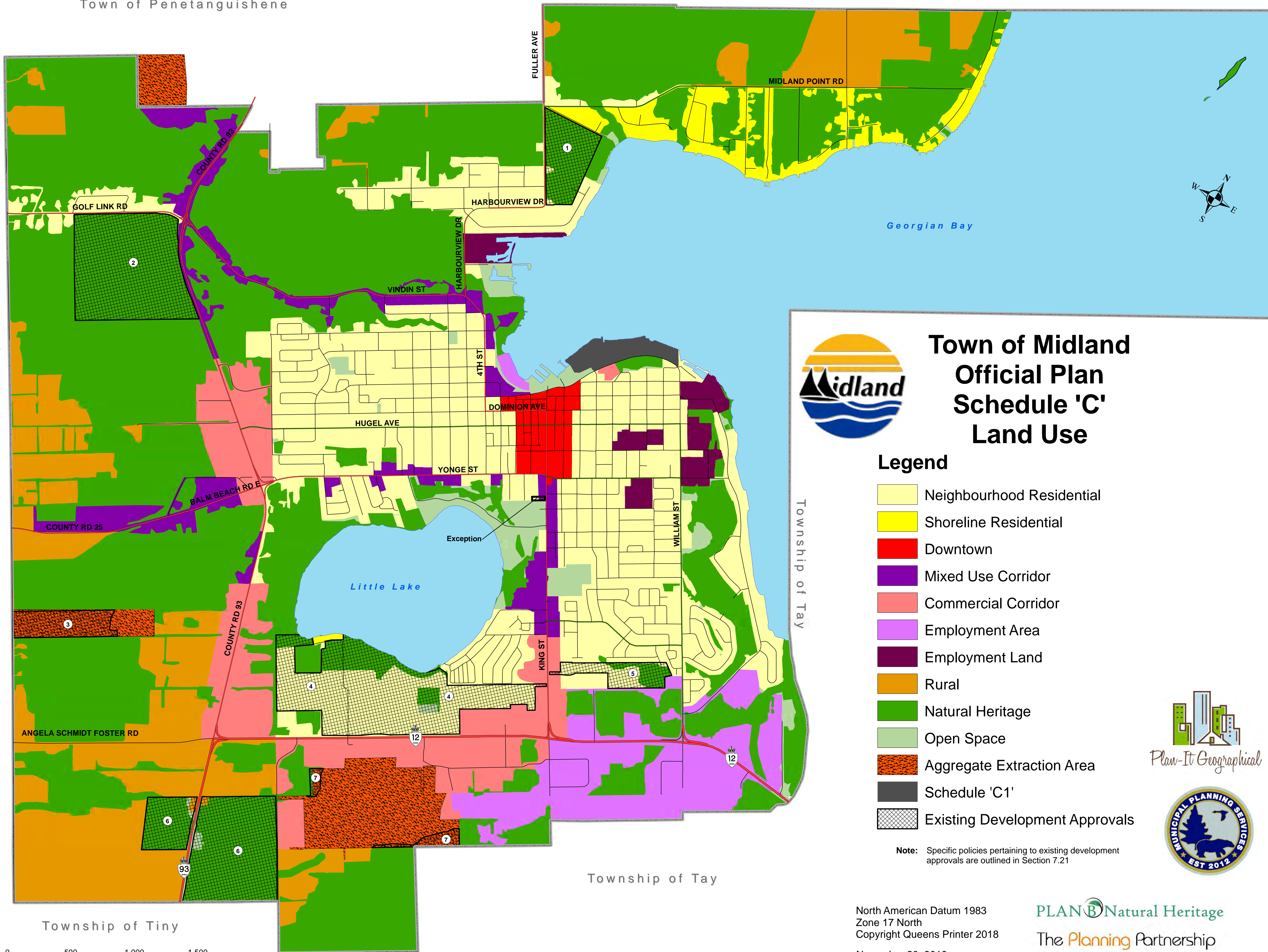


North American Datum 1983
Zone 17 North
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November 20, 2019

PLAN Natural Heritage
The Planning Partnership

Town of Penetanguishene

Town of Penetanguishene



Town of Midland Official Plan Schedule 'C' Land Use

Legend

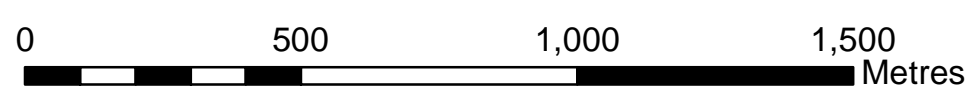
- Neighbourhood Residential
- Shoreline Residential
- Downtown
- Mixed Use Corridor
- Commercial Corridor
- Employment Area
- Employment Land
- Rural
- Natural Heritage
- Open Space
- Aggregate Extraction Area
- Schedule 'C1'
- Existing Development Approvals

Note: Specific policies pertaining to existing development approvals are outlined in Section 7.21



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PLAN Natural Heritage
The Planning Partnership



Township of Tiny

Township of Tay

Township of Tay

Township of Tiny



Appendix C

Plant List



Vascular Plant List

Scientific Name	Common Name	Vegetation Communities					Exotic Status	Coefficient of Wetness	Subnational (Provincial) S_Rank	Provincial Endangered Species Act	National N_Rank
		WOCM1	FODM1-1	FODM4-11	FODM5-1	SWTM1-1					
<i>Acer negundo</i>	Manitoba Maple	X	X				-----	0	S5	-----	N5
<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		X		-----	3	S5	-----	N5
<i>Achillea millefolium</i>	Common Yarrow	X	X				SE5?	3	SNA	-----	NNR
<i>Actaea pachypoda</i>	White Baneberry				X		-----	5	S5	-----	N5
<i>Ageratina altissima</i>	White Snakeroot				X		-----	3	S5	-----	N5
<i>Betula papyrifera</i>	Paper Birch				X		-----	3	S5	-----	N5
<i>Caulophyllum thalictroides</i>	Blue Cohosh				X		-----	5	S5	-----	N5
<i>Dactylis glomerata</i>	Orchard Grass	X	X				SE5	3	SNA	-----	NNA
<i>Daucus carota</i>	Wild Carrot	X	X	X			SE5	5	SNA	-----	NNA
<i>Dryopteris intermedia</i>	Evergreen Wood Fern				X		-----	0	S5	-----	N5
<i>Fagus grandifolia</i>	American Beech				X		-----	3	S4	-----	N5
<i>Fragaria virginiana</i>	Wild Strawberry	X	X	X			-----	3	S5	-----	N5
<i>Fraxinus americana</i>	White Ash				X		-----	3	S4	-----	N5
<i>Fraxinus pennsylvanica</i>	Red Ash		X		X		-----	-3	S4	-----	N5
<i>Hesperis matronalis</i>	Dame's Rocket	X	X	X			SE5	3	SNA	-----	NNA
<i>Juniperus virginiana</i>	Eastern Red Cedar	X	X				-----	3	S5	-----	N5
<i>Lathyrus latifolius</i>	Everlasting Pea	X	X				SE4	5	SNA	-----	NNA
<i>Leucanthemum vulgare</i>	Oxeye Daisy	X	X				SE5	5	SNA	-----	NNA
<i>Lonicera tatarica</i>	Tatarian Honeysuckle	X	X				SE5	3	SNA	-----	NNA
<i>Maianthemum canadense</i>	Wild Lily-of-the-valley				X		-----	3	S5	-----	N5
<i>Maianthemum racemosum</i>	Large False Solomon's Seal				X		-----	3	S5	-----	N5
<i>Onoclea sensibilis</i>	Sensitive Fern					X	-----	-3	S5	-----	N5
<i>Osmunda regalis</i>	Royal Fern					X	-----	-5	S5	-----	N5
<i>Osmundastrum cinnamomeum</i>	Cinnamon Fern					X	-----	-3	S5	-----	N5
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam				X		-----	3	S5	-----	N5
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	X	X	X			-----	3	S4?	-----	N4?
<i>Pilosella officinarum</i>	Mouse-ear Hawkweed	X	X				SE5	5	SNA	-----	NNA
<i>Pinus strobus</i>	Eastern White Pine		X				-----	3	S5	-----	N5
<i>Pinus sylvestris</i>	Scots Pine	X	X				SE5	3	SNA	-----	NNA
<i>Plantago lanceolata</i>	English Plantain	X	X				SE5	3	SNA	-----	NNA
<i>Populus balsamifera</i>	Balsam Poplar					X	-----	-3	S5	-----	NNR
<i>Potentilla recta</i>	Sulphur Cinquefoil	X	X				SE5	5	SNA	-----	NNA
<i>Prunus serotina</i>	Black Cherry				X		-----	3	S5	-----	N5
<i>Prunus virginiana</i>	Chokecherry		X				-----	3	S5	-----	N5
<i>Quercus rubra</i>	Northern Red Oak		X				-----	3	S5	-----	N5
<i>Rhus typhina</i>	Staghorn Sumac	X	X	X			-----	3	S5	-----	N5
<i>Ribes americanum</i>	American Black Currant				X		-----	-3	S5	-----	N5
<i>Robinia pseudoacacia</i>	Black Locust			X			SE5	3	SNA	-----	NNA
<i>Sambucus racemosa</i>	Red Elderberry				X		-----	3	S5	-----	N5
<i>Sanguinaria canadensis</i>	Bloodroot				X		-----	3	S5	-----	N5
<i>Streptopus lanceolatus</i>	Rose Twisted-stalk				X		-----	3	S5	-----	N5
<i>Symphyotrichum urophyllum</i>	Arrow-leaved Aster		X				-----	5	S4	-----	N4
<i>Tilia americana</i>	Basswood				X		-----	3	S5	-----	N5
<i>Toxicodendron radicans</i>	Poison Ivy	X	X		X	X	-----	0	S5	-----	N5
<i>Trillium grandiflorum</i>	White Trillium				X		-----	3	S5	-----	N5
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum				X		-----	5	S5	-----	N5
<i>Viburnum opulus</i>	Cranberry Viburnum		X				-----	-3	S5	-----	N5
<i>Vicia cracca</i>	Tufted Vetch	X	X	X			SE5	5	SNA	-----	NNA

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

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 D

Breeding Bird Data



Appendix E. Dawn Breeding Bird Data

Family	Scientific Name	English Common Name	Survey Station			Incidental	Breeding Evidence	Conservation Rank		
			1	2	3			National N-rank	Provincial S-rank	Provincial Endangered Species Act
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird		S ^A		X	Possible	N5B,N5N	S5	
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	C ^B				Possible	N5B,N5N	S5	
Ardeidae	<i>Butorides virescens</i>	Green Heron			S ^B		Possible	N4N5B,N3N4N,N4N5M	S4B	
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal		S ^B		X	Possible	N5	S5	
Turdidae	<i>Catharus fuscescens</i>	Veery			S ^A		Possible	N5B,N5M	S5B	
Picidae	<i>Colaptes auratus</i>	Northern Flicker	C ^A ,S ^B			X	Probable	N5B,N5N,N5M	S5	
Tyrannidae	<i>Contopus virens</i>	Eastern Wood-pewee		S ^{A,B}		X	Probable	N5B,N5M	S4B	SC
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	C ^A	H/C ^A		X	Probable	N5B,N5N,N5M	S5	
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	FO ^A	C ^A	H ^A	X	Probable	N5	S5	
Picidae	<i>Dryobates pubescens</i>	Downy Woodpecker				X	Observed	N5	S5	
Picidae	<i>Dryocopus pileatus</i>	Pileated Woodpecker		S ^A		X	Possible	N5	S5	
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird	H ^A			X	Possible	N5B,N5M	S5B,S3N	
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull	FO ^B				Observed	N5B,N5N	S5	
Parulidae	<i>Parkesia noveboracensis</i>	Northern Waterthrush			S ^{A,B}	X	Probable	N5B	S5B	
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee			C/S ^A	X	Possible	N5	S5	
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle			H ^{A,B} /FO ^A		Probable	N5B,NUN,N5M	S5	
Parulidae	<i>Seiurus aurocapilla</i>	Ovenbird			S ^A		Possible	N5B,N5M	S5B	
Parulidae	<i>Setophaga ruticilla</i>	American Redstart	S ^A	S ^A			Possible	N5B,N5M	S5B	
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch				X	Observed	N5	S5	
Fringillidae	<i>Spinus tristis</i>	American Goldfinch		S ^B		X	Probable	N5B,N5N,N5M	S5	
Passerellidae	<i>Spizella passerina</i>	Chipping Sparrow		S ^A			Possible	N5B,N5M	S5B,S3N	
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	FO ^A			X	Possible	NNA	SNA	
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	S ^{A,B}	S ^B			Probable	N5B,N5M	S5B	
Turdidae	<i>Turdus migratorius</i>	American Robin		S ^A		X	Possible	N5B,N4N5N,N5M	S5	
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	S ^B	S ^{A,B}	S ^A	X	Probable	N5B,N5N	S5B	
Columbidae	<i>Zenaidura macroura</i>	Mourning Dove				X	Observed	N5B,N5N	S5	

Surveys Conditions:

^A June 3, 2022; Start Time 0537hr/ End Time 00625hr; Temperature 9°C; Wind B1; Cloud Cover 0%; Precipitation Nil; Observers: S. Brady & K. Tuininga

^B June 27, 2022; Start Time 0610hr/ End Time 0647hr; Temperature 14°C; Wind B1; Cloud Cover 40%; Precipitation Nil; Observer: K. Tuininga

OBBA Breeding Evidence Codes:

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

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

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

N - Nest Building or excavation of nest hole

P - Pair observed in suitable nesting habitat in nesting season

FO - Fly over

T - Presumed territory based on the presence of an adult bird (usually singing, but not necessarily so), in the same suitable nesting habitat patch on at least two visits, one week or more apart, during the species' breeding season

Conservation Rank

S-rank: S1: Critically Imperiled; S2 - Imperiled, S3 - Vulnerable, S4 - Apparently Secure, S5 - Secure, SNR - Unranked, SNA - Nnot applicable, SU - Unrankable, S#? - Inact 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 - Nnot applicable, NU - Unrankable, N#? - Inact 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 E

Species at Risk Information Request (MECP)



Stephanie Brady

From: Species at Risk (MECP) <SAROntario@ontario.ca>
Sent: February 1, 2022 4:20 PM
To: Stephanie Brady
Subject: MECP SARB Review: Information Request - 983 Yonge Street, Midland
Attachments: GHD_Blanding's_Turtle.pdf; Bat Survey Standards Note 2021.pdf; Treed Habitats - Maternity Roost Surveys.docx; SAR Bat Building Exit and Roost Survey Protocols.docx

This message's attachments contains at least one web link. This is often used for phishing attempts. Please only interact with this attachment if you know its source and that the content is safe. If in doubt, confirm the legitimacy with the sender by phone.

Hi Stephanie,

The Ministry of Environment, Conservation and Parks (MECP), Species at Risk Branch (SARB) has reviewed the subject property located at 983 Young Street in Midland and found the following additional Species at Risk (SAR) occurrences which also need to be considered as part of your species list.

- Bank Swallow (*Riparia riparia*);
- Barn Swallow (*Hirundo rustica*);
- Chimney Swift (*Chaetura pelagica*);
- Common Nighthawk (*Chordeiles minor*);
- Eastern Meadowlark (*Sturnella magna*);
- Eastern Wood-pewee (*Contopus virens*);
- Grasshopper Sparrow (*Ammodramus savannarum*);
- Red-headed Woodpecker (*Melanerpes erythrocephalus*);
- Wood Thrush (*Hylocichla mustelina*).

While this review represents MECP's best currently available information, it is important to note that a lack of information for a location does not mean that SAR or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in areas not previously surveyed. On-site assessments will need to be conducted to better verify site conditions, identify and confirm presence of SAR and/or their habitats.

There are a number of Blanding's Turtle less than 2 km away from the subject property with the nearest occurring less than 175 meters away and the most recent occurring in 2016. These observations would trigger the habitat protection for Blanding's Turtle under the Endangered Species Act (ESA). The General Habitat Description (GHD) for Blanding's Turtle (attached) suggests that there is the potential that the subject property may be considered Category 2 or 3 habitat.

- Location of nearest (but not newest) Blanding's Turtle occurrence: [REDACTED]
[REDACTED] Notes on occurrence: 1 female; General Location: Little Lk, Midland
- Please note that the specific location of the Blanding's Turtle occurrence which has been provided above is considered confidential and is provided for habitat mapping purposes only. This location cannot be included in any document which may become public nor can this information be otherwise disclosed to a member of the public.

Please be aware that as of December 10, 2021, three regulations were made under the ESA to enable the Species at Risk Conservation Fund and to expand certain existing conditional exemptions. One of these changes includes expansion to the conditional exemptions for Butternut, Barn Swallow, Bobolink and Eastern Meadowlark all of which have occurrence on or adjacent to the subject property. To view the decision notice, please visit posting #019-2636 on the [Environmental Registry](#).

The 2021 Bat Survey Standards Note and its related protocols have been attached for your use and reference.

It is the responsibility of the proponent and their consultant to ensure that SAR are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the proposed activities to be carried out on the site. If the proposed activities can not avoid impacting protected species and their habitats then the proponent will need to apply for a authorization under the Endangered Species Act.

Regards,

Shamus Snell
A/ Management Biologist
Species at Risk Branch
Ministry of Environment, Conservation and Parks
Email: shamus.snell@ontario.ca

From: Stephanie Brady <sbrady@birksnhc.ca>
Sent: January 27, 2022 12:57 PM
To: Species at Risk (MECP) <SAROntario@ontario.ca>
Subject: Species at Risk Information Request - 983 Yonge Street, Midland

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

Good afternoon:

Birks Natural Heritage Consultants, Inc. (Birks NHC) has been retained to provide natural heritage services related to the proposed development located at 983 Yonge Street, in the Town of Midland. The 120m Study Area contains portions of the Little Lake Provincially Significant Wetland within the southern portion. The property is largely characterized as containing a mature deciduous forest community with an open coniferous woodland in the northern portion. Through a background review of Natural Heritage Information Centre (NHIC) data, Fisheries and Oceans Canada aquatic species at risk online map, and species records/range maps provided by the Ontario Reptile and Amphibian Atlas, we have identified the following Species at Risk as potentially occurring within area:

- Birds:
 - Least Bittern (Threatened)
 - Eastern Meadowlark (Threatened)
 - Bobolink (Threatened)
- Reptiles:
 - Massasauga (Threatened; historical record 1967, 1969)
 - Eastern Hog-nosed Snake (Threatened)
 - Blanding's Turtle (Threatened)

Based on our current understanding of the property, the following additional species are noted as potentially occurring within the area:

- Plants:

- Butternut (Endangered)
- Mammals:
 - Little Brown Myotis, Northern Myotis, Tri-colored Bat (Endangered)

We are writing to request a MECP screening regarding Species at Risk information relevant to our Study Area, and any additional species that are likely to occur at or near the Study Area (see attached figure). The property is located at UTM Zone 17 E 586951 N4954306.

If you have any questions, please do not hesitate to contact me.

Thank you,



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





Appendix F

Significant Woodland Assessment





Appendix F. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
Woodland Size Criteria		
<ul style="list-style-type: none"> Size refers to the aerial (spatial) extent of the woodland (irrespective of ownership) Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20m or less in width between crown edges. Size value is related to the scarcity of woodland in the landscape derived on a municipal basis with consideration of the differences in woodland coverage among physical sub-units (e.g., watersheds, biophysical regions). Size criteria should also account for differences in landscape-level physiography (e.g., moraines, clay planes) and community vegetation types. 	<p>Where woodlands cover:</p> <ul style="list-style-type: none"> Is less than about 5% of land cover, woodlands 2 ha in size or larger should be considered significant Is about 5-15% of land cover, woodlands 4 ha in size or larger should be considered significant Is about 15-30% of land cover, woodlands 20 ha in size or larger should be considered significant. Is about 30-60% of land cover, woodlands 50 ha in size or larger should be considered significant Occupies more than 60% of the land, a minimum size is not suggested, and other factors should be considered 	<ul style="list-style-type: none"> According to the Town of Midland Official Plan Review and Update Project Natural Heritage System Review (SSEA, 2009), there is 36.9% of forest cover within the Town of Midland which contains the study area. Therefore, a woodland must be 50 ha in size or larger to be considered significant. The woodland in the Study Area is part of a continuous woodland that extends beyond the property to the west and south. The total area of the woodland is approximately 45.8 ha. Woodland feature does not meet minimum area threshold. Therefore, the contiguous woodland unit would not be considered significant based on the Size criteria.
Ecological Function Criteria		
Woodland Interior		
<ul style="list-style-type: none"> Interior Habitat more than 100m from the edge (as measured from the limits of a continuous woodland as defined above) is important for some species. For purposes of this criterion, a maintained public road would create an edge even if the opening was not wider than 20m and did not create a separate woodland. 	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> Any interior habitat where woodlands cover less than about 15% of the land cover 2 ha or more of interior habitat where woodlands cover about 15-30% of the land cover 8 ha or more of interior habitat where woodlands cover about 30-60% of the land cover 20 ha or more of interior habitat where woodlands cover about 60% of the land cover 	<ul style="list-style-type: none"> The woodland feature contains 0.15 ha of interior habitat measured 100 m from woodland edge. Therefore, the contiguous woodland unit would not be considered significant based on the Woodland Interior criteria.



Appendix F. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
Proximity to Other Woodlands or Other Habitats		
<ul style="list-style-type: none"> Woodlands that overlap, abut or are close to other significant natural heritage features or areas could be considered more valuable or significant than those that are not. Patches close to each other are of greater mutual benefit and value to wildlife. 	<p>Woodlands should be considered significant if:</p> <ul style="list-style-type: none"> A portion of the woodland is located within a specific distance (e.g., 30m) of a significant natural feature or fish habitat likely receiving ecological benefit from the woodland and the entire woodland meets the minimum area threshold (e.g., 0.5-20ha, depending on circumstance) 	<ul style="list-style-type: none"> The woodland feature is located adjacent to Little Lake and contains wetland habitat, including the Little Lake Provincially Significant Wetland, which could be receiving ecological benefit from the woodland unit. Therefore, the woodland unit would be considered significant based on the Proximity to Other Woodlands or Other Habitats Criteria, however the woodland does not meet the minimum area threshold.
Linkages		
<ul style="list-style-type: none"> Linkages are important connections providing for movement between habitats. Woodlands that are located between other significant features or areas can be considered to perform an important linkage function as “stepping stones” for movement between habitats. 	<p>Woodlands should be considered significant if they:</p> <ul style="list-style-type: none"> Are located within a defined natural heritage system or provide a connecting link between two other significant features, each of which is within a specified distance (e.g., 120m) and meets minimum area thresholds (e.g., 1-20ha, depending on circumstance) 	<ul style="list-style-type: none"> The property is mapped within the Town of Midland Greenlands outside of the delineated Built Boundary and is designated as Natural Heritage (Official Plan, 2019). Woodland on the property is generally bordered by municipal roads and existing residential development and does not provide a linkage between two other natural heritage features. Therefore, the contiguous woodland unit would not be considered significant based on the Linkages criteria.
Water Protection		
<ul style="list-style-type: none"> Source water protection is important. Natural hydrological processes should be maintained. 	<p>Woodlands should be considered significant if they:</p> <ul style="list-style-type: none"> Are located within a sensitive or threatened watershed or a specific distance (e.g., 50m or top of valley bank if greater) or a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds (e.g., 0.5-10ha, depending on circumstance) 	<ul style="list-style-type: none"> According to the Drinking Water Source Protection Interactive mapping tool: <ul style="list-style-type: none"> a portion of the woodland feature is mapped as being within a Highly Vulnerable Aquifer a portion of the woodland feature is mapped as Significant Groundwater Recharge Area The woodland feature is located adjacent to Little Lake. Woodland feature does not meet minimum area threshold. Therefore, the woodland unit would be considered significant based on the Water Protection criteria, however the woodland does not meet the minimum area threshold.
Woodland Diversity		
<ul style="list-style-type: none"> Certain woodland species have had major reductions in representation on the landscape and may need special consideration. 	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> A naturally occurring composition of native forest species that have declined 	<ul style="list-style-type: none"> The overall forest community within the study area is not representative of a rare vegetation community or a high diversity through composition and terrain. Woodland feature does not meet minimum area threshold.



Appendix F. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
<ul style="list-style-type: none"> More native diversity is more valuable than less diversity. 	<p>significantly south and east of the Canadian Shield and meet minimum area thresholds (e.g., 1-20 ha, depending on circumstance)</p> <ul style="list-style-type: none"> A high native diversity through a combination of composition and terrain (e.g., a woodland extending from a hilltop to a valley bottom or to opposite slopes) and meet minimum area thresholds (e.g., 2-20 ha, depending on circumstance) 	<ul style="list-style-type: none"> Therefore, the woodland unit would not be considered significant by the Woodland Diversity criteria.
Uncommon Characteristics Criteria		
<ul style="list-style-type: none"> Woodlands that are uncommon in terms of species composition, cover type, age or structure should be protected. Older woodlands (i.e., woodlands greater than 100 years old) are particularly valuable for several reasons, including their contributions to genetic, species and ecosystem diversity. 	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> A unique species composition or the site is represented by less than 5% overall in woodland area and meets minimum area thresholds (e.g., 0.5 ha, depending on circumstance) A vegetation community with a provincial ranking of S1, S2 or S3 (as ranked by the NHIC and meet minimum area thresholds (e.g., 0.5 ha, depending on circumstance) Habitat (e.g., with 10 individual stems or 100m² of leaf coverage) of a rare, uncommon or restricted woodland plant species and meet minimum area thresholds (e.g., 0.5 ha, depending on circumstance): vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9 or 10; tree species of restricted distribution such as sassafras or rock elm; species existing only in a limited number of sites within the planning area Characteristics of older woodlands or woodlands with larger tree size structure in native species meet minimum area thresholds (e.g., 1-10 ha, depending on circumstance): older woodlands could be 	<ul style="list-style-type: none"> The woodlands within the Study Area did not contain a unique species composition, age, or structure. The woodland communities on the property are not ranked S1, S2, or S3. The woodlands in the Study Area do not contain characteristics of older woodlands. Woodland feature does not meet minimum area threshold. Therefore, the woodland unit would not be considered significant based on the Uncommon Characteristics criteria.



Appendix F. Significant Woodland Assessment

CRITERIA	STANDARDS	ASSESSMENT
	<p>defined as having 10 or more trees/ha greater than 100 years old; larger tree size structure could be defined as 10 or more trees/ha at least 50cm in diameter, or a basal area of 8 or more m²/ha in trees that are at least 40cm in diameter</p>	
Economic and Social Function Values Criteria		
<ul style="list-style-type: none"> Woodlands that have high economic or social values through particular site characteristics or deliberate management should be protected. 	<p>Woodlands should be considered significant if they have:</p> <ul style="list-style-type: none"> High productivity in terms of economically viable products together with continuous native natural attributes and meet minimum area thresholds (e.g., 2-20 ha, depending on circumstance) A high value in special services such as air-quality improvement or recreation at a sustainable level that is compatible with long-term retention and meet minimum area thresholds (e.g., 0.2-10 ha, depending on circumstance) Important identified appreciation, education, cultural or historical value and meet minimum area thresholds (e.g., 0.2-10 ha, depending on circumstance) 	<ul style="list-style-type: none"> The woodland feature does not generate economically viable forest products. No formal recreational use of the woodland. The woodland feature is not identified as providing education, cultural or historical value. Woodland feature does not meet minimum area threshold. Therefore, the woodland unit would not be considered significant based on the Economics and Social Function Values criteria.



983 Yonge Street

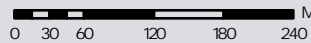
Town of Midland

- Property Limits
- 120m Study Area
- Woodland Limit (Birks NHC)
- Woodlands
- 100 m Interior Habitat

Appendix Figure:
Woodlands



M&P DRAWING INFORMATION:
DATA PROVIDED BY: ESRI CANADA
M&P CREATED BY: SB
M&P CHECKED BY: BB
M&P PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:
Path: C:\Users\S_Brady\BirksNHC\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\983Yonge\Midland

PROJECT: 04-042-2021 STATUS: DRAFT DATE: 17/10/2023



Appendix G

Significant Wildlife Habitat Assessment





Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E

Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Waterfowl Stopover and Staging Areas (Terrestrial)</p> <p>Rationale: Habitat important to migrating waterfowl.</p>	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). <ul style="list-style-type: none"> Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. Reports and other information available from Conservation Authorities Sites documented through waterfowl planning processes 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” <ul style="list-style-type: none"> Any mixed species aggregations of 100 or more individuals required. The flooded field ecosite habitat plus a 100-300m radius area, 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. 	Habitat in Study Area is wooded and residential and is not suitable habitat for waterfowl stopover and staging (Terrestrial). Therefore, no candidate habitat for this SWH is present in the Study Area.
<p>Waterfowl Stopover and Staging Areas (Aquatic)</p> <p>Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.</p>	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	<ul style="list-style-type: none"> Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Environment Canada. Naturalist clubs often are aware of staging/stopover areas. OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. Sites documented through waterfowl planning processes 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: <ul style="list-style-type: none"> Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH The combined area of the ELC ecosites and a 100m radius area is the SWH Wetland area and shorelines associated with sites identified within the 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. 	<p>Little Lake is mapped as Waterfowl Staging Area (LIO, 2022).</p> <p>Further consideration of this SWH is provided in the EIS.</p>



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Shorebird Migratory Stopover Area</p> <p>Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.</p>	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	<ul style="list-style-type: none"> Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Western hemisphere shorebird reserve network. Canadian Wildlife Service (CWS) Ontario Shorebird Survey. Bird Studies Canada Ontario Nature Local birders and naturalist clubs Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #8 provides development effects and mitigation measures. 	<p>Little Lake is present adjacent to the Study Area.</p> <p>Shorebird Migratory Stopover Area is not listed in NHIC for the area, is not mapped within the Study Area by the MNRF LIO Wildlife Activity Area layer, and Little Lake is not mapped as an Important Bird Area (Birds Canada, 2023).</p> <p>None of the listed species were documented during breeding bird survey.</p>
<p>Raptor Wintering Area</p> <p>Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant</p>	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl	<p><u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.</p> <p>Upland: CUM; CUT; CUS; CUW.</p> <p><u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).</p>	<ul style="list-style-type: none"> The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> OMNRF Ecologist or Biologist Field Naturalist Clubs Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area Data from Bird Studies Canada Results of Christmas Bird Counts Reports and other information available from Conservation Authorities. 	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #10 and #11 provides development effects and mitigation measures. 	<p>The Study Area contains woodlands; large open uplands however are not present within the Study Area. Therefore, suitable Raptor (hawk/owl) wintering habitat is not present in the Study Area.</p> <p>NHIC survey squares that encompass the Study Area do not list Raptor Winter Concentration Area.</p> <p>None of the listed species were recorded during site surveys.</p>
<p>Bat Hibernacula</p> <p>Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.</p>	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)	<ul style="list-style-type: none"> Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered as SWH The locations of bat hibernacula are relatively poorly known. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern Development and Mines for location of mine shafts. Clubs that explore caves (e.g. Sierra Club) 	<ul style="list-style-type: none"> All sites with confirmed hibernating bats are SWH. The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects." Significant Wildlife Habitat Mitigation Support Tool Index #1 provides development effects and mitigation measures. 	<p>No caves, mine shafts, underground foundations or karst were identified in the Study Area.</p> <p>Therefore, candidate bat hibernacula SWH is not present in the Study Area.</p>



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			<ul style="list-style-type: none"> University Biology Departments with bat experts. 		
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	<ul style="list-style-type: none"> Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Maternity roosts are not found in caves and mines in Ontario. Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF for possible locations and contact for local experts University Biology Departments with bat experts. 	<ul style="list-style-type: none"> Maternity Colonies with confirmed use by; >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. 	<p>Vegetation communities present within the Study Area contain mature trees which may provide this function to the listed bat species.</p> <p>Further consideration is provided in EIS report.</p>
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.	<ul style="list-style-type: none"> 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. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> EIS studies carried out by Conservation Authorities. Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. OMNRF Ecologist or Biologist Field Naturalist clubs Natural Heritage Information Center (NHIC) 	<ul style="list-style-type: none"> Presence of 5 over-wintering Midland Painted Turtles is significant. One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) Congregation of turtles is more common where wintering areas are limited and therefore significant Significant Wildlife Habitat Mitigation Support Tool Index #28 provides development effects and mitigation measures for turtle wintering habitat. 	<p>The shoreline of Little Lake is within the Study Area; Little Lake may provide suitable turtle overwintering habitat.</p> <p>Further consideration is provided in the EIS.</p>
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:	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.	<ul style="list-style-type: none"> For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures . 	Studies confirming: <ul style="list-style-type: none"> Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (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 	<p>Features associated with this function appear to be common in the general landscape as reptile hibernaculum habitat may be found in almost any ecosite.</p> <p>Further consideration is provided in the EIS report.</p>



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
	Special Concern (Southern Shield population): Five-lined Skink	For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	<u>Information Sources</u> <ul style="list-style-type: none"> In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). Reports and other information available from Conservation Authorities. Field Naturalists clubs University herpetologists Natural Heritage Information Center (NHIC) OMNRF ecologist or biologist may be aware of locations of wintering skinks 	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 <ul style="list-style-type: none"> 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. 	
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) <u>Rationale:</u> 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	<ul style="list-style-type: none"> Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> <ul style="list-style-type: none"> Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas Bird Studies Canada; <i>NatureCounts</i> http://www.birdscanada.org/birdmon/ Field Naturalist Clubs. 	Studies confirming: <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. A colony identified as SWH will include a 50m radius habitat area from the peripheral nests Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #4 provides development effects and mitigation measures 	No eroding banks, sandy hills, borrow pits, sand piles, bridge abutments, silos or barns are present in the Study Area for colonially-nesting bird breeding habitat (bank and cliff). Therefore, no suitable habitat for Colonially-nesting bird breeding habitat (Bank/Cliff) is present in the Study Area.
Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) <u>Rationale:</u> 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	<ul style="list-style-type: none"> Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas, colonial nest records. Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony Aerial photographs can help identify large heronries. Reports and other information available from CAs. MNRF District Offices. Local naturalist clubs. 	Studies confirming: <ul style="list-style-type: none"> Presence of 5 or more active nests of Great Blue Heron or other listed species. The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells Significant Wildlife Habitat Mitigation Support Tool Index #5 provides development effects and mitigation measures. 	Swamp habitat adjacent to a lake is present in the southern portion of the Study Area. Green Heron was recorded during one of the site surveys. NHIC does not list any element occurrence of Mixed Wader Nesting Colony in the area. No nests were observed and no evidence of breeding for the listed species was recorded during breeding bird surveys. Subsequently, Colonially Nesting Bird Breeding Habitat (Trees/Shrubs) SWH is considered to be absent within the Study Area.



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Colonially -Nesting Bird Breeding Habitat (Ground)</p> <p>Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.</p>	<p>Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird</p>	<p>Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map).</p> <p>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird)</p> <p>MAM1 – 6; MAS1 – 3; CUM CUT CUS</p>	<ul style="list-style-type: none"> 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. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas , rare/colonial species records. Canadian Wildlife Service Reports and other information available from Cas. Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area MNRF District Offices. Field Naturalist clubs. 	<p>Studies confirming:</p> <ul style="list-style-type: none"> Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. Presence of 5 or more pairs for Brewer's Blackbird. Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #6 provides development effects and mitigation measures. 	<p>No nests were observed and no evidence of breeding for the listed species was recorded during breeding bird surveys.</p> <p>No suitable habitat is present within the property or immediate adjacent lands (<i>i.e.</i>, within 120 m) to function as Colonially-Nesting Bird Breeding Habitat (Ground) SWH.</p>
<p>Migratory Butterfly Stopover Areas</p> <p>Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p>	<p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF (NHIC) Agriculture Canada in Ottawa may have list of butterfly experts. Field Naturalist Clubs Toronto Entomologists Association Conservation Authorities 	<p>Studies confirm:</p> <ul style="list-style-type: none"> The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. Significant Wildlife Habitat Mitigation Support Tool Index #16 provides development effects and mitigation measures. 	<p>Study Area is not located within 5 km of Lake Ontario and thus this habitat function is not applicable.</p>
<p>Landbird Migratory Stopover Areas</p> <p>Rationale: Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All migratory songbirds.: Canadian Wildlife Service Ontario website.</p> <p>All migrant raptor species:</p> <p>Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)</p>	<p>All Ecosites associated with these ELC Community Series;</p> <p>FOC FOM FOD SWC SWM SWD</p>	<p>Woodlots need to be >10 ha in size and within 5 km of Lake Ontario.</p> <ul style="list-style-type: none"> If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant Sites have a variety of habitats; forest, grassland and wetland complexes. The largest sites are more significant Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH . <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Bird Studies Canada Ontario Nature Local birders and naturalist club 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Mitigation Support Tool Index #9 provides development effects 	<p>Study Area is not located within 5 km of Lake Ontario and thus this habitat function is not applicable.</p>



Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Deer Yarding Areas</p> <p>Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.</p>	White-tailed Deer	<p>Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC.</p> <p>Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT</p>	<ul style="list-style-type: none"> Ontario Important Bird Areas (IBA) Program Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual” Woodlots with high densities of deer due to artificial feeding are not significant. 	<p>No Studies Required:</p> <ul style="list-style-type: none"> Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an “average” winter. MNRF will complete these field investigations. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined within this Schedule. Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures. 	No deer wintering SWH is mapped by MNRF (LIO) in the Study Area.
<p>Deer Winter Congregation Areas</p> <p>Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.</p>	White-tailed Deer	<p>All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p> <p>Conifer plantations much smaller than 50 ha may also be used.</p>	<ul style="list-style-type: none"> Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. If deer are constrained by snow depth refer to the Deer Yarding Area habitat. Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha . Woodlots with high densities of deer due to artificial feeding are not significant. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Offices LIO/NRVIS 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined below. Significant Wildlife Habitat Mitigation Support Tool Index #2 provides development effects and mitigation measures. 	No deer wintering SWH is mapped by MNRF (LIO) in the Study Area.



Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
<p>Cliffs and Talus Slopes</p> <p>Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.</p>	<p>Any ELC Ecosite within Community Series:</p> <p>TAO TAS TAT CLO CLS CLT</p>	<p>A Cliff is vertical to near vertical bedrock >3m in height.</p> <p>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris</p>	<p>Most cliff and talus slopes occur along the Niagara Escarpment.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> The Niagara Escarpment Commission has detailed information on location of these habitats. OMNRF District Natural Heritage Information Center (NHIC) has location information available on their website Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Cliffs or Talus Slopes Significant Wildlife Habitat Mitigation Support Tool Index #21 provides development effects and mitigation measures. 	<p>Habitat in the Study Area does not meet key criteria to be considered significant. No cliff or talus slopes are present in the area.</p>
<p>Sand Barren</p> <p>Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry</p>	<p>ELC Ecosites: SBO1 SBS1 SBT1</p> <p>Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%</p>	<p>Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.</p>	<p>A sand barren area >0.5ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Districts. Natural Heritage Information Center (NHIC) has location information available on their website. Field Naturalist clubs Conservation Authorities 	<ul style="list-style-type: none"> Confirm any ELC Vegetation Type for Sand Barrens Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) Significant Wildlife Habitat Mitigation Support Tool Index #20 provides development effects and mitigation measures. 	<p>Habitat in the Study Area does not meet key criteria to be considered significant. No sand barren sites are present in the area.</p>
<p>Alvar</p> <p>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.</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p>Five Alvar Species:</p> <ol style="list-style-type: none"> <i>Carex crawei</i> <i>Panicum philadelphicum</i> <i>Eleocharis compressa</i> <i>Scutellaria parvula</i> <i>Trichostema brachiatum</i> <p>These indicator species are very specific to Alvars within Ecoregion 6E</p>	<p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover</p>	<p>An Alvar site > 0.5 ha in size.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Alvars of Ontario (2000), Federation of Ontario Naturalists. Ontario Nature – Conserving Great Lakes Alvars. Natural Heritage Information Center (NHIC) has location information available on their website OMNRF Districts Field Naturalist clubs. Conservation Authorities. 	<ul style="list-style-type: none"> Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses Significant Wildlife Habitat Mitigation Support Tool Index #17 provides development effects and mitigation measures. 	<p>Habitat in the Study Area does not meet key criteria to be considered significant. No alvar sites are present in the area.</p>
<p>Old Growth Forest</p> <p>Rationale: Due to historic logging practices, extensive</p>	<p>Forest Community Series: FOD FOC FOM SWD</p>	<p>Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a</p>	<p>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Forest Resource Inventory mapping 	<p>Field Studies will determine:</p> <ul style="list-style-type: none"> If dominant trees species of the are >140 years old, then the area containing these trees is SWH 	<p>The Study Area woodland has been measured to be greater than 30 ha in size, with only 0.15 ha of interior forest assuming a 100 m buffer at the edge of the forest. Further, the woodland habitat is not considered to be old growth</p>



Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.	SWC SWM	multi-layered canopy and an abundance of snags and downed woody debris.	<ul style="list-style-type: none"> • OMNRF Districts. • Field Naturalist clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments 	<ul style="list-style-type: none"> • 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. 	forest as the dominant trees are less than 140 years old and the woodland lacks 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%.	<p>No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs. • Conservation Authorities. 	<p>Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used.</p> <ul style="list-style-type: none"> • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • 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.	<p>No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs. • Conservation Authorities. 	<p>Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used</p> <ul style="list-style-type: none"> • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • 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.	<p>ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M</p> <p>The OMNRF/NHIC will have up to date listing for rare vegetation communities.</p> <p><u>Information Sources</u></p> <ul style="list-style-type: none"> • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs. • Conservation Authorities. 	<p>Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of Significant Wildlife Habitat Technical Guide.</p> <ul style="list-style-type: none"> • 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 were documented in the Study Area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Waterfowl Nesting Area</p> <p>Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.</p>	<p>American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard</p>	<p>All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4</p> <p>Note: includes adjacency to Provincially Significant Wetlands</p>	<p>A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur.</p> <ul style="list-style-type: none"> Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ducks Unlimited staff may know the locations of particularly productive nesting sites. OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. Reports and other information available from Conservation Authorities. 	<p>Studies confirmed:</p> <ul style="list-style-type: none"> Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant. Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. Significant Wildlife Habitat Technical Guide Index #25 provides development effects and mitigation measures. 	<p>Uplands are present within the Study Area adjacent to wetlands within the Study Area.</p> <p>Wetland communities along the outer edges of Little Lake consisting of Midland Little Lake PSW is present on the south-eastern most corner of the property.</p> <p>Further consideration of this SWH is provided in the EIS.</p>
<p>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</p> <p>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.</p>	<p>Osprey Special Concern Bald Eagle</p>	<p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p>	<p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <ul style="list-style-type: none"> Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. Nature Counts, Ontario Nest Records Scheme data. OMNRF Districts. Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented Reports and other information available from Conservation Authorities. Field Naturalists clubs 	<p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> One or more active Osprey or Bald Eagle nests in an area. Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH , maintaining undisturbed shorelines with large trees within this area is important . For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. , Area of the habitat from 400-800m is dependent on-site lines from the nest to the development and inclusion of perching and foraging habitat To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" Significant Wildlife Habitat Technical Guide Index #26 provides development effects and mitigation measures 	<p>Bald Eagle and Osprey Nesting Foraging and Perching SWH has been considered due to the Little Lake shoreline in the southern portion of the Study Area, outside of the Area of Focus.</p> <p>No Bald Eagle or Osprey nesting sites are listed in the area (LIO; MNRF, 2023) and no Bald Eagles or Osprey were recorded during site surveys.</p> <p>Breeding Bird Atlas data has no possible breeding evidence recorded in the area (square 17TNK85) for Bald Eagle or Osprey.</p> <p>Subsequently, Bald Eagle and Osprey Nesting, Foraging and Perching Habitat SWH is considered to be absent within the Study Area.</p>



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Woodland Raptor Nesting Habitat</p> <p>Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>	<p>Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk</p>	<p>May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3</p>	<p>All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer</p> <ul style="list-style-type: none"> Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF Districts. Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. Check data from Bird Studies Canada. Reports and other information available from Conservation Authorities. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH (the 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. 	<p>The Study Area woodland feature has been measured to be approximately 46 ha in size with no interior forest assuming a 200 m buffer at the edge of the forest.</p> <p>None of the listed species were recorded during site surveys.</p> <p>Candidate Woodland Raptor Nesting Habitat SWH is therefore not present in the Study Area.</p>
<p>Turtle Nesting Areas</p> <p>Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles.</p>	<p>Midland Painted Turtle</p> <p><u>Special Concern Species</u> Northern Map Turtle Snapping Turtle</p>	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1</p>	<ul style="list-style-type: none"> Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. Natural Heritage Information Center (NHIC) Field Naturalist clubs 	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of 5 or more nesting Midland Painted Turtles One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area 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. <p>Significant Wildlife Habitat Technical Guide Index #28 provides development effects and mitigation measures for turtle nesting habitat.</p>	<p>Candidate ELC ecosites were not documented within the Study Area; Study Area is wooded/residential.</p> <p>No exposed soil areas were noted within the property.</p> <p>Note that nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</p> <p>Therefore, candidate Turtle Nesting Areas SWH is not present in the Study Area.</p>



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. <ul style="list-style-type: none"> Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species Information Sources <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Presence of a wetland, pond or woodland pool (including vernal pools) >500m2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat Information Sources <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. OMNRF District. OMNRF wetland evaluations Field Naturalist clubs Canadian Wildlife Service Amphibian Road Call Survey Ontario Vernal Pool Association: http://www.ontariovernalpools.org 	Studies confirm; <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. Significant Wildlife Habitat Technical Guide Index #14 provides development effects and mitigation measures. 	No potential amphibian breeding habitat (<i>i.e.</i> , wetland, pond, vernal pool) was observed in the Study Area upland woodlands. Amphibian call survey results did not meet criteria for Amphibian Breeding Habitat (Woodland).
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.	<ul style="list-style-type: none"> Wetlands>500m2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats. Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. OMNRF Districts and wetland evaluations 	Studies confirm: <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; Wetland with confirmed breeding Bullfrogs are significant. The ELC ecosite wetland area and the shoreline are the SWH. A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. 	Habitat considered present within Study Area for amphibian breeding (wetlands). Wetlands are adjacent and not isolated from woodlands. Amphibian call survey results did not meet criteria for Amphibian Breeding Habitat (Wetlands).



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			<ul style="list-style-type: none"> Reports and other information available from Conservation Authorities. 	<ul style="list-style-type: none"> 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. 	
<p>Woodland Area-Sensitive Bird Breeding Habitat</p> <p>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.</p>	<p>Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren</p> <p>Special Concern: Canada Warbler</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p>	<p>Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha, <ul style="list-style-type: none"> Interior forest habitat is at least 200 m from forest edge habitat. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Local bird clubs. Canadian Wildlife Service (CWS) for the location of forest bird monitoring. Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species Reports and other information available from Conservation Authorities. </p>	<p>Studies confirm:</p> <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding 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. 	<p>The contiguous woodland has been measured to be approximately 46 ha in size with no interior forest assuming a 200 m buffer at the edge of the forest.</p> <p>Veery and Ovenbird were recorded at the southern portion of the property.</p> <p>Further consideration for this SWH is provided in the EIS.</p>



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



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



Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
<p>Amphibian Movement Corridors</p> <p>Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.</p>	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. <ul style="list-style-type: none"> Corridors will be determined based on identifying the significant breeding habitat for these species 	Movement corridors between breeding habitat and summer habitat. <ul style="list-style-type: none"> Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat –Wetland) <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Office. Natural Heritage Information Center (NHIC). Reports and other information available from Conservation Authorities. Field Naturalist Clubs. 	<ul style="list-style-type: none"> Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. Significant Wildlife Habitat Technical Guide Index #40 provides development effects and mitigation measures 	Amphibian movement corridors are to be determined when amphibian breeding habitat is confirmed as SWH, thus the habitat is not pertinent to the proposed development.
<p>Deer Movement Corridors</p> <p>Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.</p>	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 <ul style="list-style-type: none"> 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). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> MNRF District Office. Natural Heritage Information Center (NHIC). Reports and other information available from Conservation Authorities. Field Naturalist Clubs. 	<ul style="list-style-type: none"> Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. Shorter corridors are more significant than longer corridors. Significant Wildlife Habitat Technical Guide Index #39 provides development effects and mitigation measures 	Deer wintering SWH is not present in the Study Area therefore deer movement corridors are not expected to be present.



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	<ul style="list-style-type: none"> Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. Forested habitats need to be large enough to provide cover and protection for black bears 	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech), <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 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	<ul style="list-style-type: none"> The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated. 	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. <ul style="list-style-type: none"> Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting <u>Information Sources</u> <ul style="list-style-type: none"> OMNRF district office Bird watching clubs Local landowners Ontario Breeding Bird Atlas 	Studies confirming lek habitat are to be completed from late March to June. <ul style="list-style-type: none"> Any site confirmed with sharp-tailed grouse courtship activities is considered significant The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat Significant Wildlife Habitat Technical Guide Index #32 provides development effects and mitigation measures 	Not applicable, study area is not located on Manitoulin Island.



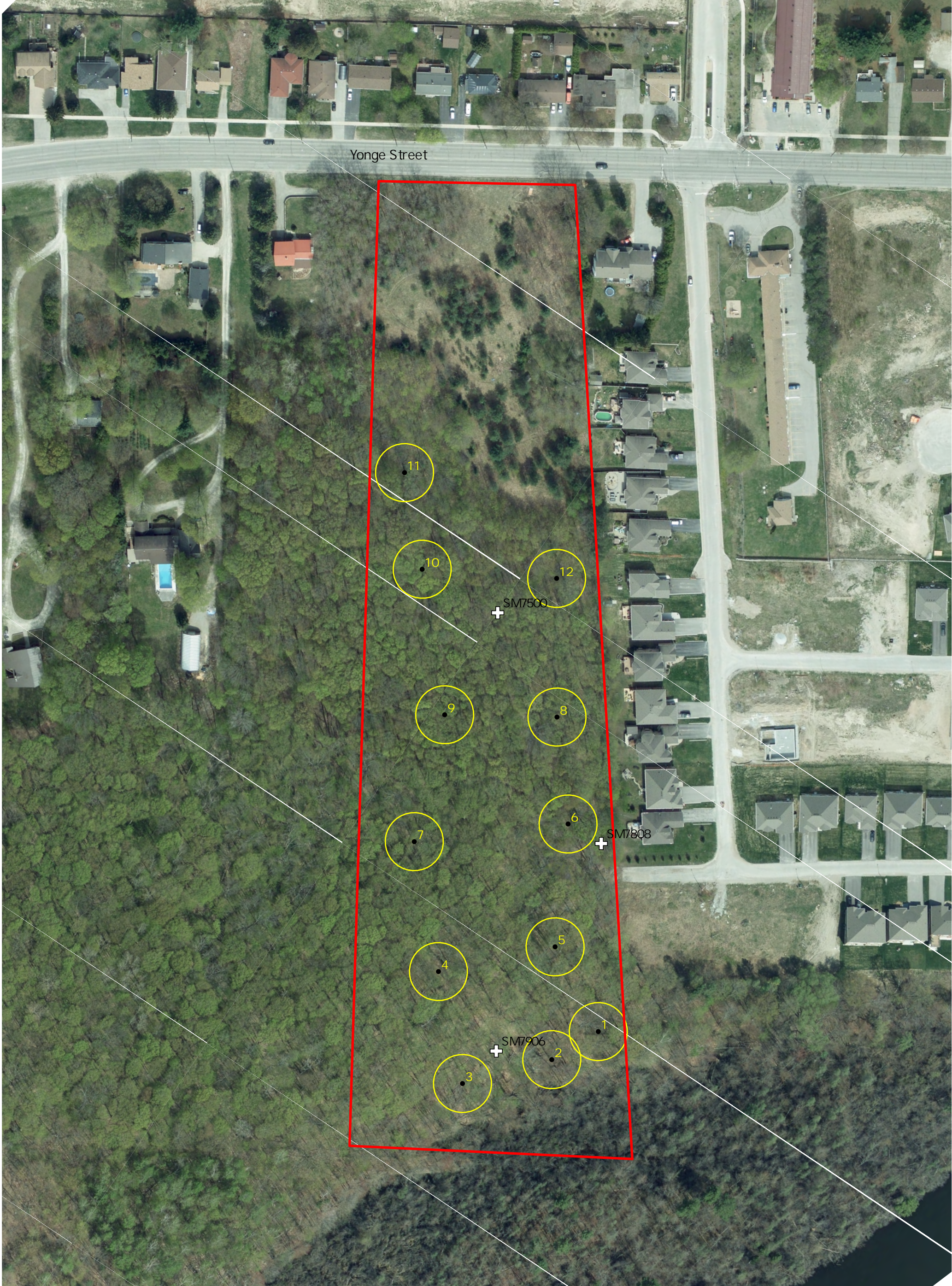
Appendix H

Bat Habitat Data

Snag Plot Data

Acoustic Recording Data





983 Yonge Street

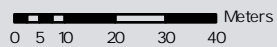
Town of Midland

- Property Limits
- Snag Density Survey Plot Location
- + Bat Acoustic Monitor
- Snag Density Survey Plot

Bat Habitat Assessment - Snag Plot and Acoustic Recording Locations



M&P DRAWING INFORMATION:
 DATA PROVIDED BY: ESRI CANADA
 M&P CREATED BY: HM
 M&P CHECKED BY: BB
 M&P PROJECTION: NAD 1983 UTM ZONE 17N



FILE LOCATION:
 Path: C:\Users\S_Brady\Birks\Birks NHC Team for all - Documents\Project Folders\04 - SBrady Projects\ArcGIS - Projects here\Projects - here\983Yonge\Midland

PROJECT: 04-042-2021 STATUS: DRAFT DATE: 17/10/2023

		SNAG FEATURES																																																				
ELC Polygon	Plot Number	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																											
FODMS-3	10	White Ash	53		x	x		x													0	2	0	N	Y	N	Y	1	Y	N	N	C																						
		Sugar Maple	70		x	x	x															1	1	1	Y	Y	Y	Y	1	Y	Y	Y	C																					
		Sugar Maple	42			x																0	2	0	N	Y	N	Y	-	N	N	N	C																					
		Sugar Maple	37																			0	2	0	N	Y	N	Y	-	N	N	N	C																					
		Sugar Maple	37																			0	0	0	N	N	N	N	-	N	N	N	C																					
		Sugar Maple	49																			0	1	0	N	Y	N	Y	-	N	N	N	C																					
		Sugar Maple	51			x																0	1	0	N	Y	N	Y	-	N	N	N	C																					
		Sugar Maple	47																			0	0	0	N	N	N	N	-	N	N	N	C																					
		Black Cherry	28		x																	1	0	0	Y	N	N	Y	-	N	N	N	C																					
		Sugar Maple	61																			0	1	2	N	Y	Y	Y	-	N	N	N	C																					
Sugar Maple	57		x																	0	3	0	N	Y	N	Y	-	N	N	N	C																							
TOTAL																						2	13	3	2	8	2	9	2	2	1	2																						
FODMS-3	11	Sugar Maple	66		x	x		x	x												0	4	2	N	Y	Y	Y	2	Y	Y	Y	O																						
		Sugar Maple	27																			0	0	0	N	N	N	N	-	N	N	N	C																					
		Sugar Maple	48		x																	0	0	0	N	N	N	N	-	N	N	N	C																					
		Sugar Maple	30		x																	0	0	0	N	N	N	N	-	N	N	N	C																					
		Sugar Maple	52		x																	0	0	2	N	N	Y	Y	1	Y	Y	Y	C																					
		Sugar Maple	61		x																	0	0	0	N	N	N	N	-	N	N	N	C																					
		White Ash	26																			0	0	0	N	N	N	N	-	N	N	N	C																					
		White Ash	30																			0	0	0	N	N	N	N	-	N	N	N	C																					
		White Ash	28																			0	0	0	N	N	N	N	-	N	N	N	C																					
		Scotch Pine	28			x																0	0	0	N	N	N	N	-	N	N	N	O																					
TOTAL																						0	4	4	0	1	2	2	2	2	2	2																						
FODMS-3	12	Sugar Maple	70		x	x															1	2	0	Y	Y	N	Y	1	Y	N	Y	C																						
		Sugar Maple	28		x																	0	1	1	N	Y	Y	Y	1	Y	Y	Y	C																					
		Sugar Maple	32																			2	0	0	Y	N	N	Y	-	N	N	N	C																					
		Sugar Maple	38																			0	0	0	N	N	N	N	-	N	N	N	C																					
		Sugar Maple	34		x																	0	0	0	N	N	N	N	-	N	N	N	C																					
		Sugar Maple	43		x																	0	1	0	N	Y	N	Y	-	N	N	N	C																					
		Sugar Maple	79		x																	1	0	0	Y	N	N	Y	-	N	N	N	C																					
		Sugar Maple	50		x	x																1	2	1	Y	Y	Y	Y	1	Y	Y	Y	C	Stick nest																				
		Sugar Maple	36																			1	0	0	Y	N	N	Y	-	N	N	N	C																					
		White Ash	25		x																	0	0	0	N	N	N	N	-	N	N	N	C																					
TOTAL																						6	6	2	5	4	2	7	3	2	3																							

snag features						
	Composite Tree	Snag Tree? (field notes)	Candidate Roost Tree (contains snag feature >10m & has a decay class 1-3)	<3m	3-10m	>10m
Total	95.0	40.0	31.0	30	69	37
Avg (total # of snags/total # of plots)	7.9	3.3	2.6	2.5	5.75	3.08333
/ha	158.3	66.7	51.7	50	115	61.6667

12 plots = 0.6 ha
0.6 ha surveyed

S4U07500

06/01/2022 - 06/13/2022
Sunset Time: 20:58
Sunrise Time: 5:37

SPECIES	20:30-21:00	21:00-21:30	21:30-22:00	22:00-22:30	22:30-23:00	23:00-23:30	23:30-00:00	00:00-00:30	00:30-1:00	1:00-1:30	1:30-2:00	2:00-2:30	2:30-3:00	3:00-3:30	3:30-4:00	4:00-4:30	4:30-5:00	5:00-5:30	5:30-6:00	TOTAL	
MYLU			1		3	5	31	11	9	3	4		2	1	1						71
MYSE																					0
MYOTIS				1	2	2	1	1			2				1	2					12
PESU																					0
EPFULANO		13	33	8	19	4	1	1		9	6	6	17	2							119
LACI				2			2		1	4		1									10
LABO			1																		1
LowF																					0
HighF						1			1			1		2							5
TOTAL	0	13	35	11	24	12	35	13	11	16	12	8	19	5	2	2	0	0	0	0	218

TOTAL SAR 83

TOTAL SAR (incl. HIGHF) 88

S4U07808

06/01/2022 - 06/13/2022
Sunset Time: 20:58
Sunrise Time: 5:37

SPECIES	20:30-21:00	21:00-21:30	21:30-22:00	22:00-22:30	22:30-23:00	23:00-23:30	23:30-00:00	00:00-00:30	00:30-1:00	1:00-1:30	1:30-2:00	2:00-2:30	2:30-3:00	3:00-3:30	3:30-4:00	4:00-4:30	4:30-5:00	5:00-5:30	5:30-6:00	TOTAL	
MYLU			1	3	3	5	16	9	5	2	3	1	1		2	2	2				55
MYSE																					0
MYOTIS			2	1																	3
PESU																					0
EPFULANO		6	118	46	58	32	13	5	14	12	14	9	7	5	4		1	1			345
LACI			8	23	31	14	2	4	2		3	3	3		2		1				96
LABO				1					1												2
LowF																					0
HighF			1	1	1	6	4	1	1	3		1									19
TOTAL	0	6	130	75	93	57	35	19	23	17	20	14	11	5	8	2	4	1	0	0	520

TOTAL SAR 58

TOTAL SAR (incl. HIGHF) 77

S4U07906

06/01/2022 - 06/13/2022
Sunset Time: 20:58
Sunrise Time: 5:37

SPECIES	20:30-21:00	21:00-21:30	21:30-22:00	22:00-22:30	22:30-23:00	23:00-23:30	23:30-00:00	00:00-00:30	00:30-1:00	1:00-1:30	1:30-2:00	2:00-2:30	2:30-3:00	3:00-3:30	3:30-4:00	4:00-4:30	4:30-5:00	5:00-5:30	5:30-6:00	TOTAL	
MYLU			90	7	22	33	25	28	33	20	9	17	17	14	6	8	3				332
MYSE																					0
MYOTIS			6	3	3	12	3	12	8	10	12	8	11	11	6	1	2	1			109
PESU																					0
EPFULANO		5	61	13	20	10	5	5	6	2	4	5	4	6							146
LACI			1	3	2			2	2	1	1			1							13
LABO																					0
LowF																					0
HighF			43	10	16	45	37	35	21	11	14	17	10	8	3	4	3				277
TOTAL	0	5	201	36	63	100	70	82	70	44	40	47	42	40	15	13	8	1	0	0	877

TOTAL SAR 441

TOTAL SAR (incl. HIGHF) 718

Species ID		Groupings		Minimum Frequency Range of Species
MYLU	Myotis lucifugus	MYOTIS	Myotis sp.	MYLU 40 - 45kHz
MYSE	Myotis septentrionalis	EPFULANO	Eptesicus fuscus/Lasionycteris noctivagans	MYSE 40 - 45kHz
PESU	Perimyotis subflavus	LowF	Low Frequency Bat (<35kHz Fmin)	PESU 35 - 40kHz
EPFU	Eptesicus fuscus	HighF	High Frequency Bat (>35kHz Fmin)	EPFU 25 - 30kHz
LANO	Lasionycteris noctivagans			LANO 25 - 30kHz
LACI	Lasiurus cinereus			LACI <25kHz
LABO	Lasiurus borealis			LABO 30 - 35kHz
MYLE	Myotis leibii			MYLE 40 - 45kHz



Appendix I

Species at Risk Assessment





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

Common Name	Scientific Name	ESA Designation ¹	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
Reptiles						
Blanding's Turtle	<i>Emydoidea blandingii</i>	Threatened	Shallow lakes, ponds and wetlands with mucky soft bottoms.	Confirmed 2016 record within the Little Lake PSW and associated open water (MECP correspondence) Previous historical records (1984, 1986) exists for ORAA Square ID 17NK85.	Marginal – SWTM1-1 thicket swamp community present within the property may be considered marginal summer estivation habitats. Potential overwintering habitat within the larger Little Lake PSW complex located within the Study Area.	No development proposed within wetland habitats. Development proposed within 30m of potential marginal summer estivation habitat. Consideration for indirect impacts to the potential habitat is required.
Eastern Hog-nosed Snake	<i>Heterodon platirhinos</i>	Threatened	Fields, forest, shrublands, beaches, old dune habitats. Open, sandy soils. Eastern shore of Georgian Bay in forest clearings and rock outcrops.	2013 records for ORAA Square ID 17NK85. No recent known records of the species in the Study Area.	Although forest habitat is present, individuals within the Eastern Georgian Bay population are more commonly associated with the presence of rock outcrops, beach or sandy dune habitats. None of which are present within the Study Area.	Species not expected to occur within the Study Area. No further consideration required.
Massasauga rattlesnake (Great Lakes – St. Lawrence pop.)	<i>Sistrurus catenatus</i>	Threatened	Populations in Great Lakes/St. Lawrence are concentrated in the upper Bruce Peninsula and east side of Georgian Bay. Massasaugas require semi-open habitat to provide both cover and opportunities for thermoregulation. In Georgian Bay, Massasaugas use a mosaic of bedrock barrens, conifer swamps, beaver meadows, fens, bogs, and shoreline habitats.	Historical 1967 and 1969 records for ORAA Square ID 17NK85. Species known to inhabit habitats associated with Eastern Georgian Bay shoreline however no recent mainland records.	Forested habitats within the property are not representative of key habitat for this species. Mature forest conditions lack the availability of open conditions required for thermoregulation.	Species not expected to occur within the Study Area. No further consideration required.
Birds						
Bank Swallow	<i>Riparia riparia</i>	Threatened	It nests in a wide variety of naturally and anthropogenically created vertical banks, which often erode and change over time; many nests are in active or former aggregate pits.	Ontario Breeding Bird Atlas square 17NK85 indicates confirmed breeding in the area.	The property does not contain any suitable features to support nesting for the species. No vertical banks present within the Study Area. Species not documented during dawn breeding bird surveys.	Species not expected to occur within the Study Area. No further consideration required.
Chimney Swift	<i>Chaetura pelagica</i>	Threatened	Chimney Swift is highly specialized in its habitat requirements, requiring vertical cavities for roosting and nesting. Prior to European settlement, the species predominantly used large hollow trees for nesting and roosting. However, the species	Ontario Breeding Bird Atlas square 17TNK85 indicates confirmed breeding in the general area.	The property does not contain any suitable features to support nesting for the species. No human-made structures present within the property. Species not documented during dawn breeding bird surveys.	Species not expected to occur within the Study Area. No further consideration required.



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

Common Name	Scientific Name	ESA Designation ¹	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
			readily adapted to the creation of artificial structures, and now primarily uses chimneys for nesting and roosting.			
Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	Primarily tall native grasslands, such as pastures, savannahs and hayfields. Non-native pastures, hayfields, weedy meadows. Large tracts of open area are preferred over smaller fragments.	Ontario Breeding Bird Atlas square 17TNK85 indicates confirmed breeding in the general area.	No open habitats are present within the Study Area; species not documented during the 2022 dawn breeding bird surveys.	Species not expected to occur within the Study Area. No further consideration required.
Bobolink	<i>Dolichonyx oryzivorus</i>	Threatened	Common in areas of agricultural grasslands such as hay and pasture farm fields but are also found in other open areas.	Ontario Breeding Bird Atlas square 17TNK85 indicates confirmed breeding in the general area.	Potential habitat is not present in the Study Area; species not documented during 2022 dawn breeding bird surveys.	Species not expected to occur within the Study Area. No further consideration required.
Least Bittern	<i>Ixobrychus exilis</i>	Threatened	In Ontario, the Least bittern is found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels.	Ontario Breeding Bird Atlas square 17TNK85 indicates confirmed breeding in the general area. NHIC Squares 17NK8654 and 17NK8754 identifies the species as being present.	Wetland communities within the Study Area are not composed of cattails and are more representative of thicket swamp habitat which is not a key habitat feature for this species.	Species not expected to occur within the Study Area. No further consideration required.
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Endangered	Considered generalist omnivores, feeding on a variety of plants, insects and even small vertebrates, and showing flexibility in habitat selection. However, they are cavity-nesters. As such, they rely on an abundance of dead older wood to excavate nests.	Ontario Breeding Bird Atlas square 17TNK85 indicates probable breeding in the general area. NHIC Square 17NK8654 identifies the species as being present.	Although mature forest conditions are present within the Study Area, an abundance of dead 'snag' trees were not documented within the property. Species not documented during 2022 dawn breeding bird surveys.	Species not expected to occur within the Study Area. No further consideration required.
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Currently Threatened – COSSARO 2023 report assessed as Special Concern	Eastern Whip-poor-will is usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests.	Ontario Breeding Bird Atlas square 17NK85 indicates possible breeding in the area (2 nd atlas).	The open WOCM1 community is small and not suitable to support this species. No other suitable habitat features within the Study Area.	Species not expected to occur within the Study Area. No further consideration required.
Mammals						
Eastern Small-footed Myotis	<i>Myotis leibii</i>	Endangered	Roosts in rock outcrops, buildings, under bridges, in caves, mines or hollow trees. Hibernates in caves and abandoned mines.	No known background sources.	No suitable habitat features present within the Study Area.	Species not expected to occur within the Study Area.



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

Common Name	Scientific Name	ESA Designation ¹	Habitat Requirements	Background Records	Habitat Affinities Present Within Study Area	Potential for Impacts to Species (Section 9) or Habitat (Section 10)
						No further consideration required.
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Roosts in buildings, barns, or trees with suitable characteristics (<i>i.e.</i> , loose bark, cavities). Forages over water, along waterways, forest edges. Hibernates in caves or abandoned mines.	No known background sources.	Yes - the forest communities within the property and Study Area contain trees that may provide suitable roosting habitat.	Consideration for potential impacts required.
Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	Roosts in trees with suitable characteristics (<i>i.e.</i> , loose bark, cavities). Forages in forest edges and forest gaps. Hibernates in caves or abandoned mines.	No known background sources.	Yes - the forest communities within the property and Study Area contain trees that may provide suitable roosting habitat.	Consideration for potential impacts required.
Tri-colored Bat	<i>Perimyotis subflavus</i>	Endangered	Roosts in structures, barns, or trees with suitable characteristics. Forages over water, along waterways and in the forest. Hibernates individually in caves or abandoned mines.	Less common. Found in southern Ontario, with a scattered distribution. No known background sources.	Yes - the forest communities within the property and Study Area contain trees that may provide suitable roosting habitat. Species not documented during bat acoustic surveys in 2022.	Species not expected to occur within the Study Area. No further consideration required.
Plants						
Butternut	<i>Juglans cinerea</i>	Endangered	In Ontario, Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges.	General known occurrences in Simcoe County.	Yes – the deciduous forest habitat and open portions of the property contain suitable conditions for the species. Species not documented during vegetation surveys.	Species not documented within the property. No further consideration required.
Black Ash	<i>Fraxinus nigra</i>	Endangered	Black Ash is a facultative wetland species that occurs in moist bottomland habitats such as swamps, fens, floodplain forests and shorelines. It is most commonly found and grows best in well-aerated flooded areas. It occasionally occurs in upland habitats, but upland occurrences are typically in depressions or other moist microsites.	General known occurrences in Simcoe County.	Yes – the wetland conditions found within the property would provide suitable conditions for the species. Species not documented during vegetation surveys.	Species not documented within the property. No further consideration required.

¹Designation Status

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