Environmental Impact Study – 659 Balm Beach Road East, Town of Midland, County of Simcoe, Ontario

August 15, 2025

Prepared for:
2798860 Ontario Inc.

Cambium Reference: 12685-004

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1.0 Introduction

Cambium Inc. (Cambium) was retained by 2798860 Ontario Inc. (the Client) to conduct an Environmental Impact Study at 659 Balm Beach Road East, in the Town of Midland, County of Simcoe, Ontario (Figure 1). We understand that the Client is pursuing a residential development by way of Official Plan Amendment (OPA). Based on the proposed development, the entire property will be considered the Site for this report.

The following Environmental Impact Study (EIS; the Study) serves to outline and assess potential impacts to natural heritage features identified during the preliminary development review process, as required by the Provincial Planning Statement (PPS) (2024) and local municipal planning policies. The Site contains or is adjacent to (within 120 m of) the following mapped natural heritage features: woodlands and unevaluated wetlands (on adjacent lands). The Site is within Ecoregion 6E of Ontario (Crins, Gray, Uhlig, & Wester, 2009) and within the Town of Midland settlement area.

The *Endangered Species Act*, 2007 (ESA) protects endangered and threatened species and their habitats from harm or destruction. Habitat for endangered and threatened species is also afforded protection under provincial natural heritage policy; however, it is ultimately the proponent's responsibility to ensure that no harm to these species or their habitats occurs during their planned activities. This Study includes a habitat-based screening for species of conservation concern to determine if the Site has suitable habitat for any provincially or federally listed species at risk (SAR).

This Study has been prepared to meet application submission standards for the proposed development of the Site, and includes: the results of the background review, a description of methods used to collect Site-specific natural heritage information, and a summary of field investigations conducted on the Site. Information has been compiled to characterize the existing form and function of natural heritage features on and adjacent to the Site and provide an evaluation of the significance and sensitivity of those features. Furthermore, an assessment of potential for impacts to these features in relation to the proposed development is provided. Data was interpreted in accordance with provincial and municipal policies and regulations to

determine potential constraints to development, to guide the decision-making process and address approval authority requirements.

1.1 Terms of Reference

The proposed scope of work was prepared following the meeting held on January 31, 2024, with Severn Sound Environmental Association (SSEA) and the Town of Midland. The Terms of Reference (TOR) were circulated to the Town of Midland, and subsequently to SSEA, for review and comment. A response was received from the Town of Midland dated February 23, 2024, confirming the TOR. Relevant correspondence and documentation are included in Appendix A.

1.2 Summary of Proposed Development

The Site is approximately 20.6 ha in size. The majority of the Site is vacant and composed of a woodland, with small inclusions of existing commercial land-use (i.e., The Pool Hall) fronting on Balm Beach Road, as well as an existing residential property fronting Country Road 93. Additional existing industrial / commercial structures and associated parking lots exist on adjacent lands to the north, while County Road 93 borders the Site to the east. Adjacent lands to the south and west consist of undeveloped natural areas.

The proposed development consists of an Official Plan Amendment (OPA) by way of Draft Plan application to support a residential development on the subject Site. A Conceptual Site Plan is provided in Appendix B.

2.0 Natural Heritage Policy Context

The evaluation of the form and function of natural heritage features present on, and adjacent to, the Site was undertaken to meet the requirements of the following legislation, plans and policies:

- Provincial Planning Statement (PPS), 2024
- Town of Midland Official Plan, (2019) and Zoning By-law (2004-90), 2024
- *Endangered Species Act* (ESA), 2007
- *Species at Risk Act* (SARA), 2002
- *Migratory Birds Convention Act* (MBCA), 1994

This Study includes an assessment of conformity of the proposed development with relevant natural heritage policies. A summary of policy conformity is included in Section 7.0.

2.1 Provincial Planning Statement, 2024

The PPS provides direction on matters of provincial interest related to land use planning and development. Section 4.1 of the PPS (Ministry of Municipal Affairs and Housing, 2024) protects the form and function of eight types of significant natural heritage features, which include:

- significant wetlands in Ecoregions 5E, 6E, and 7E
- significant coastal wetlands
- significant woodlands in Ecoregions 6E and 7E
- significant valleylands in Ecoregions 6E and 7E
- significant wildlife habitat (SWH)
- significant areas of natural and scientific interest (ANSI)
- fish habitat
- habitat of endangered and threatened species
- coastal wetlands in Ecoregions 5E, 6E, and 7E

Given their significance, development and site alteration are prohibited within provincially significant wetlands (PSW) in Ecoregions 5E, 6E, and 7E and within significant coastal wetlands. Development and site alteration in fish habitat and the habitat of endangered and threatened species shall only be permitted in accordance with provincial and federal requirements. Development and site alteration within other natural heritage features and on lands adjacent to all natural heritage features may be permitted if it is demonstrated that there will be no negative impacts on the feature or its ecological function. The PPS defines “development” as the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act. “Site alteration” means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site.

Section 4.2 of the PPS protects the quality and quantity of water, including the form and hydrologic function of sensitive surface water features and sensitive ground water features. Focus is given to maintaining hydrologic linkages and functions at the watershed scale to minimize potential negative impacts, including cross-jurisdictional and cross-watershed impacts of development. Mitigative measures and/or alternative development approaches should be considered for development near water features.

2.2 Municipal Official Plans and Zoning By-Law

The land use designations and zoning of the Site are summarized in Table 1.

Table 1 Summary of Municipal Official Plan Designations and Zoning

Source	Designation / Zoning
Official Plan – County of Simcoe	Settlement Area
Official Plan – Town of Midland (Schedule A)	Strategic Growth Areas I Strategic Growth Areas II Greenlands Secondary Plan Area
Official Plan – Town of Midland (Schedule B)	Greenlands Mixed Use Districts
Official Plan – Town of Midland (Schedule C)	Natural Heritage Mixed-Use Corridor Commercial Corridor
Zoning By-law – Town of Midland	Rural (RU) and Highway Commercial Zone (HC)

Based on a review of the Town of Midland Official Plan we note that the northern boundary of the Site abuts the Built Boundary and Strategic Growth Area I, and the eastern extent of the Site is captured within the Secondary Plan Area and Strategic Growth Area II. In general, strategic growth areas are areas where the Town intends to direct future urban development and intensification.

2.3 Endangered Species Act, 2007

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list, and their habitats, are protected under the provincial *Endangered Species Act, 2007* (ESA) (Government of Ontario, 2007). Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing or taking a member of a species listed as endangered, threatened, or extirpated. Section 10(1) of the ESA prohibits the damage or destruction of habitat of species listed as endangered or threatened. Habitat for special concern species is afforded protection as significant wildlife habitat (SWH) in the PPS. Species at risk (SAR) are discussed throughout this report, as applicable.

It is acknowledged that *Bill 5*: *Protect Ontario by Unleashing Our Economy Act*, 2025 received Royal Assent on June 5 ,2025, which enacts amendments to the *Endangered Species Act, 2007* that are now in force, as well as the creation of the *Species Conservation Act, 2025 (*not yet in effect). These changes are intended to streamline permit applications and approvals and help projects proceed faster while continuing to provide important protections for species at risk and their habitats. The subject Study has been prepared within the existing policy framework of the *Endangered Species Act, 2007*, therefore modifications may be required should the Act be amended and/or repealed before completion of the proposed development.

2.4 Species at Risk Act

The federal *Species at Risk Act* (SARA) was adopted in 2002 to prevent endangered or threatened species from becoming extinct or extirpated, to help in the recovery of endangered, threatened, and extirpated species, and to manage species of special concern to help prevent them from becoming endangered or threatened. Habitat which is deemed necessary for the survival/recovery of a listed wildlife species, referred to as Critical Habitat, is protected under Section 56 of the SARA. The SARA applies to all federal lands in Canada; however, at-risk aquatic and migratory bird species located on private property in Ontario also receive protection under the Act.

Known aquatic SAR populations and associated critical habitats are mapped by DFO. Critical habitat for aquatic SAR may include areas used for spawning, rearing young, feeding, overwintering, and migration.

2.5 Migratory Birds Convention Act, 1994

The federal *Migratory Birds Convention Act, 1994* (MBCA) prohibits killing, capturing, injuring, taking or disturbing of the listed migratory birds. Including damaging, destroying, removing, or disturbing of nests of all migratory bird species that contain a live birds or viable eggs. In 2022, new Migratory Birds Regulations (MBR) were adopted that afford year-round protection to the nests of 18 migratory species, until the nest is deemed to be abandoned. Nest abandonment must be reported through the Abandoned Nest Registry, administered by Environment and Climate Change Canada (ECCC), if there is a need to damage, disturb, destroy, or remove a

nest of a species listed in Schedule 1 of the MBR. The time period to confirm nest abandonment varies by species, and ranges from 12 to 36 months.

3.0 Technical Approach and Data Collection Methods

3.1 Background Information Review

Supporting background information pertaining to the Site and surrounding landscape was compiled and reviewed, as part of a comprehensive desktop exercise, to better understand local biophysical conditions. Data was obtained from provincial, municipal, and other online resources to provide context to the development proposal, and to guide development of the site-specific work program. Field studies were subsequently conducted to verify and/or add detail to the high-level contextual information derived from these publicly available resources.

The comprehensive desktop review for this Site included the following resources:

- Land Information Ontario (LIO) database via the online Natural Heritage Areas: Make-a-Map tool (Ministry of Natural Resources and Forestry, 2024)
- Natural Heritage Information Center (NHIC) database: species at risk (SAR) occurrence records
- Online Atlas Data:
  - Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2020)
  - Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005)
- Natural Heritage Constraints Study – 659 & 701 Balm Beach Road East, Midland (Cambium Inc., 2021)
- Environmental Impact Study – 681 & 701 Balm Beach Road East, Midland (Cambium Inc., 2022)
- Town of Midland Official Plan Review and Update Project: Natural Heritage System Review (Severn Sound Environmental Association, 2009)

Mapped natural heritage features present in the general area of the Site are shown on Figure 1. A summary of background review results is provided in Table 2.

Table 2 Background Review Summary

Source	Location Reference	Relevant Records
LIO Geographic Database	Site and 120 m adjacent lands	Woodlands Unevaluated wetlands (adjacent lands)
NHIC Database	17NK8553 17NK8563	Red-headed Woodpecker – END Massasauga (Great Lakes/St. Lawrence population) – THR Grasshopper Sparrow – SC Wood Thrush – SC Eastern Wood-pewee – SC Golden-winged Warbler – SC Eastern Meadowlark – THR Least Bittern - THR
Ontario Breeding Bird Atlas (OBBA)	17NK85	Incorporated into list of species within Appendix C
Ontario Reptile and Amphibian Atlas (ORAA) (ORAA, 2023)	17NK85	Incorporated into list of species within Appendix C
Aquatic SAR distribution maps	Site and 120 m adjacent lands	None

Note: THR = Threatened species on SARO list ; END = Endangered species on SARO list; SC = Special concern species on SARO list. The Species of Conservation Concern Screening provided in Appendix C includes a list of all species within the overlapping OBBA and ORAA squares with potential policy implications.

3.2 Consultation and Agency Correspondence

Regulatory agency consultation may involve input from Fisheries and Oceans Canada (DFO), the Ministry of Natural Resources and Forestry (MNRF), the Ministry of Environment, Conservation, and Parks (MECP), and/or the local Conservation Authority, as applicable. The MECP is responsible for administering the ESA and providing direction on potential compliance issues. MECP has prepared a guidance document titled *Client's Guide to Preliminary Screening for Species at Risk* (Ministry of the Environment, Conservation and Parks, 2019). This document aims to "help clients better understand their obligation to gather information and complete a preliminary screening for SAR before contacting the Ministry". This document was used to guide the SAR habitat-based screening for the Study.

No direct consultation with regulatory authorities was undertaken for this project due to the availability of site-specific data via publicly accessible resources.

3.3 Field Investigations

Ecological investigations were completed on the Site by a team of qualified ecologists to understand potential ecological constraints to development and opportunities for restoration/enhancement. Information gathered through the background review was used to guide the development of the fieldwork program and was supplemented with additional Site-specific information gathered through various standard methodologies. Survey methodologies for each of the field investigations completed on the Site are described in the following sections.

All surveys were conducted by appropriately trained Cambium staff. Curriculum vitae's (CV's) for all Cambium staff are provided in Appendix H. Survey stations were GPS marked in the field. Data was documented manually, reviewed upon return to the office, and transposed to digital format for secure data management.

A summary of the field investigations completed on the Site is presented in Table 3. Representative Site photos are included within the Photo Log in Appendix D. Survey stations/areas are shown on Figure 2.

Table 3 Summary of Field Investigations

Date	Time On Site	Atmospheric Conditions	Observer	Activities
2024-05-14	0900-1400	Air Temp: 10.0-16.0ºC Wind: 0,1 Noise: 0,1 Sky: 0,1,2	B. Hnatiw	Ecological Land Classification Vegetation Inventory
2024-06-04	0510-0720	Air Temp: 14.0-16.0ºC Wind: 1 Noise: 2,3 Sky: 1	A. Alaimo	Breeding Bird Survey 1
2024-06-11	0745-1030	Air Temp: 14.0-16.0ºC Wind: 1 Noise: 2,3 Sky: 1	B.Hnatiw	Acoustic Monitoring Device Installation
2024-06-18	2230-2315	Air Temp: 13.0-15.0ºC Wind: 1 Noise: 1,2 Sky: 0,1	B. Hnatiw	Eastern Whip-poor-will Survey 1
2024-06-20	2225-2310	Air Temp: 22.5-22.8ºC Wind: 0 Noise: 0-1 Sky: 1-2	M. Horn	Eastern Whip-poor-will Survey 2
2024-06-21	0800-1000	Air Temp: 14.0-16.0ºC Wind: 2 Noise: 2,3 Sky: 1	B. Hnatiw	Acoustic Monitoring Device Retrieval
2024-06-26	0515-0750	Air Temp: 18.0-23.0ºC Wind: 2 Noise: 2,3 Sky: 1	A. Alaimo	Breeding Bird Survey 2

Date	Time On Site	Atmospheric Conditions	Observer	Activities
2024-07-16	2100-2200	Air Temp: 21.0-23.0ºC Wind: 0,1 Noise: 2 Sky: 0	M. Horn	Eastern Whip-poor-will Survey 3
2024-07-25	0900-1400	Air Temp: 20.0-23.0ºC Wind: 2 Noise: 0 Sky: 0	B. Hnatiw	Ecological Land Classification Vegetation Inventory 2 Butternut Health Assessment

Notes: Wind = Beaufort Wind Scale value (0 = 0-2 kph, 1 = 3-5 kph, 2 = 6-11 kph, 3= 12-19 kph, 4 = 20-30 kph, 5 = 31-39 kph, 6 = 40-50 kph). Noise is reported based on background noise levels: Index 0 – no appreciable effect, 1 – slightly affecting sampling, 2 – moderately affecting sampling, 3 – seriously affecting sampling, 4 – profoundly affecting sampling.

3.3.1 Plant Communities and Flora

3.3.1.1 Ecological Land Classification and Vegetation Surveys

The Ecological Land Classification (ELC) System for Southern Ontario (Lee H. , et al., 1998) was used to classify vegetation communities on the Site. Definitions of vegetation types are derived from the ELC for Southern Ontario First Approximation Field Guide (Lee H. , et al., 1998) and the revised 2008 tables. ELC units were initially delineated and classified by orthoimagery interpretation. Field investigations served to confirm the type and extent of ELC communities on the Site through vegetation surveys and soil assessments with a hand auger, where vegetation types could not be classified based on vegetation alone. Where vegetation communities extended off the Site, classification was completed through observation from property boundaries and publicly accessible lands.

Vegetation data reported herein includes the provincial status of plant species and vegetation communities, where such information exists. Sensitivity of individual vegetation species was evaluated based on the coefficient of conservatism (CC) which is a measure of the tolerance of a species to disturbance and fidelity to a specific habitat type; species with CC of 9-10 exhibit a high degree of fidelity to a narrow range of habitat parameters. The sensitivity of vegetation communities was evaluated through an assessment of various community attributes including

age, habitat quality, degree of disturbance, presence of non-native/invasive species, and presence of sensitive plant species (plants with CC of 9-10). A description of CC values is provided in Table 4.

Table 4 Coefficient of Conservatism (Adapted from Oldham et al. 1995)

Coefficient of Conservatism	Rank	Description
0 to 3	Tolerant	Found in a wide variety of plant communities, including disturbed sites.
4 to 6	Moderately Conservative	Typically associated with a specific plant community but tolerate moderate disturbance.
7 to 8	Conservative	Typically associated with a plant community in an advanced successional stage that has undergone minor disturbance.
9 to 10	Highly Conservative	Typically displaying a high degree of fidelity to a specific plant community or a narrow range of synecological parameters.

3.3.1.2 Butternut Health Assessment

Butternut (*Juglans cinerea*) is an endangered species protected under the provincial *Endangered Species Act, 2007* (ESA) from being killed, harmed, or removed. The level of protection granted to Butternut trees is determined based on the degree to which an individual tree has been affected by the fungal pathogen known as butternut canker (*Sirococcus clavigignenti-juglandacearum*). Prior to undertaking any activity that may affect the Butternut or the lands within 25 m of a tree, an assessment of tree health must be performed by a Butternut Health Expert (BHE) (i.e., a qualified professional who has the expertise, education, training, and experience necessary to assess the health of butternut trees and to carry out the responsibilities imposed on the expert by Ontario Regulation 830/21). The health assessment divides trees into three health categories based on procedures outlined in the Butternut Assessment Guidelines (Ministry of Environment Conservation and Parks, 2021). For each tree, the BHE must determine: the health category of the tree, whether the tree is a putative hybrid, and whether the tree is believed to be naturally occurring or cultivated. Butternut health categories are defined as follows:

- Category 1: affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut trees in the area in which the tree is located.
- Category 2: not affected by butternut canker or affected by butternut canker but the degree to which it is affected is not as advanced as Category 1 and retaining the tree could support the protection or recovery of butternut trees in the area in which the tree is located.
- Category 3: could be useful in determining how to prevent or resist butternut canker.

Hybrids of Butternut and non-native Walnut trees are different species from Butternut, are not fully native to Ontario, and are not protected under the ESA. To determine if a tree is a putative hybrid, the BHE must use the Key for Field Identification of Butternut Hybrids as detailed in the ministry guidelines. Should the field assessment results be inconclusive, genetic testing may be pursued.

Butternut health evaluations should be carried out during the Butternut growing season (May 15 to August 31); out of season evaluations may be conducted but require the exclusion of certain assessment criteria, as detailed in the Ministry guidelines.

3.3.2 Aquatic Habitat and Fish

3.3.2.1 Surface Water and Drainage Feature Mapping

Surface water features on and adjacent to the Site were reviewed to determine the presence/permanence and direction of flow and assess conveyance. Where feasible, substrate type and cover features of surface water features were also noted. Indicators of surficial drainage, including erosion of soils, gullies, and sediment deposition areas were noted and traced to identify sources of erosion. All watercourse and drainage feature crossings were documented and georeferenced in the field, including bridges, culverts, and bed-level crossings.

3.3.3 Wildlife and Wildlife Habitat

3.3.3.1 Breeding Bird Surveys

Two early morning breeding bird surveys on the Site, using Components of the Ontario Breeding Bird Atlas Guide for Participants (Ontario Breeding Bird Atlas, 2001) and the Forest Bird Monitoring Program (Canada Wildlife Services, 2008) were carried out during the peak breeding season between May 24 and July 10, a minimum of seven days apart. Point count stations were established in various habitat types and were combined with incidental observations to determine the presence, variety, abundance, and breeding evidence of species. As outlined in the OBBA protocol, point counts are to be done between dawn and five hours after dawn, when wind speed is low (<19 km/h) and in the absence of rain or thick fog. Surveys conducted outside of this five hour window remain valid, provided that the protocol adjustment is documented and justifiable. All species observations (visual and auditory) were recorded at predetermined point count stations, supplemented with observations documented between point count stations, and applied to the nearest station. Each species observed was classified and assigned a code based on the highest level of breeding evidence, as defined by the protocol: Confirmed, Probable, Possible or Observed.

The Natural Heritage Information Center (NHIC) database and Species at Risk in Ontario (SARO) list were reviewed to determine the current provincial status for each bird species.

3.3.3.2 Crepuscular Breeding Bird Surveys

The Eastern Whip-poor-will (*Caprimulgus vociferus*) is typically found in areas with a mix of open and forested areas, such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands, or openings in more mature forests. In order to determine if the Site is being used as nesting habitat by Eastern Whip-poor-will, avian surveys were conducted following the MNRF protocol (Ministry of Natural Resources and Forestry, 2014) and supplemented with timing recommendations provided in the Canadian Nightjar Survey Protocol (Birds Canada and Environment and Climage Change Canada, 2023). Surveys are to be conducted three times between May and July, centered around full moon cycles. One survey is to be conducted during the first full moon cycle (typically late May / early June) and two surveys are to be conducted in the next full moon cycle (typically late June

/ early July). Since moon phase is known to affect calling rates, the moon should be greater than 50% illuminated above the horizon (generally one week prior to and following the full moon; full moon dates vary from year to year). Conditions should include nights with temperatures above 10°C, no precipitation, low noise levels, wind <19 km/h (Beaufort Wind Scale of 3 or lower), and clear skies. Points should be established 300 m apart; however, based on habitat conditions (size and distribution within the site) this distance may need to be adjusted. All species observations (visual and auditory) are recorded during a five-minute period. The direction and approximate distance from the survey station are also noted.

3.3.3.3 Bat Surveys

Bat acoustic monitoring surveys were completed to determine, with reasonable certainty, the bat species present in the immediate area of the Site. Bat species were identified using analysis of sonographic characteristics from recordings of ultrasonic calls emitted by bats for echolocation. Survey methods were developed based on the MNRF survey guidelines outlined in Bat and Bat Habitats: Guidelines for Wind Power Projects (Ontario Ministry of Natural Resources, 2011) and current guidance provided by MNRF for surveying SAR bats in Ontario. Surveys were conducted using broadband bat detectors (Wildlife Acoustics Song Meters) appropriately placed in target habitats. Passive acoustic recorders were programmed to begin recording 30 minutes before sunset continuing for five hours. Surveys were carried out in the month of June for 10 consectutive nights. Data was processed using equipment specific software to identify bats to species, to the extent possible. All calls, including unidentifiable calls, are reported in the survey data. The NHIC database and SARO list were reviewed to determine the current provincial status for all bat species identified.

Cambium used the automatic species identification feature of the Wildlife Acoustics Kaleidoscope Pro Version 5.6.8 software package to analyze all ultrasonic recordings. The data was analyzed using the Auto ID for Bats of North America 5.4.0 Ontario feature, and the batch processing option. Data was processed using equipment specific software to identify bats to species, to the extent possible. All calls, including unidentifiable calls, are reported in the survey data. Auto ID feature settings were selected as follows:

Bats of North America 5.4.0 (Ontario Region)

Minimum to Maximum Frequency Range = 8-120 kHz

Minimum and Maximum length of detected pulses = 2-500 ms

Maximum inter-syllable gap = 500 ms

Minimum number of pulse = 2

The Kaleidoscope Pro Auto ID feature assigns p-values to each group of species-assigned recording events. These p-values provide a measure of the likelihood that a specific bat species was present in the recording area. A p-value <0.05 indicates a high probability of species presence. A p-value >0.05 and <0.1 indicates a medium probability of species presence. According to the software developer/publisher, a p-value >0.1 is indicative of a false positive.

3.3.3.4 Habitat-Based and Encounter Surveys

Given the scale of the proposed development, a habitat-based approach was used to assess potential impacts to wildlife, consistent with standard practice. General habitat information gathered through the field investigations was used to assess the connectivity of the Site with the surrounding landscape and evaluate the ecological significance of the local area. Cambium staff actively searched for features that may provide specialized habitat for wildlife. These searches included inspecting tree cavities, overturning logs, rocks and debris, and scanning for scat, browse, sheds, fur, etc. Any evidence of breeding, forage, shelter, or nesting was noted. Species habitat and nesting observations were documented and photographed.

Encounter surveys included track and sign surveys, area searches, and incidental observations, concurrent with other field surveys. Any wildlife (including mammals, reptiles, amphibians, birds, butterflies, native bumble bees and dragonflies) seen and identified were recorded. When encountered, tracks and other signs (e.g., stick or cavity nests, tracks, scats, hair, tree scrapes, etc.) were identified to a species, if possible, and recorded.

3.3.4 Approach to Assessment of Significance and Impact Assessment

An assessment was conducted to determine the significance of natural features as well as significant species observed or determined to have the potential to exist on the Site or on

adjacent lands. The assessment was completed by analysing natural environment data collected through the background material described in Section 3.1 and field surveys, using the methods and criteria outlined in the following reference materials:

- Natural Heritage Reference Manual [NHRM; (MNRF, 2010)]
- Significant Wildlife Habitat Technical Guide [SWHTG; (MNRF, 2000)]
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E [SWHCS; (MNRF, 2015)]
- Habitat mapping for provincially endangered and threatened species through application of ESA regulated habitat or General Habitat Descriptions to the Site, where available.

An assessment was then conducted to determine how the proposed project may negatively impact significant natural features or SAR. Preventative, mitigative, and remedial measures were considered in assessing the net effects of the proposed project on the surrounding ecosystem. Where impacts to significant wildlife habitat were determined to be possible, mitigation was determined using the guidance provided in the Significant Wildlife Habitat Mitigation Support Tool [SWHMiST; (MNRF, 2014)].

4.0 Existing Conditions

Data acquired through the background information review and field investigations is summarized in the following sections.

4.1 Landscape Position and Topography

The Site is located within the Mixedwood Plains Ecozone: Lake Simcoe Rideau Ecoregion 6E, which extends southward from a line connecting Lake Huron in the west to the Ottawa River in the east, including Ottawa, Kingston, Peterborough, Barrie, Tobermory, Kitchener, and Toronto. This Ecoregion is characterized by a mixed geology that includes both shallow soil areas such as alvar and bedrock plains, as well as deep soil areas such as the Oak Ridges Moraine. It falls within the Great-Lakes St. Lawrence Forest Region, including deciduous and mixed forests; however, over 50% of the landscape in this Ecoregion is currently in use as agricultural land (Lee H. T., et al., 1998).

The Site is characterized by many abrupt changes in elevation moving from southwest to the northeast boundaries. It was noted during field investigation that the Site has many glacial erratic and divots in the forest floor, creating sudden, short drops, with random slopes throughout the Site. Based on provincial mapping contours, the elevation of the Site ranges from approximately 255 metres above seal level (mASL) down to 210 mASL.

4.2 Surface Water, Hydrology, and Hydrogeology

Provincial mapping shows an unevaluated wetland located approximately 43 m west of the Site. Due to accessibility (i.e., private lands) the unevaluated wetland was not delineated and is therefore assumed to be present as mapped.

No other surface water features were documented on or adjacent to the Site.

4.3 Current and Historic Land Use

Based on a review of historical imagery available through the County of Simcoe interactive mapping (County of Simcoe, 2024), the land use of the Site has remained relatively

unchanged for the past 40 years. Adjacent lands were vacant of buildings and associated structures until approximately 1989.

4.4 Plant Communities and Flora

4.4.1 Ecological Land Classification and Vegetation Inventory

The plant communities on Site are summarized in Table 5 and are mapped on Figure 2. A list of identified species for each community are provided in Appendix E.

Table 5 Plant Communities

No.	ELC Code	Community Description	S -Rank
Upland Plant Communities			
1	FOD5-2	Dry - Fresh Sugar Maple - Beech Deciduous Forest Type	S5
2	CUM	Cultural Meadow	SNA
Anthropogenic			
3	CVC	Commercial	SNA
4	CVR	Residential	SNA

The Site is almost entirely forested and dominated by a mid-aged to mature Sugar Maple (*Acer saccharum*) and American Beech (*Fagus grandifolia*) stand (Community 1). As mentioned in Section 4.1, this community consists of many steep slopes and glacial deposits covering the forest floor. The groundcover and understory layers become dense with Alleghany Blackberry (*Rubus allegheniensis*), Red Raspberry (*Rubus idaeus*), and deadfall from the overhead canopy towards the eastern portion of the Site. A slope bisects Community 1 from southwest to northeast towards the eastern Site boundary, gradually descending approximately 10-15 m to the east (Figure 2).

A small cultural meadow community (Community 2) was identified in the northwestern extent of the Site. This community was dominated by Staghorn Sumac (*Rhus typhina*), Red Elderberry (*Sambucus racemosa*), Red Clover (*Trifolium pratense*), Kentucky Bluegrass (*Poa pratensis*), and English Plantain (*Plantago lanceolata*). Community 2 had many signs of

anthropogenic disturbance. Based on correspondence provided by the Client, the area was previously cleared to accommodate a septic system.

Community 3 is currently occupied by a commercial wood working shop (previously the Pool Hall), with associated areas of manicured lawn and parking. There are two storage structures present in the northeast extent of the community.

Community 4 is currently occupied by an existing residential dwelling, with associated areas of manicured lawn and accessory structures.

4.4.1.1 Floral Inventory

One at-risk or provincially rare (S1, S2, S3) vegetation species was identified on the Site: Butternut (*Juglans cinerea*; provincially endangered). This tree was identified within Community 1 (see Figure 2). A Butternut Health Assessment (BHA) was conducted by a Butternut Health Expert (BHE) to assess the health of the tree as described in Section 3.3.1.2. Further discussion on this BHA and applicable regulatory requirements are provided in Section 5.3.

Invasive Garlic Mustard (*Alliaria petiolate*) was present within Community 1 but was not in abundance and was limited to areas with sparse canopy cover. In addition, Tatarian Honeysuckle (*Lonicera tatarica*) was documented in both Community 1 and 2. Best management practices to reduce the spread of invasive species are provided in Section 6.0.

4.5 Wildlife and Wildlife Habitat

As detailed in Section 4.4, nearly the entire Site is forested, apart from two small exclusions of cultural and anthropogenic disturbance (Community 2 and 3). The Site provides potential linkages and animal movement corridors as it is a part of the continuous unfragmented forested landscape extending onto adjacent lands to the south.

Incidental wildlife observations on Site include American Robin (*Turdus migratorius*), Red-eyed Vireo (*Vireo olivaceus*), Song Sparrow (*Melospiza melodia*), Chestnut-sided Warbler (*Setophaga pensylvanica*), House Wren (*Troglodytes aedon*), Blue Jay (*Cyanocitta cristata*), American Crow (*Corvus brachyrhynchos*), Eastern Chipmunk (*Tamias striatus*), Grey Squirrel

(*Sciurus carolinensis*), Wild Turkey (*Meleagris gallopavo*), Northern Cardinal (*Cardinalis cardinalis*), White-tailed Deer (*Odocoileus virginianus*), and Coyote (*Canis latrans*).

4.5.1 Avian Surveys

4.5.1.1 Breeding Bird Surveys

OBBA breeding bird surveys were completed as detailed in Appendix F. Bird species observed on or adjacent to the Site, breeding evidence, federal and provincial status and s-ranks are provided in Appendix F. As recommended in Table C-3 of the NHRM (MNRF, 2010) all bird species seen or heard in appropriate habitat during the breeding season are considered to be possible breeders. A total of twelve (12) species probable or confirmed breeding evidence were documented (shaded cells in Appendix F).

Species documented on the Site included:

- Two special concern species: Wood Thrush (*Hylocichla mustelina*) and Eastern Wood-pewee (*Contopus virens)*
- Six woodland area sensitive breeding birds: Veery (*Catharus fuscescens*), Ovenbird (*Seiurus aurocapilla*), Black-throated Blue Warbler (*Setophaga caerulescens*), Black-throated Green Warbler (*Setophaga virens*), Scarlet Tanager (*Piranga olivacea*) and Yellow-bellied Sapsucker (*Sphyrapicus varius*)
- 21 additional bird species as detailed in Appendix F.

4.5.1.2 Crepuscular Breeding Bird Surveys

Targeted surveys for Eastern Whip-poor-will were completed as a part of the Study. Two survey points was established on the Site. No Eastern Whip-poor-wills were observed during the targeted surveys or incidentally during field investigations.

4.5.2 Mammal Surveys

4.5.2.1 Bat Acoustic Monitoring

Based on previously completed bat maternity roost survey results (Cambium Inc., 2022) the Site did not meet the minimum snag density threshold (i.e., 10 snags/ha) to qualify for bat

maternity roost SWH on the Site. However, potential still exists for utilization of the Site by SAR bats, including maternity roosting, foraging, and/or non-maternity roosting activity. As such, passive acoustic monitoring was conducted between June 11, 2024, and June 21, 2024, for a total of 10 nights, to assess utilization of the Site by bats. Guidelines provided by the MECP recommend establishing four stations per hectare of suitable habitat, although there is an acknowledgement that this approach may be modified based on Site conditions and size. Cambium identified areas within Community 1 which exhibited the most suitable habitat potential (i.e., adjacent to identified snags) and deployed acoustic monitoring devices within those areas. Stations were dispersed strategically across the community. A total of six (6) acoustic monitoring stations were established on the Site (see Figure 2 for locations).

Based on the results, a total of seven bat species were identified on the Site over the course of the monitoring period. Five out of the seven species identified are relatively common in Ontario (Big Brown Bat (*Eptesicus fuscus*), Little Brown Myotis (*Myotis lucifugus*), Eastern Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), and Silver-haired Bat (*Lasionycteris noctivagans*)). The most dominant species in the area was Hoary Bat (a species listed as endangered under the ESA), followed by Big Brown Bat, and Little Brown Myotis (a species listed as endangered under the ESA). In addition, a low number of events for two other endangered bat species (Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*)) were also detected.

A summary of the 1050 species-linked events documented through the Study is provided in Table 6. Of these events, 316 (30%) were identified as Hoary Bat, 210 (20%) as Big Brown Bat, 157 (15%) as Little Brown Myotis, 114 (11%) as Silver-haired Bat, 11 (1%) as Eastern Red Bat, 3 (0.28%) as Northern Myotis, and 2 (0.19%) as Tri-colored Bat.

Table 6 Bat Acoustic Monitoring Results

Station	Big Brown Bat	Eastern Red Bat	Hoary Bat	Silver-haired Bat	Eastern Small Footed Myotis	Little Brown Myotis	Northern Myotis	Tri-colored Bat	Bat Not Identified to Species
AD1	24	0	184	40	0	6	2	0	46
AD2	19	0	32	12	0	11	1	0	31
AD3	66	0	21	3	0	20	0	0	43
AD4	46	11	37	33	0	24	0	1	42
AD5	34	0	38	19	0	19	0	1	44

AD6	21	0	4	7	0	77	0	0	31
Total	**210**	**11**	**316**	**114**	**0**	**157**	**3**	**2**	**237**
Total	**210**	**11**	**312**	**33**	**0**	**157**	**0**	**0**	**0**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**
Total	**0**	**0**	**4**	**81**	**0**	**0**	**1**	**2**	**0**

Notes:

p<0.05; High probability of species being present

p>0.05 and <0.1; Medium probability of species being present

p>0.1; Low probability of species being present (likely a false positive)

It is important to recognize that the number of events recorded for each species does not indicate the number of individual bats. A single individual could pass by a given acoustic monitoring device multiple times in one evening, resulting in numerous events.

Detection of Species at Risk Bats

A total of 316 events were recorded across all six monitoring stations associated with Hoary Bat. Our results suggest that that there is a high probability that this species was present at monitoring stations 1 to 5 during the survey period. These stations had a p-value of <0.05, indicating a high probability of identification and therefore high likelihood of presence. The four events recorded at station AD6 had a p-value >0.1 indicating very low probability of species detection and accuracy. Station AD1 recorded 184 events indicating that this species is more active around this station, but as noted above, the number of events does not necessarily correspond to an increase in individuals.

A total of 157 events were recorded across all six monitoring stations associated with Little Brown Myotis. Our results suggest that that there is a high probability that this species was present at all six of these stations during the survey period. Station AD6 recorded 77 events, indicating that this species is more active around this station, but as noted above, the number of events does not necessarily correspond to an increase in individuals. All acoustic monitoring stations had a p-value of <0.05, indicating a high probability of identification and therefore high likelihood of presence at all stations.

A total of 144 events were recorded across all size monitoring stations associated with Silver-haired Bat; however, only station AD4 had a p-value of <0.05 indicating a high probability of

identification and therefore high likelihood of presence (recording 33 events in total). All other stations had p-values >0.1 indicating a very low probability of species detection and accuracy.

Eleven events were recorded at station AD 4 for Eastern Red Bat. This station had a p-value of <0.05, indicating a high probability of identification and therefore high likelihood of presence at the station. No other events were recorded for this species at the other five stations.

Two events recorded were associated with Tri-colored Bat. These events were recorded at stations AD4 and AD5. Both stations had p-values >0.1 indicating a very low probability of species detection and accuracy. Therefore, it is unlikely Tri-colored Bat is utilizing the Site. Similarly, Northern Myotis was detected at stations AD1 and AD2 only. Two events with a p-value of <0.05 were recorded at station AD1 indicating a moderate probability of this species being detected. Station AD2 had just a single event recorded with a p-value of >0.1 suggesting Northern Myotis was not likely detected at this station.

Further analysis of habitat and potential impacts to endangered species is discussed in Section 5.3.

5.0 Assessment of Significance and Impact Assessment

This section assesses the significance of natural features and functions (as outlined in Section 3.3.4) observed on the Site or on adjacent lands, as well as the potential impacts to those features that may result from the proposed project, in consideration of the recommended mitigation measures.

5.1 Significant Woodlands

The Simcoe County Official Plan (2013) defines a significant woodland as: an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.

However, the Simcoe County Official Plan also states that local municipalities shall determine whether a woodlot is a significant woodland within a Settlement Area based on criteria established within the local Official Plan.

Section 4.5.3. (c) of the Town of Midland OP states that the Natural Heritage designation shown on Schedule C includes areas that are comprised of significant woodlands, as well as a number of other natural heritage features. Based on a review of Schedule C of the OP, the Site is designated as Natural Heritage and therefore may be considered a significant woodland within municipal policies. The Town of Midland Official Plan Review and Update Project: Natural Heritage System Review (Severn Sound Environmental Association, 2009) also identifies the woodlands that cover the Site as significant.

A detailed assessment of the woodlands on the Site is provided below.

5.1.1 Evaluation of Local Criteria

Significant woodlands are natural heritage features that are afforded protection under provincial policy within Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River), which occur to the south and east of the Canadian Shield. Currently, according to their respective Official Plan Schedules, the planning authority has not explicitly defined or designated significant woodlands within their jurisdiction. In the absence of local criteria for

evaluating woodlands, the Natural Heritage Reference Manual (NHRM) provides such guidance (Ministry of Natural Resources, 2010).

A summary of the significant woodlands assessment, based on the criteria and standards listed in Table 7-2 of the NHRM is provided in Table 7. To be considered significant, a woodland must meet the minimum standard for any one of the criteria listed in Table 7 *and* meet the minimum size for that woodland criterion. The minimum size criteria are contingent upon the percent cover of woodlands within the jurisdiction.

According to the report Simcoe County Forest 2011-2030 (Simcoe County, 2011) the total woodland coverage in the County is 166,935 ha and the County encompasses a total area on 466,870 ha, according to the Simcoe County website (Simcoe County, 2023). Based off these areas, the percent cover of woodlands in the County of Simcoe is approximately 35%.

According to the Town of Midland Official Plan Review and Update Project: Natural Heritage System Review (Severn Sound Environmental Association, 2009) document, the total woodland area in the Town is 1360 ha, providing a total woodland cover of 36.9%.

The column in Table 7 that relates to this percentage (31-60%) has been bolded for ease of reference to the appropriate criteria. An explanation of the results is presented in the following sections.

Table 7 Summary of Woodland Significance Evaluation

Woodlands Significance Criteria	Percent Cover of Woodland in Planning Area					Meets Criteria (Yes/No)
	<5%	5-15%	16-30%	31-60%	>60%	
Woodland Size Criterion						
Woodland Size	2 ha	4 ha	20 ha	**50 ha**	N/A	Yes
Ecological Functions Criteria						
Woodland Interior	any	any	2 ha	**8 ha**	20 ha	Yes
Proximity to Other Woodlands and Other Habitats	0.5 ha	1 ha	4 ha	**10 ha**	20 ha	No
Linkages	0.5 ha	1 ha	4 ha	**10 ha**	20 ha	Yes
Water Protection	0.5 ha	0.5 ha	2 ha	**4 ha**	10 ha	Yes
Woodland Diversity (composition)	0.5 ha	1 ha	4 ha	**10 ha**	20 ha	No
Uncommon Characteristics Criteria						
Unique Species Composition	0.5 ha	1 ha	2 ha	**4 ha**	10 ha	No
Rare Vegetation Community	0.5 ha	1 ha	2 ha	**4 ha**	10 ha	No
Rare or Uncommon Plant Species	0.5 ha	1 ha	2 ha	**4 ha**	10 ha	No
Older Woodland Characteristics	0.5 ha	1 ha	2 ha	**4 ha**	10 ha	No
Economic and Social Functions Criteria						
High Economic or Social Value	N/A	N/A	N/A	N/A	N/A	No

*Note: *woodlands must meet characteristics listed in the criterion **and** the corresponding area threshold*
Bold values indicate the area threshold relevant to this Site

The woodlands on the Site meet the criteria for woodland size and ecological functions. Thus, the woodlands on the Site are considered significant, in accordance with the guidelines outlined in the NHRM.

The woodland on the Site is part of a contiguous and expansive forested area that extends outside of Town boundaries and covers more than 350 ha. Local roads generally do not provide sufficient canopy gap sizes (i.e., > 20 m) to generate feature fragmentation. However,

given the 1360 ha of woodlands identified within the Town of Midland (Severn Sound Environmental Association, 2009), the woodlands on Site equate to approximately 1% of the total woodland cover within the Settlement area, and represent 5% of the adjacent but contiguous woodland community. While the 17 ha of forest provides notable ecological functions, including interior habitat for birds, it represents a small proportion of woodland area locally, the functions of which, should be mitigated in the remaining woodland and throughout forested communities on the local landscape.

5.2 Significant Wildlife Habitat

The NHRM includes high level guidance for identifying SWH, which is further refined in the Significant Wildlife Habitat Technical Guide (SWHTG) and the Significant Wildlife Habitat Criteria Schedules (SWHCS) (MNRF, 2000) (MNRF, 2015). These documents are the basis for identifying areas and features that are considered SWH by the province, and were used in this study to determine SWH at the Site and on adjacent lands.

There are four general categories of significant wildlife habitat: seasonal concentration areas, rare vegetation communities or specialized habitats for wildlife, species of conservation concern, and animal movement corridors. Each category includes several different types of SWH.

The table provided in Appendix G outlines all the types of SWH that are to be considered in ecoregion 6E according to the SWHCS, and includes an assessment of whether or not the criteria for ‘candidate’ SWH is present at the Site for each type (i.e., presence/absence of listed ELC ecosite codes and/or habitat criteria). Where ‘candidate’ SWH is present at the Site, the table goes on to compare the habitats and results of field surveys at the Site to the defining criteria as listed in the SWHCS to determine presence/absence of ‘confirmed’ SWH. Where ‘confirmed’ SWH is identified through the analysis presented in Appendix G, those types of SWH are discussed below in the context of the proposed development. Where presence of ‘confirmed’ SWH can not be ruled out, a conservative approach has been implemented by identifying ‘candidate’ SWH. All candidate and confirmed SWH types are shown on Figure 3.

5.2.1 Seasonal Concentration Areas

Seasonal concentration areas are areas where wildlife occur in aggregations at certain times of year. Examples include concentrations of wildlife during migration, hibernation, wintering areas or specialized breeding areas for colonial species.

The SWHCS for ecoregion 6E identifies the following types of seasonal concentrations of animals that may be considered significant wildlife habitat:

- Waterfowl stopover and staging areas (aquatic and/or terrestrial)
- Shorebird migratory stopover areas
- Raptor wintering areas
- Bat hibernacula
- Bat maternity roost colonies
- Turtle wintering areas
- Reptile hibernaculum
- Colonially nesting bird breeding habitat (bank / cliff)
- Colonially nesting bird breeding habitat (tree / shrub)
- Colonially nesting bird breeding habitat (ground)
- Migratory butterfly stopover areas
- Landbird migratory stopover areas
- Deer yarding and winter congregation areas

No types of seasonal concentration area SWH from the above list that have been identified at the Site or on adjacent lands based on the analysis presented in Appendix G.

5.2.2 Rare Vegetation Communities or Specialized Habitats for Wildlife

5.2.2.1 Rare Vegetation Communities

Rare vegetation communities are those that are considered rare in the province (communities assigned an SRANK of S1 to S3 (extremely rare to rare-uncommon) by the NHIC) as well as vegetation communities that may be rare in a planning area. Such habitats are considered more likely to support rare species of plants or wildlife. Rare vegetation communities to be considered in ecoregion 6E are:

- Cliffs and talus slopes
- Sand barren
- Alvar
- Savannah
- Tallgrass prairie
- Other communities considered provincially rare
- Old growth forests

No types of rare vegetation community SWH from the above list have been identified at the Site or on adjacent lands based on the analysis presented in Appendix G.

5.2.2.2 Specialized Habitats for Wildlife

Specialized habitats are those habitats that support wildlife during a critical part of the life processes, primarily during breeding, but also includes specific features or micro-habitats, such as seeps. Specialized habitats that are to be considered in ecoregion 6E are:

- Waterfowl nesting areas
- Bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nesting, foraging and perching habitat
- Woodland raptor nesting habitat
- Turtle nesting areas

- Seeps and springs
- Amphibian breeding habitat (woodland / wetland)
- Woodland area sensitive bird breeding habitat

The following text provides a discussion of the ‘candidate’ or ‘confirmed’ types of specialised habitat for wildlife SWH from the above list that have been identified at the Site or on adjacent lands based on the analysis presented in Appendix G.

Community 1 on Site is considered candidate woodland raptor nesting habitat as shown on Figure 3. The SWH Criteria tables outline that suitable interior habitat is determined based on a 200 m buffer from edge habitat. As such, if an applicable 200 m buffer is applied to the edges of Community 1, interior habitat conditions, as defined, may be present on Site. However, Cambium notes that no raptors were observed within the identified candidate SWH area, nor elsewhere throughout the Site, during the targeted bird surveys. Further, no signs of raptor nests were documented during Cambium’s numerous visits to the Site, including leaf-off periods in 2022 (Cambium 2022). As such, Raptor Nesting SWH was not confirmed on the Site, but is acknowledged herein as candidate habitat as no targeted surveys were completed. With respect to adjacent lands, the on-Site woodland is part of a large forested area that extends off-Site. It is therefore likely, and assumed, to support woodland raptor nesting habitat in its interior, on adjacent lands.

Breeding bird surveys conducted on the Site documented six woodland area sensitive breeding bird indicator species, including: Black-throated Blue Warbler, Black Throated Green Warbler, Ovenbird, Scarlet Tanager, Yellow-bellied Sapsucker, and Veery. Probable breeding evidence was confirmed for two of these species (Ovenbird and Veery), while the remaining four species were documented with ‘possible’ breeding evidence. Confirmation of this SWH type requires presence of nesting or breeding pairs of three or more of the indicator species. As such, the Site has been identified as candidate woodland area sensitive bird breeding SWH, as shown on Figure 3, as sufficient breeding evidence was not documented to meet defining criteria.

The proposed development includes the removal of the Community 1, and as such, removal of candidate SWH for woodland raptor nesting and woodland area sensitive breeding bird habitat.

To facilitate development in conformity with the PPS (2024), it must be demonstrated that no negative impact to function of the natural heritage feature will occur, post-development. Acknowledging the function of the woodland, an evaluation of impacts should also consider how local wildlife, and specifically the identified SWH functions outlined above, will be maintained or mitigated in a post-development condition. As outlined in Section 5.1.1, the Site is part of an extensive contiguous forested area. While it has been shown that the woodland provides habitat for a variety of species, the composition and habitat characteristics are not considered limiting on the local landscape. Expansive areas of woodland will remain on adjacent lands post-development which would serve to maintain the function of the community in alignment with the policies of the PPS (2024).

To mitigate impacts Cambium recommends a series of site-specific mitigation measures and industry best management practices be considered through the development planning process. In particular, Cambium recommends an Edge Management Plan be developed for the creation of a new forest edge along the southern Site boundary. The design should consider mitigation measures to both wind sheer and forest health, as is the industry standard, but also elements that could encourage the re-establishment of interior forest habitat and potential enhancement to avifauna. In alignment with the SWH function identified, collaboration with SSEA or other local stakeholders could be initiated to incorporate ecological off-setting or enhancement initiatives in the local area (preferably the adjacent woodland), such as strategies outlined in the Area-Sensitive Forest Birds in Urban Areas (Environment Canada, 2007). Finally, nesting birds are protected under the *Migratory Birds Convention Act, 1994*. As a general mitigation measure to minimize negative impacts individuals, vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). These mitigation measures and recommendations are carried forward in Section 8.0.

5.2.3 Habitat for Species of Conservation Concern

Habitat for species of conservation concern (SCC) includes certain habitats for groups of species that are declining provincially, as well as individual species that are considered rare. The types of habitat for SCC to be considered in ecoregion 6E are:

- Marsh bird breeding habitat
- Open country bird breeding habitat
- Shrub / early successional bird breeding habitat
- Terrestrial crayfish
- Special concern or rare wildlife species, including:
    - Species that are ranked S1-S3 by the NHIC and/or are provincially tracked
    - Species with populations that are significantly declining or have a high percentage of their global population in Ontario
    - Species listed as special concern under the ESA
    - Species listed as threatened or endangered under SARA only
    - Regionally or locally rare species, where lists are available

The following text provides a discussion of the ‘candidate’ or ‘confirmed’ types of habitat for species of conservation concern SWH from the above list that have been identified at the Site or on adjacent lands based on the analysis presented in Appendix G.

Two Special Concern or Rare Wildlife species were determined to be confirmed on the Site during field surveys: Eastern Wood-pewee, and Wood Thrush. Both species were documented with ‘probable’ breeding evidence during surveys, within Community 1. Eastern Wood-pewee is listed as special concern in Ontario; however, it is locally abundant and readily observed in areas of Simcoe County with expansive forest cover. Eastern Wood-pewee and Wood Thrush are not area-sensitive species and are known to inhabit a range of forest types that provide mid-canopy foraging habitat. Although Community 1 qualifies as SWH based on provincial criteria, Cambium does not consider the subject habitat to be significant at the local level due to the presence of the above species. Further, the mitigation measures and recommendations discussed in 5.2.2.2, will concurrently serve to mitigate impacts to individuals of the species.

Yellow-banded Bumble Bee (*Bombus terricola*) are habitat generalists, typically nesting in woodlands or edge habitat, adjacent to meadows, grasslands, and farmlands to collect pollen and nectar from a variety of plant genera. As such, the Site could provide nesting habitat for

this species. However, the lack suitable pollinator habitat (e.g., meadows, grasslands or farmlands) on adjacent lands limits the potential for foraging activities is therefore unlikely to support the species. In addition, no Yellow-banded Bumble Bee were observed during field investigations.

5.2.4 Animal Movement Corridors

Animal movement corridors are naturally vegetated parts of the landscape used by animals to move from one habitat to another, typically in response to different seasonal habitat requirements. The SWHCS indicates that movement corridors are to be identified only where certain types of SWH have been identified according to the SWHCS, including:

- Amphibian movement corridors: to be identified when significant amphibian breeding habitat (wetland) is present.
- Deer movement corridors: to be identified when deer wintering habitat is present.

No animal movement corridor SWH from the above list have been identified at the Site based on the analysis presented in Appendix G.

5.3 Habitat of Endangered and Threatened Species

A list of SAR, with potential to occur in the general vicinity of the Site has been compiled based on known species' ranges, habitat requirements, and review of background information sources (as listed in Section 3.1). In addition, the list has been augmented with direct field observations from the Study, as detailed in the previous sections. Cambium has employed a habitat-based screening, supplemented with targeted field surveys, when necessary, in order to identify suitable habitat for species located on or adjacent to the Site. A detailed habitat suitability analysis is provided in Appendix C and a discussion of the results is provided below.

5.3.1 Butternut

Butternut trees across North America have been infected by a fungus known as Butternut canker, which is usually fatal. Butternut is an endangered species and protected under Ontario's *Endangered Species Act,2007. Ontario Regulation 830/21* states that before a Butternut tree can be removed or harmed, its health must be evaluated by a person

designated to assess the health of butternut trees. Butternut trees are divided into three categories based on their health:

- Category 1: in the advanced stages of disease as a result of butternut canker (formerly “non-retainable”)
- Category 2: the tree does not have butternut canker or the disease is not as advanced (formerly “retainable”)
- Category 3: could be useful in determining how to prevent or resist butternut canker (formerly “achievable”)

Each category of tree dictates different requirements under the ESA Ontario Regulation 830/21 Section 23.7. For Category 1 trees, an assessment report must be sent to the MECP office 30 days before the proposed removal and ministry staff must be allowed to visit within the 30-day period, if asked. After 30 days, you can remove or harm any Category 1 tree. Up to fifteen Category 2 trees can be removed, but registration with the MECP is required and additional rules must be followed (i.e., plant butternut seedlings and monitoring requirements for multiple years, or contribute payment to the Species Conservation Fund). Up to five Category 3 trees can be removed, but registration with the MECP is required and additional rules must be followed (i.e., plant butternut seedlings and monitoring requirements for multiple years or contribute payment to the Species Conservation Fund).

As outlined in Section 4.4.1.1, one Butternut was documented on the Site (see Figure 2).

A Butternut Health Assessment was completed by a qualified Assessor at Cambium, in July 2024. Based on this assessment the subject tree was identified as a Category 1.

To comply with provincial legislation, results from the BHA were submitted to MECP for review on September 25, 2024, initiating the 30-day audit period. This review period has since lapsed and the subject tree can be removed in compliance with the ESA.

5.3.2 SAR Bats

As noted above, acoustic monitoring for bats documented six SAR (Little Brown Myotis, Tri-colored, Northern Myotis, Hoary Bat, Eastern Red Bat and Silver-haired Bat).

Cambium recommends that the provision of written approval/documentation of consultation with MECP or policy conformity regarding potential SAR bats on the Site, and subsequent conformity of the ESA, be included as a Draft Plan condition given the pending amendments to the ESA under recently approved Bill 5.

No vegetation removal should occur on Site until approval has been received by MECP. Pending any additional mitigation measures or conditions outlined by MECP, it is recommended that vegetation removal on the Site should occur outside of the active roosting season for bats, which extends from April 1 to September 30 of any given year. If any individuals are encountered, activities should cease until consultation MECP has occurred.

6.0 Mitigation and Best Practices

The mitigation measures and best management practices outlined below should be implemented on the Site, to minimize the potential for adverse impacts to natural heritage features and functions on and adjacent to the Site.

6.1 Mitigation for Significant Natural Heritage Features

A significant woodland and candidate SWH were identified on and adjacent to the Site, as detailed above. The proposed development includes the removal of Community 1, and as such, partial removal of candidate SWH and a significant woodland. This report has outlined the characteristics of these features and associated impacts to the natural features on the local landscape and provides mitigation measures and recommendations to avoid and/or minimize negative impacts in alignment with the PPS (2024). Mitigation measures are outlined below and further summarized in Section 8.0.

As outlined in Section 5.1.1 and Section 5.2.2.2, the Site is part of an extensive contiguous forested area, the characterization of which, is relatively common. While it has been shown that the woodland provides habitat for a variety of species, its composition and habitat function are not considered limiting on the local landscape. As such, development can be pursued in alignment with the PPS (2024), provided the function of the greater woodland feature is maintained. To demonstrate conformity with policy, a series of mitigation measures should be implemented, with goals to avoid or minimize impacts to the remaining adjacent habitat, as well as individual species that utilize the area. In particular, Cambium recommends an Edge Management Plan is developed for the creation of a new forest edge along the southern Site boundary. The design should consider both wind sheer and forest health, as is the industry standard, but also elements that would encourage the re-establishment of interior forest habitat and potential enhancement to avifauna in the remaining community. In alignment with the SWH function identified, collaboration with SSEA or other local stakeholders could be initiated to incorporate ecological off-setting or enhancement initiatives in the local area (preferably the adjacent woodland), such as strategies outlined in the Area-Sensitive Forest Birds in Urban Areas (Environment Canada, 2007). Finally, nesting birds are protected under the *Migratory Birds Convention Act, 1994*. As a general mitigation measure to minimize negative impacts

individuals, vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines).

The proposed concept plan has allocated land to incorporate the recommended Edge Management area along the southern boundary, in addition to maintaining an additional corridor of woodland, running north-south, in an area unsuitable for development due to topography. These lands have been identified as “Natural Heritage Area” on the concept plan and result in 3.3 ha of retained woodland, as shown on Figure 4. The Natural Heritage Area proposed along the southern boundary is 20 m in width and is intended to support the Edge Management Plan and associated mitigation strategies. This area will provide protection to the new forest edge and encourage re-establishment of the interior forest habitat on adjacent lands to the south.

An open discharge channel from the SWM facility is proposed within the southeast portion of the Edge Management Plan area, which will require temporary disturbance to construct. The proposed channel will be captured within the Edge Management Plan, which is intended to be naturalized post-construction. As such, it is not anticipated to negatively impact the function / intent of the area long-term and can be incorporated in the plan. Similarly, temporary disturbance may be required within the north-south corridor portion of the Natural Heritage Area to facilitate the installation of a sanitary forcemain. Provided the disturbed area is limited to the extent feasible, and is re-vegetated / restored following construction, impacts from the work can be appropriately mitigated and algin with the intent of the area.

Finally, Cambium understands that a trail system is being proposed within the Natural Heritage Area. The proposed trail system should be constructed as a low-impact permeable recreational trail (such as a bark-chip trail) without any additional lighting. The implementation of this trail system is in line with the overall intent of the Natural Heritage Area as it provides opportunities for people to pursue recreational activities and connect with natural areas, while ensuring the function of the area is protected.

All Natural Heritage Area’s should remain as naturally self-sustaining vegetated lands post-construction, and protected from future development. The retention of these lands will serve to

reduce impacts to the candidate SWH and significant woodland in alignment with provincial policies, as outlined above.

6.2 Best Management Practices

Table 8 Best Management Practice Recommendations

Potential Impact	Recommended Best Practice
Erosion and Sedimentation	Prior to any construction activities taking place, it is essential that perimeter sediment fencing be installed around construction areas. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key control measure will help prevent sediment from entering surface water features (i.e., wetlands) in the surrounding landscape. All sediment fencing should be regularly maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated. Any observed overland drainage channels originating from Site, that may or may not have arisen as a result of erosion, should be directed to a check dam structure, prior to discharging to off-site areas. Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.
Increase in Runoff - Impervious Surfaces	Runoff from the Site is expected to increase with the introduction of impermeable surfaces (i.e., building roofs, roadways, and walkways) and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development. Eavestrough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration.
Changes to Water Quality and Quantity	The Stormwater Management Plan prepared for the Site should specifically address potential stormwater-related impacts to water quality and quantity of the surrounding wetlands and watercourse, through quality control measures and a feature-based water balance study, if required.
Wildlife: Birds (Disturbance and Harm)	Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act, 1994*. Vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). If vegetation clearing or construction is to occur between April 1 to August 31, the vegetation should be investigated by a qualified biologist to confirm if any active nests are present, prior to site

Potential Impact	Recommended Best Practice
	alteration. Vegetation clearing can proceed provided there are no active nests. If active nests are confirmed, the nests should be left undisturbed until young have fledged or the nest is determined to be inactive. Note that some birds nest on the ground and in low-lying vegetation and shrubs; therefore, all habitat types should be inspected prior to ground disturbance if removals are to occur during the breeding season.
Wildlife: Bats (Disturbance and Harm)	Tree removal should be limited to the building envelope to the extent possible. Small scale tree removal will not result in impairing or eliminating the function of habitat to support bat life processes provided the tree removal avoids the active bat season (April 1 – September 30). If vegetation clearing or construction is to occur between April 1 and September 30, the vegetation should be investigated by a qualified biologist to confirm whether SAR bat habitat may be present. Presence or absence of habitat should be confirmed through acoustic monitoring following industry standard protocols prior to any tree removal during the active season for bats. Vegetation clearing can proceed provided absence is confirmed.
Wildlife: Reptiles (Disturbance and Harm)	Turtles and snakes are particularly vulnerable to construction-related impacts on sites adjacent to wetlands, watercourses, and waterbodies. Sediment fencing can function as wildlife exclusion fencing. To exclude wildlife from the Site, sediment fencing should be installed around the entire perimeter of the construction area prior to the earlier of May 1 or commencement of Site preparation to keep turtles and snakes from entering the construction area. This fencing should be made of heavy-duty sediment fence, staked at regular intervals, trenched-in at least 10-20 cm below surface of the ground, with an above-ground height of at least 60 cm. The sediment fence should be inspected regularly to ensure that it remains in good condition: and any downed areas, rips, or holes should be repaired or replaced immediately. A designated point of ingress/egress should be identified, and a moveable barrier be constructed, to allow for the Site to fully remain enclosed while allowing vehicular access to the Site as needed. The construction area should also be actively inspected for turtles and snakes each day prior to the start of work throughout the duration of construction. As the Site is located adjacent to potential habitat for turtles, workers should be aware of the nesting season for turtles, which extends from May 15 to August 15. All stockpiled materials should be kept inside the exclusion fencing area and ideally should be covered and well

Potential Impact	Recommended Best Practice
	secured around the base, to prevent turtles from nesting in loose substrates. Should any nesting turtles be encountered, work should stop immediately, and the turtle should be left to finish nesting undisturbed. The turtle should be photographed, and the nest marked to ensure it is not disturbed during construction, or until eggs have hatched (late August – September). If a nest is laid in a stockpile or other area that requires disturbance, Cambium should be contacted to determine if the nest can be relocated. If any individuals are encountered, they should be photographed and allowed time to move out of harm's way.
Species at Risk (SAR; Threatened and Endangered)	SAR observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre (NHIC). If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR should not be handled by unauthorized individuals.
Spread of Invasive Species	Invasive species are becoming problematic throughout Ontario and can adversely impact our natural landscapes, including wetlands, woodlands, and watercourses. Best management practices to reduce the spread of invasive species include: 1. Revegetate with species native to the local area. 2. Request fill and compost from reputable sources that are conscious of the potential for the spread of invasive species via these media. 3. Get to know the most common invasive species in the area. 4. Brush off or clean any shoes, boots and equipment that have encountered invasive species before returning to the property. Equipment and vehicles coming into the work area should be free of soil and seeds that could introduce non-native and invasive species following the Clean Equipment Protocol for Industry: Inspecting and Cleaning Equipment for the Purposes of Invasive Species Prevention (Halloran, 2013) 5. Immediately eradicate invasive species if they are observed on the property. 6. Do not compost invasive species; put them in plastic bags and dispose of them in the garbage. 7. Do not dispose of lawn or garden clippings in the forest or wetlands to avoid species introductions. An excellent resource for identifying and controlling invasive species can be found through the Ontario Invasive Plant Council: Home - Ontario Invasive Plant Council (ontarioinvasiveplants.ca) (OIPC, 2022)

Potential Impact	Recommended Best Practice
Anthropogenic Impacts – Noise	Noise is not expected to increase significantly because of the proposed development as it is consistent with the land use on the surrounding properties. Maintaining the wooded areas surrounding the natural features on the Site will serve to buffer wildlife within the natural areas from noise-related impacts. Temporary acute noise may occur during construction activities and should follow appropriate local noise by-laws. All equipment should be equipped with appropriate mufflers to mitigate noise levels during construction.
Anthropogenic Impacts – Lighting	Artificial lighting can have an impact on nocturnal movement of wildlife within natural areas. To minimize impacts to wildlife, it is recommended that outdoor lights be operated on timers, rather than by motion detection. Outdoor lighting associated with the development should be directed at the ground, rather than into the adjacent natural areas. Bulb wattage should be as low as practical while meeting the safety intent of the lighting. Lighting in common areas should be capped to direct light to the intended area of the ground to limit light pollution.
Anthropogenic Impacts – Domestic Animals	Access of domestic animals to natural areas can have a negative impact on local wildlife due to predation, harassment, and spread of illness and disease. Signage should be posted at trailheads and park areas to keep pets on a leash at all times, and to appropriately dispose of pet waste.

7.0 Policy Conformity

7.1 Provincial Policies

Based on the natural heritage features identified on and adjacent to the Site, and the findings of the field investigations detailed herein, recommendations have been provided to demonstrate that the proposed development can be completed in conformity with the PPS. Applicable natural heritage policy is summarized in Table 9. Note that natural heritage and hydrologic feature types not relevant to the development application have been intentionally omitted from the tables below.

Table 9 PPS Policy Conformity Summary

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)	Yes	Yes	4.1.5 b); 4.1.8
	Explanation: Significant woodlands are identified on and adjacent to the Site. As outlined in 5.1.1, the woodland represents a small percentage of forested habitat in the settlement area. It is composed of habitat characteristics ubiquitous on the local landscape and is therefore not considered a limiting habitat type. Detailed mitigation strategies and recommendations are outlined herein to minimize and avoid impacting the ecological function of the feature, post-development.		
Significant Wildlife Habitat (including habitat of special concern species)	Yes	Yes	4.1.5 d); 4.1.8
	Explanation: The proposed development includes the partial removal of candidate and confirmed SWH. Details are provided in 5.2.2.2 outlining potential negative impacts and associated mitigation measures and recommendations. Provided the mitigation and recommendations outlined herein are implemented, Cambium is of the opinion that negative impacts to the ecological function of the identified natural heritage features can be avoided and/or adequately mitigated through site-specific avoidance and enhancement measures.		
	Yes	Potentially	4.1.7

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Habitat of Threatened and Endangered Species	Explanation: Endangered bat species were detected on-Site, but in low quantities. It is recommended that written approval/documentation of consultation with MECP, or a demonstration of policy conformity with respect to SAR bats, be included as a Draft Plan condition following the implementation of *Bill 5* and the *Species Conservation Act*.		

7.2 Municipal Policies

Schedule C of The Town of Midland Official Plan designates a large portion of the Site as Natural Heritage. Section 4.5.3.i) of the Town's Official Plan states that where buildings, development and/or site alteration, including the removal or placing of fill of any kind, whether originating on the Site or elsewhere, are proposed within the Natural Heritage designation, the Town shall require that an Environmental Impact Study be prepared that demonstrates that there will be no negative impacts on any natural heritage features or ecological and hydrologic functions. This Study addresses the EIS requirements of the Official Plan for features identified on or adjacent to the Site.

7.3 Federal Policies

7.3.1 Species at Risk Act

The SARA applies to federal lands in Canada; however, at-risk aquatic and migratory bird species located on private property in Ontario also receive protection under the Act. No aquatic habitat was documented on the Site.

7.3.2 Migratory Birds Convention Act, 1994

Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act*, 1994. Vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 1 to August 31 in the local area (as per Environment and Climate Change Canada Guidelines). Provided this timing window is respected, no impacts to breeding birds are anticipated.

8.0 Summary of Recommendations

The following recommendations are provided for the proposed development:

1. All required approvals and permits should be obtained prior to the commencement of site alteration or construction activities.
2. Vegetation removal or alteration should take place outside the breeding bird season (April 1 to August 31) and the active roosting period for bats (April 1 – September 30). Should any clearing be required during the breeding bird season, nest searches conducted by a qualified person must be completed within 48 hours prior to clearing activities. If nests are found, work within the area must cease until the nest has fledged, as per the federal *Migratory Birds Convention Act*. Should any clearing be required during the active roosting period for bats, please contact the Ministry of Environment, Conservation and Parks for further direction (e.g. acoustic monitoring, exit surveys) to ensure conformity with the *Endangered Species Act.*
3. An Edge Management Plan should be developed for the new forest edge to be established along the southern Site boundary. Consideration should be made to both wind sheer and forest health, but also in the re-establishment of the interior forest habitat and enhancement to avifauna habitat by incorporating enhancement initiatives, such as strategies outlined in the Area-Sensitive Forest Birds in Urban Areas (Environment Canada, 2007).
4. Natural Heritage Area should remain as naturally self-sustaining vegetated lands, protected from future development.
5. It is recommended that written approval/documentation of consultation with MECP, or a demonstration of policy conformity with respect to SAR bats, be included as a Draft Plan condition following the implementation of *Bill 5* and the *Species Conservation Act*.
6. The Stormwater Management Plan prepared for the Site should specifically address potential stormwater-related impacts to water quality and quantity of the surrounding features, erosion potential, and a feature-based water balance study (if required).

7. An Erosion and Sediment Control (ESC) Plan that includes perimeter light duty sediment fencing should be implemented along the watercourse side of the construction area prior to the commencement of any Site alteration.

- Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart.
- All sediment fencing should be regularly maintained and kept in good working condition, until the area has been stabilized and/or successfully revegetated.
- All ESC fencing should be removed following construction once exposed soils have been revegetated.
- Machinery or construction materials should be stored within the construction area throughout the construction period.

8. Though not identified in the field inventories, any subsequently identified SAR discovered on the property must be left undisturbed as required by the Endangered Species Act, 2007. If any SAR individuals are encountered, they should be photographed and allowed time to move out of harms way. All SAR observations should be reported to the MNRF Natural Heritage Information Centre.

9.0 Closing

In closing, potential negative impacts associated with the proposed development and site alteration can be appropriately minimized, provided that the recommendations outlined in Section 7.3 are followed. The information presented herein demonstrates that the proposed development can be carried out in a way that will not adversely impact natural heritage and hydrologic features and function identified on or adjacent to the subject Site. Furthermore, the proposed development complies with applicable provincial policy.

Respectfully submitted,

Cambium Inc.

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11.0 Glossary of Terms

ANSI: Area of Natural and Scientific Interest
ARA: Aquatic Resources Area
ARA: Aggregate Resources Act
AS: Agricultural System
ATK: Aboriginal Traditional Knowledge
BMA: Bear Management Area
BMP: Best Management Practice
CA: Conservation Authority
CEAA: Canadian Environmental Assessment Act/Agency
CFA: Canadian Forestry Association
CFIP: Community Fisheries Involvement Program
CFS: Canadian Forestry Service
CHU: Critical Habitat Unit
CH: Cultural Heritage
CLI: Canada Land Inventory
CLU: Crown Land Use
COSSARO: Committee on the Status of Species at Risk in Ontario
CR: Conservation Reserve
CWIP: Community Wildlife Involvement Program
CWS: Canadian Wildlife Service
DFO: Fisheries and Oceans Canada
EA: Environmental Assessment
EAA: Environmental Assessment Act
EAB: Emerald Ash Borer
EBR: Environmental Bill of Rights
EIA: Environmental Impact Assessment
EIS: Environmental Impact Study/Statement
ELC: Ecological Land Classification
ELUP: Ecological Land Use Plan
END: Endangered Species
EPA: Environmental Protection Act
ER: Environmental Registry
ESA: Endangered Species Act, 2007
ESA: Environmentally Sensitive Area
ESC: Erosion and Sediment Control
F&W: Fish and Wildlife
FA: Fisheries Act
FEC: Forest Ecosystem Classification
FMP: Forest Management Plan
GPGGH: Growth Plan for the Greater Golden Horseshoe, 2020
GPS: Global Positioning System
HSA: Habitat Suitability Analysis
HIS: Habitat Suitability Index
KHA: Key Hydrologic Area(s)
KHF: Key Hydrologic Feature(s)
KNHF: Key Natural Heritage Feature(s)
LCFSP: Licence to Collect Fish for Scientific Purposes
LIO: Land Information Ontario
LRIA: Lakes and Rivers Improvement Act
LUP: Land Use Permit or Plan
MA: Management Area
MAFA: Moose Aquatic Feeding Area
MCEA: Municipal Class Environmental Assessment
MECP: Ontario Ministry of Environment, Conservation and Parks
MNRF: Ontario Ministry of Natural Resources and Forestry
NER: Natural Environment Report
NHIC: Natural Heritage Information Centre
NHIS: Natural Heritage Information System
NHS: Natural Heritage System
OBM: Ontario Base Map
OFIS: Ontario Fisheries Information System
OLI: Ontario Land Inventory
OMAFRA: Ontario Ministry of Agriculture, Food and Rural Affairs
OWES: Ontario Wetland Evaluation System
PPS: Provincial Planning Statement, 2024
PSW: Provincially Significant Wetland
RLUP: Regional Land Use Plan
RMP: Regional Management Plan
RPF: Registered Professional Forester
SAR: Species at Risk
SARO: Species at Risk in Ontario
SC: Special Concern species
SWH: Significant Wildlife Habitat
SWM: Stormwater Management
THR: Threatened species

FRI: Forest Resources Inventory
FWCA: Fish and Wildlife Conservation Act
GGH: Greater Golden Horseshoe
GHP: General Habitat Protection
GIS: Geographic Information System
GLSL: Great Lakes – St. Lawrence
TOR: Terms of Reference
TPP: Tree Preservation Plan
WIA: Woodlands Improvement Act
WMU: Wildlife Management Unit
WSCA: Wildlife Scientific Collector's Authorization

12.0 Standard Limitations

Limited Warranty

In performing work on behalf of a client, Cambium relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium determines the precise nature of the work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

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When preparing reports, Cambium considers applicable legislation, regulations, governmental guidelines and policies to the extent they are within its knowledge, but Cambium is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, governmental guidelines and policies is for information only and is not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in a report prepared by Cambium, are beyond the scope of the work performed by Cambium and such matters have not been investigated or addressed.

Reliance

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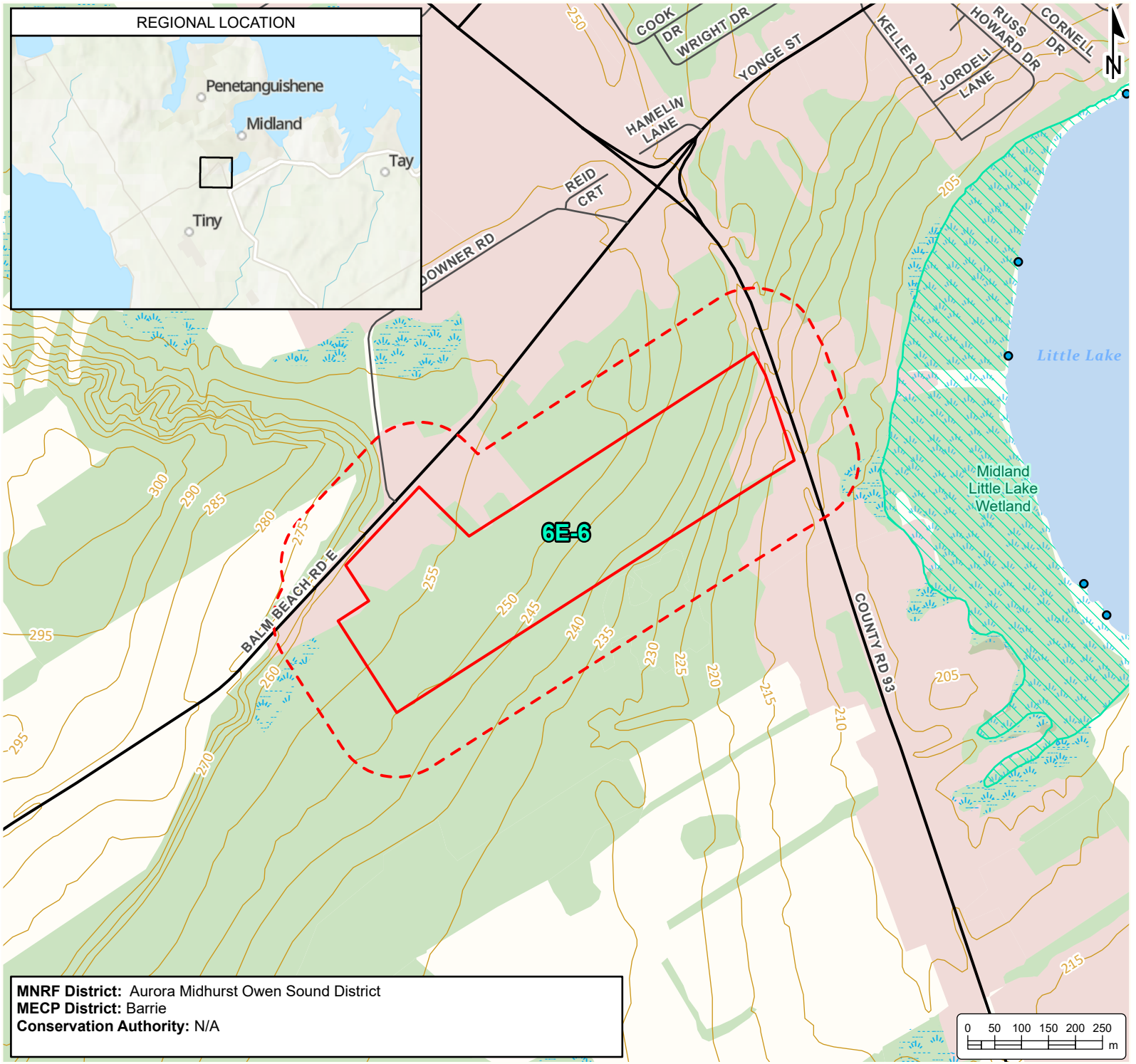
Appended Figures



ENVIRONMENTAL IMPACT STUDY

2798860 ONTARIO INC.
659 Balm Beach Road
Midland, Ontario

LEGEND

- Aquatic Resource Area Survey Point
- Major Road
- Minor Road
- Contour (5m Interval)
- Watercourse, Permanent
- Watercourse, Intermittent
- Unevaluated Wetland
- Provincially Significant Wetland
- Ecodistrict
- Water Area
- Wooded Area
- Built Up Area
- Site (approximate)
- Adjacent lands (120m)

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SITE LOCATION AND POLICY AREAS

Project No.: 12685-004		Date: July 2025	
		Rev.:	
Scale: 1:10,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DBC	Checked by: CJ	Figure:	1

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Vegetation Community	Description
1	FOD5-2 Dry - Fresh Sugar Maple- Beech Deciduous Forest Type
2	CUM Cultural Meadow
3	CVC Commerical
4	CVR Residential

ENVIRONMENTAL IMPACT STUDY

2798860 ONTARIO INC.
659 Balm Beach Road
Midland, Ontario

LEGEND

- Butternut
- Whip-poor-will Survey Stations (WPW)
- Bat Acoustic Device (AD)
- Breeding Bird Survey Stations (BBS)
- Top of Slope
- Contour (5m Interval)
- Unevaluated Wetland
- Provincially Significant Wetland
- Vegetation Community
- Site (approximate)
- Adjacent lands (120m)

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NATURAL HERITAGE FEATURES AND ECOLOGICAL SURVEY STATION

Project No.: 12685-004		Date: July 2025	Rev.:
Scale: 1:5,750		Projection: NAD 1983 UTM Zone 17N	
Created by: DBC	Checked by: CJ	Figure: 2	

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ENVIRONMENTAL IMPACT STUDY

2798860 ONTARIO INC.
659 Balm Beach Road
Midland, Ontario

LEGEND

- Contour (5m Interval)
- Watercourse, Permanent
- Watercourse, Intermittent
- Unevaluated Wetland
- Provincially Significant Wetland
- Special Concern and Rare Wildlife Species Significant Wildlife Habitat – Confirmed
- Woodland Raptor Nesting Habitat – Candidate Significant Wildlife Habitat
- Woodland Area Sensitive Bird Breeding Habitat – Candidate Significant Wildlife Habitat
- Vegetation Community
- Site (approximate)
- Adjacent lands (120m)

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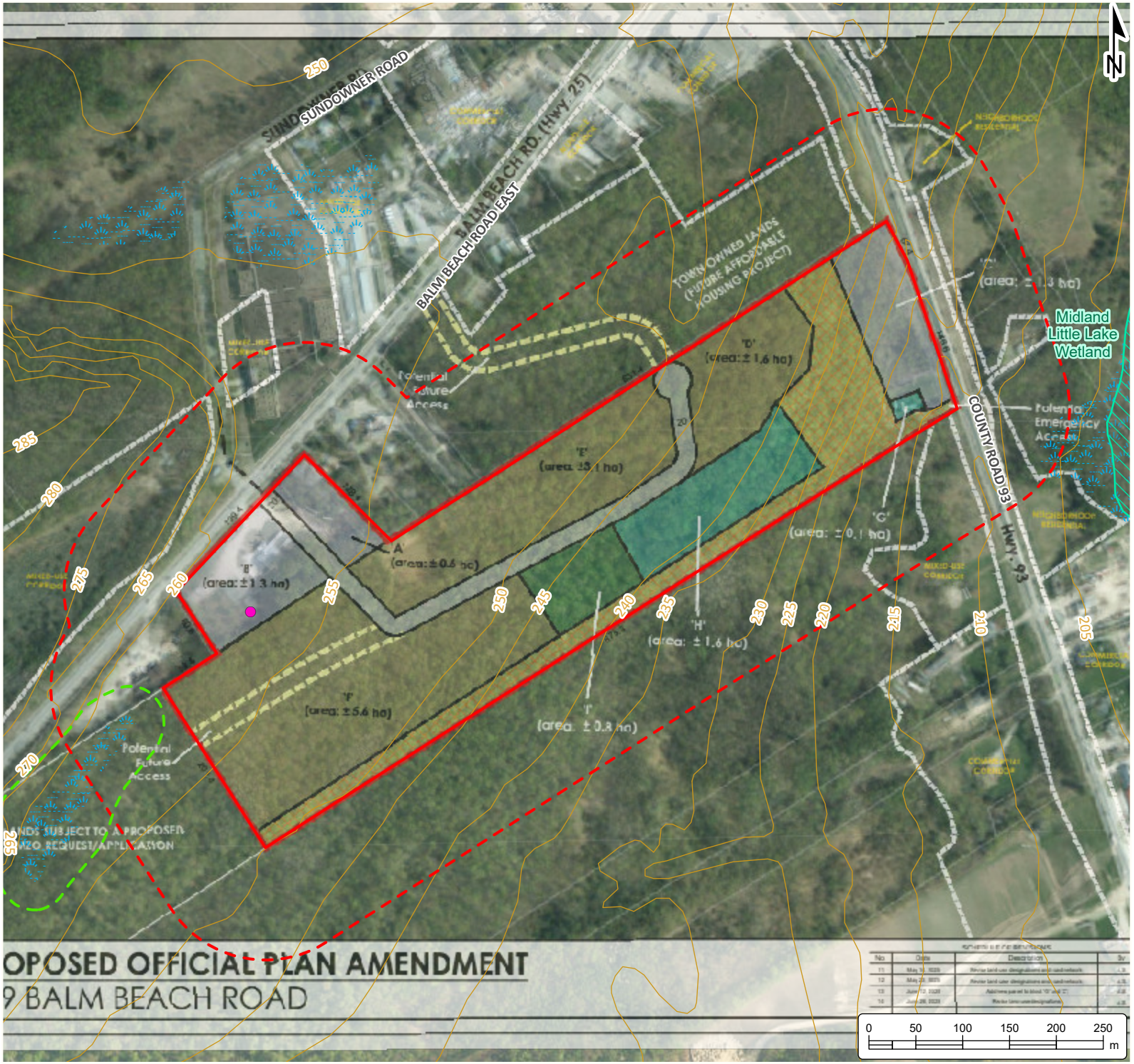
CANDIDATE AND CONFIRMED SIGNIFICANT WILDLIFE HABITAT

Project No.: 12685-004		Date: July 2025 Rev.:	
Scale: 1:5,750		Projection: NAD 1983 UTM Zone 17N	
Created by: DBC	Checked by: CJ	Figure:	3

O:\GIS\MXDs\12600-12699\12685-004 2798860 Ontario Ltd - EIS - Update - 681-701 Balm Beach Rd E Midland\2024-12-04 EIS.aprx



ENVIRONMENTAL IMPACT STUDY

2798860 ONTARIO INC.
659 Balm Beach Road
Midland, Ontario

LEGEND

- Butternut - Category 1
- Contour (5m Interval)
- Watercourse, Permanent
- Watercourse, Intermittent
- Unevaluated Wetland
- Provincially Significant Wetland
- Wetland Setback (30m)
- Site (approximate)
- Adjacent lands (120m)

Notes:
- This document contains information licensed under the Open Government License - Ontario.
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

CAMBIUM
194 Sophia Street
Peterborough, Ontario, K9H 1E5
Tel: (705) 742.7900 Fax: (705) 742.7907
www.cambium-inc.com

NATURAL HERITAGE CONSTRAINTS

Project No.: 12685-004		Date: July 2025 Rev.:	
Scale: 1:5,750		Projection: NAD 1983 UTM Zone 17N	
Created by: DBC	Checked by: CJ	Figure:	4

O:\GIS\MXDs\12600-12699\12685-004 2798860 Ontario Ltd - EIS - Update - 681-701 Balm Beach Rd E Midland\2024-12-04 EIS.aprx

Appendix A
Correspondence

From: Andy Warzin
To: Camden Jermey
Cc: Tomasz Wierzba; Michelle Hudolin
Subject: FW: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)
Date: Thursday, February 29, 2024 2:51:02 PM
Attachments: image002.png
image015.png
image017.png
image019.png
image020.jpg
image023.jpg
image025.jpg
image027.png
image029.png
image031.png
image033.png
image035.png
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image003.png
image004.png
image005.png
image006.png
image007.png
image008.png
image009.png

Hello Camden,

Please see below comments in red as provided by members of the SSEA as it relates to the proposed terms of reference for the noted development lands.

Feel free to contact me, should you have any additional questions or comments.

Regards,

Andy Warzin, MCIP, RPP
Senior Planner, Community and Growth - Planning
P: 705-526-4275 Ext 2233
E: awarzin@midland.ca

Town of Midland
575 Dominion Avenue,
Midland, Ontario L4R 1R2
www.midland.ca

From: Michelle Hudolin <MHudolin@severnsound.ca>
Sent: Friday, February 23, 2024 3:13 PM
To: Andy Warzin <awarzin@midland.ca>; Tomasz Wierzba <twierzba@midland.ca>
Cc: mcarruthers <MCarruthers@severnsound.ca>
Subject: RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi Andy and Tomasz,

I have reviewed the EIS Terms of Reference (TOR) provided by Camden at Cambium for 681/701 Balm Beach Rd East. I offer the following comments on the proposed scope of work, including modifications or clarification (shown in red text) to what has been proposed (which is shown in *italics*). These comments only relate to natural heritage, and do not cover any other studies that approval agencies may require. The Town and/or County of Simcoe, if applicable, may have additional requirements.

Cambium proposes the following ToR:

- *Compile and review applicable background information and environmental mapping pertaining to the Site.* Background information sources and species occurrence records/range maps will be consulted (e.g., Natural Heritage Information Centre [NHIC], iNaturalist, Ontario Breeding Bird Atlas, Reptiles and Amphibian Atlas, etc.), recognizing that records in NHIC and other databases are not exhaustive and are not a substitute for on-site surveys.
- *Complete 2-season vegetation inventory and classify communities on the Site according to the Ecological Land Classification System for Southern Ontario (Lee et. al., 1998) to evaluate their sensitivity, rarity, and botanical quality.*
- *Conduct two (2)* early morning *breeding bird surveys on the Site, using Components of the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001) and the Forest Bird Monitoring Program (Canadian Wildlife Service, 2005). We note the Forest Bird Monitoring Program requires a 10 m survey period at each sampling station. Further, sampling stations will be reviewed and modified, as required, to minimize noise influence from the adjacent roads*, which may include locating stations closer than the standard distance of in survey protocols, to improve detection of species, particularly those with quieter/more subtle songs and calls.
- *Conduct three (3) evening Whip-poor-will surveys, following the Survey Protocol for Eastern Whip-poor-will (Antrostomus vociferous) in Ontario (Ministry of Natural Resources and Forestry, 2014). See note above for considerations to sampling locations to minimize noise influence.*
- *Bat maternity roost density surveys will not be re-done on the Site; however, acoustic monitoring will be completed in the month of June based on latest guidance from MECP for SAR bats.*
- *Undertake a Species at Risk (SAR) screening to assess for potential SAR habitat and evaluate compliance with the provincial Endangered Species Act, 2007. This includes reviewing species occurrence records and range maps, and assessing potential occupancy based on the habitat present on and adjacent to the subject property. This preliminary screening will be carried out according to MECP Guide to Preliminary Screening for Species at Risk (May 2019).* Note that if there are changes to SAR designations (e.g., any newly listed SAR) prior to the EIS report being produced and submitted to the Town, the EIS would also need to include appropriate consideration for those species.
- *Record observations of wildlife occurrences and assess wildlife habitat function, including significant wildlife habitat on the Site. Any evidence of wildlife breeding, forage, shelter, or nesting sites, and/or travel corridors will be noted.*
- *Conduct an aquatic habitat assessment, where applicable, to identify and characterize unmapped features of significance (e.g., wetlands, seeps, springs, etc.) on the Site.*
- *Identify, assess, and include detailed descriptions of the natural features and functions identified on the Site and adjacent lands.*
- *Map key natural heritage and hydrologic features, vegetation communities, and other environmental features (watercourses, wetlands, areas of groundwater discharge, wildlife habitat, etc.) and proposed development on current, high quality aerial imagery. Any environmental feature/area mapping generated through the EIS work will be made available in GIS shapefile format.*
- *Provide a map of potential and confirmed Significant Wildlife Habitat (SWH) - including any applicable radius/adjacent area that is included as SWH per the Provincial Ecoregion schedules for*

SWH. Describe all potential SWH and provide sufficient detail to determine whether these areas meet the current criteria for candidate or confirmed SWH as per the applicable SWH Ecoregion Criteria Schedules.

- *Provide an assessment of the potential impacts of the proposed development on natural features and their related ecological and hydrologic functions.*
- *Demonstrate conformity with the applicable policies and plans including Provincial Policy Statement, 2020; Growth Plan for the Greater Golden Horseshoe, 2020, County of Simcoe Official Plan; and ~~Township of Tiny~~* Town of Midland *Official Plan.*
- *Develop an appropriate avoidance, mitigation, and/or restoration strategy, to address the potential impacts identified.*
- *Complete one (1) final report with CV's/qualifications of field personnel and supporting figures for circulation for approval to the Township and SSEA.* EIS report to be provided in an electronic format that allows copy/paste of text, to facilitate comments.

EIS additional clarification/notes:

1. Table C-3 of the Natural Heritage Reference Manual (MNRF, 2010) will be referenced with respect to breeding birds.
2. 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 lot sizes and configurations/development envelopes which take into consideration appropriate buffers/vegetation protection zones 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).
3. 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 or discussed.
4. 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:
    - Date, time, and duration of field work/survey (including start time, end time of site investigations)
    - Sampling locations and/or area searched (i.e., identified on a map)
    - Purpose of field work and survey protocol(s) used/ summary of investigation methods
    - Relevant temperature and weather conditions during site investigations (cloud cover, wind speed [Beaufort scale or km/h], precipitation [type and amount])
    - Personnel involved (name and qualifications)
5. Copies of the approved Terms of Reference and correspondence with relevant agencies will be included as appendices to the EIS.

With the clarification and additions or changes noted above in this email, the scope of work for the EIS is acceptable to SSEA.

I will leave it to you to correspond with the proponent. If you wish to discuss any of the above prior to responding to them, please let me know.

Since this is a site-specific review, it is outside the scope of the core services that SSEA provides to the

municipalities, and the Town will be invoiced on a cost-recovery basis for SSEA's time spent on the file.

Note not related to the EIS: Background mapping reveals that portions of the property are within a WHPA or the Q1/Q2 for Drinking Water Source Protection, so I recommend that Town staff connect with Melissa (cc'd) if you have not already done so, to see if there are any drinking water source protection considerations at this point.

Best regards and have a good weekend,
Michelle

Michelle Hudolin | Manager Watershed Resilience, Wetlands & Habitat Biologist
Severn Sound Environmental Association
Tel: 705-534-7283 ext. 202 **|** MHudolin@severnsound.ca

www.severnsound.ca | Twitter @SSEA_SSRAP | Instagram @severnsoundea

_____

OFFICE OPEN- by appointment only
The SSEA office is open by appointment, please call 705-534-7283 if you would like to visit us in-person. Our staff will continue to operate in a hybrid setting in the office and remotely. We expect this to cause delays in our ability to respond to requests. Thank you for your patience!

From: Camden Jermey <Camden.Jermey@cambium-inc.com>
Sent: February 20, 2024 11:19 AM
To: Michelle Hudolin <MHudolin@severnsound.ca>; Greg Barker <gbarker@ipsconsultinginc.com>; Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Andy Warzin <awarzin@midland.ca>
Cc: File <file@cambium-inc.com>
Subject: [EXTERNAL] RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi Michelle;

Thanks for taking the time to review the 681/701 Balm Beach Road project during our January 31, 2024 call. We are circulating the Terms of Reference (ToR) for review in support the forthcoming Environmental Impact Study (EIS), which was developed based on the input generated during our meeting. We trust the below represent the details of our discussion.

We understand that the Client is pursuing an Official Plan Amendment Application for 681/701 Balm Beach Road in the Town of Midland. Given the historical work for the abutting Castle Village property, existing and sufficient field data is available for some aspects of the Site, while other elements will require further study. Cambium proposes the following ToR:

- Compile and review applicable background information and environmental mapping pertaining to the Site.
- Complete 2-season vegetation inventory and classify communities on the Site according to the Ecological Land Classification System for Southern Ontario (Lee et. al., 1998) to evaluate their sensitivity, rarity, and botanical quality.
- Conduct two (2) breeding bird surveys on the Site, using Components of the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001) and the Forest Bird Monitoring Program (Canadian Wildlife Service, 2005). We note the Forest Bird Monitoring Program requires a 10 m survey period at each sampling station. Further, sampling stations will be reviewed and modified, as required, to minimize

noise influence from the adjacent roads.

- Conduct three (3) evening Whip-poor-will surveys, following the Survey Protocol for Eastern Whip-poor-will (*Antrostomus vociferous)* in Ontario (Ministry of Natural Resources and Forestry, 2014). See note above for considerations to sampling locations to minimize noise influence.
- Bat maternity roost density surveys will not be re-done on the Site; however, acoustic monitoring will be completed in the month of June based on latest guidance from MECP for SAR bats.
- Undertake a Species at Risk (SAR) screening to assess for potential SAR habitat and evaluate compliance with the provincial Endangered Species Act, 2007. This includes reviewing species occurrence records and range maps, and assessing potential occupancy based on the habitat present on and adjacent to the subject property. This preliminary screening will be carried out according to MECP Guide to Preliminary Screening for Species at Risk (May 2019).
- Record observations of wildlife occurrences and assess wildlife habitat function, including significant wildlife habitat on the Site. Any evidence of wildlife breeding, forage, shelter, or nesting sites, and/or travel corridors will be noted.
- Conduct an aquatic habitat assessment, where applicable, to identify and characterize unmapped features of significance (e.g., wetlands, seeps, springs, etc.) on the Site.
- Identify, assess, and include detailed descriptions of the natural features and functions identified on the Site and adjacent lands.
- Map key natural heritage and hydrologic features, vegetation communities, and other environmental features (watercourses, wetlands, areas of groundwater discharge, wildlife habitat, etc.) and proposed development on current, high quality aerial imagery. Any environmental feature/area mapping generated through the EIS work will be made available in GIS shapefile format.
- Provide a map of potential and confirmed Significant Wildlife Habitat (SWH) - including any applicable radius/adjacent area that is included as SWH per the Provincial Ecoregion schedules for SWH.
- Provide an assessment of the potential impacts of the proposed development on natural features and their related ecological and hydrologic functions.
- Demonstrate conformity with the applicable policies and plans including Provincial Policy Statement, 2020; Growth Plan for the Greater Golden Horseshoe, 2020, County of Simcoe Official Plan; and Township of Tiny Official Plan.
- Develop an appropriate avoidance, mitigation, and/or restoration strategy, to address the potential impacts identified.
- Complete one (1) final report with CV's/qualifications of field personnel and supporting figures for circulation for approval to the Township and SSEA.

If you could kindly review and comment that would be greatly appreciated.

Thanks in advance,

Cambium

Camden Jermey, B.Sc., Can-CISEC
Project Manager/Senior Ecologist
Cambium - Barrie
705.321.4781
866.217.7900
cambium-inc.com

Environmental | Building Sciences | Geotechnical | Construction Testing & Inspection

---

From: Michelle Hudolin <MHudolin@severnsound.ca>
Sent: Wednesday, January 17, 2024 12:06 PM
To: Greg Barker <gbarker@ipsconsultinginc.com>; Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Andy Warzin <awarzin@midland.ca>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>
Subject: RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi everyone,

I currently have availability for a virtual meeting:

- tomorrow morning (Jan 18)
- morning or afternoon on Jan 24
- Jan 25 between 1 p.m. and 2:30 p.m.
- Jan 31 morning or afternoon.

Hopefully some of the above dates work for everyone. I am not available on Fridays for the rest of January, or from Feb 1 through 11 inclusive.

Thanks.
Michelle

Michelle Hudolin | Manager Watershed Resilience, Wetlands & Habitat Biologist
Severn Sound Environmental Association
Tel: 705-534-7283 ext. 202 | MHudolin@severnsound.ca

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From: Greg Barker <gbarker@ipsconsultinginc.com>
Sent: January 17, 2024 11:40 AM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Michelle Hudolin <MHudolin@severnsound.ca>; Andy Warzin <awarzin@midland.ca>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>
Subject: [EXTERNAL] RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi all,

I have heard from Andy who indicated he is generally available over the next couple weeks, aside from Monday January 29th.

Can SSEA advise of a few dates for consideration and we can go from there?

Thanks everyone.

Greg Barker, B.A.A.
PARTNER

647 Welham Road, Unit 9, Barrie, ON L4N 0B7
Tel: 705 - 812 - 3281 extension 23 | Fax: 705 – 812 - 3438
E-Mail: gbarker@ipsconsultinginc.com URL: www.ipsconsultinginc.com

---

From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: Monday, January 15, 2024 5:11 PM
To: Greg Barker <gbarker@ipsconsultinginc.com>; Michelle Hudolin <MHudolin@severnsound.ca>; Andy Warzin <awarzin@midland.ca>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>
Subject: RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi all,

It appears that we may need to look a little further ahead for a mutually agreeable meeting time.

@Andy Warzin – can you please provide us with a few options that work with your schedule.

Thanks,
Jeremy

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Group Manager - Natural Sciences
Cambium - Barrie
249.359.0689
866.217.7900
cambium-inc.com

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

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From: Greg Barker <gbarker@ipsconsultinginc.com>
Sent: Tuesday, January 9, 2024 3:06 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Michelle Hudolin <MHudolin@severnsound.ca>; Andy Warzin <awarzin@midland.ca>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>
Subject: RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Thursday 3pm works for me too.

Greg Barker, B.A.A.
PARTNER

647 Welham Road, Unit 9, Barrie, ON L4N 0B7
Tel: 705 - 812 - 3281 extension 23 | Fax: 705 – 812 - 3438
E-Mail: gbarker@ipsconsultinginc.com URL: www.ipsconsultinginc.com

---

From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: Tuesday, January 9, 2024 3:03 PM
To: Michelle Hudolin <MHudolin@severnsound.ca>; Andy Warzin <awarzin@midland.ca>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>; Greg Barker <gbarker@ipsconsultinginc.com>
Subject: RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi Michelle,

This Thursday the 11th at 3pm would work for us.

@Andy Warzin – can you please let us know if you're available to attend per SSEA's request.

Otherwise, next Tuesday afternoon (the 16th) would also work.

Thanks,
Jeremy

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Group Manager - Natural Sciences
Cambium - Barrie
249.359.0689
866.217.7900
cambium-inc.com

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

---

From: Michelle Hudolin <MHudolin@severnsound.ca>
Sent: Tuesday, January 9, 2024 1:19 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>; Andy Warzin <awarzin@midland.ca>; Barker Greg <gbarker@ipsconsultinginc.com>
Subject: RE: EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Hi Jeremy, Happy New Year – I hope you enjoyed your break, too.

This week, I could make Thursday afternoon work. Next week, I currently have availability on Monday

afternoon (Jan 15), Tuesday afternoon (Jan 16), or morning or afternoon on either Wednesday or Thursday (Jan 17 or 18). Please note that I am off on Fridays in January. SSEA would want Andy from the Town to be present at the meeting as well.

Have a great day.
Michelle

Michelle Hudolin | Manager Watershed Resilience, Wetlands & Habitat Biologist
Severn Sound Environmental Association
Tel: 705-534-7283 ext. 202 | MHudolin@severnsound.ca

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From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: January 8, 2024 5:30 PM
To: Michelle Hudolin <MHudolin@severnsound.ca>
Cc: Camden Jermey <Camden.Jermey@cambium-inc.com>; File <file@cambium-inc.com>; Andy Warzin <awarzin@midland.ca>; Barker Greg <gbarker@ipsconsultinginc.com>
Subject: [EXTERNAL] EIS ToR Consult - OPA for 681/701 Balm Beach Road, Midland (12685-004)

Good afternoon, Michelle,

I hope you had a restful holiday break.

We are looking to set up a Teams call to discuss the EIS being prepared in support of the Official Plan Amendment Application for 681/701 Balm Beach Road in the Town of Midland. You may recall the EIS we previously prepared for the Castle Village property and abutting lands. We would like to confirm what additional work will be required to update the EIS for the OPA.

If you could provide your availability this week, that would be appreciated.

Thanks,
Jeremy

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Group Manager - Natural Sciences
Cambium - Barrie
249.359.0689
866.217.7900
cambium-inc.com

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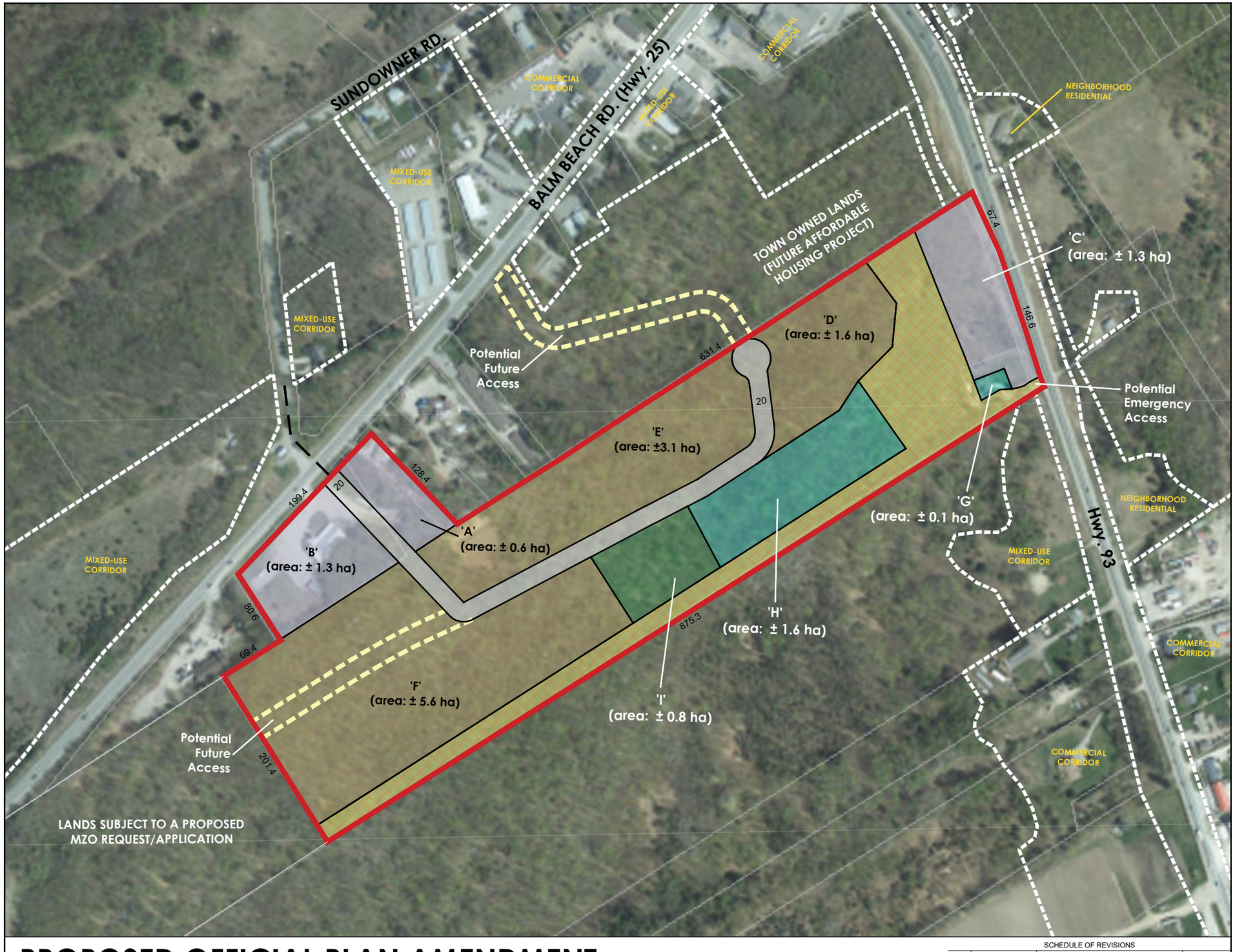
Appendix B

Conceptual Site Plans



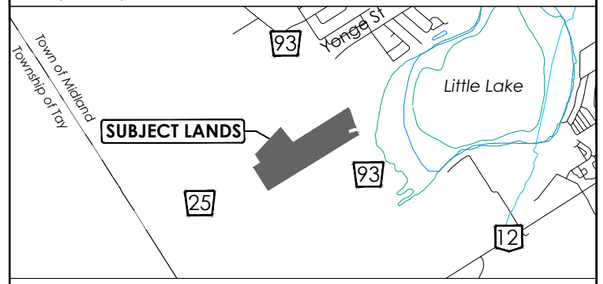
PROPOSED OFFICIAL PLAN AMENDMENT

659 BALM BEACH ROAD

SCHEDULE OF REVISIONS

No.	Date	Description	By
11	May 14, 2025	Revise land-use designations and road network;	A.S.
12	May 23, 2025	Revise land-use designations and road network;	A.S.
13	June 12, 2025	Add new parcel to block 'G' and 'C';	A.S.
14	June 26, 2025	Revise land-use designations;	A.S.

Key Map



659 Balm Beach Road East,
(Lot 105 Concession 1 West of Penetanguishene Road)
Town of Midland

LEGEND

- Subject Site (±20.6ha)
- A - C Mixed-Use High Density:
  - 100 units / ha: ± 320 units
- D - F Medium Density Residential
  - 50 units / ha: ± 575 units
- G - H S.W.M. Area (1.7 ha)
- I Potential Park Area (± 0.8 ha)
- Natural Heritage Area (± 3.3 ha)
- Potential Roads - 20.0m width

* TOTAL UNITS: ± 895 units

FOR DISCUSSION PURPOSES ONLY

Note: This drawing is for discussion purposes only.
The information shown is approximate and subject to change.

0 100 200m N

Date:	October 1, 2021	Drawn By:	A.S.
File:	17-728	Checked By:	G.B.

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3800 STEELS AVE. W, SUITE 200W, VAUGHAN, ON, L4L 4G9 Tel: 905-291-7525
info@ipsconsultinginc.com / www.ipsconsultinginc.com

Appendix C

Species at Risk Screening

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Birds								
Bank Swallow	*Riparia riparia*	THR	THR	S4B	The Bank Swallow is a small songbird of around 12 cm long with a distinctive dark breast band, that flies with quick and erratic wingbeats (1). It nests in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. This can include banks of rivers and lakes, bluffs, active sand and gravel pits, road cuts and stockpiles of soils. However, they prefer sand-silt substrates for excavating their nest burrows. They often use large wetlands as communal nocturnal roosts post-breeding or during wintering periods (2).	No	Known to occur in the general area	No further consideration required
Barn Swallow	*Hirundo rustica*	THR	SC	S4B	The Barn Swallow is a mid-sized songbird with steel-blue backs and wings, glossy in males, and a line of white spots across its upper tail. It lives in a variety of open habitats for foraging, such as grassy fields, pastures, certain agricultural crops, shorelines, cottage areas, wetlands, or subarctic tundra (2). They prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud, typically attached to horizontal beams or vertical walls underneath an overhang (1).	No	Known to occur in the general area	No further consideration required
Black Tern	*Chlidonias niger*	No Status	SC	S3B	The Black Tern is a small waterbird with a forked tail, straight pointed bill, slender shape, and black head during breeding season. It builds floating nests in loose colonies in shallow marshes, with a preference for cattails. They breed primarily in the marshes along the edges of the Great Lakes, but may also use wetlands further north if suitable (1).	No	Known to occur in the general area	No further consideration required
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	The Bobolink is a mid-sized songbird of tan colour with black stripes, except for males during summer breeding season who are black with a white back and yellow collar. It prefers tall, grassy meadows, hayfields and some croplands, and feeds (largely on insects) on the ground in dense grasses (1). It tends to nest in forage crops: hayfields and pastures dominated by species including clover, bluegrass, and broadleaf plants (2).	No	Known to occur in the general area	No further consideration required
Canada Warbler	*Cardellina canadensis*	THR	SC	S4B	The Canada Warbler is a small songbird with bright yellow underparts and bluish-grey back and tail (1). It can be found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. Nests are usually located on or near the ground on mossy logs, and along stream banks (3).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Cerulean Warbler	*Setophaga cerulea*	END	THR	S3B	The Cerulean Warbler, a small songbird, is blue-green with white eyebrows and two prominent white wing bars (1). It requires relatively large tracts of mature deciduous forest (>100 ha), and nests in older, second-growth deciduous forests. During breeding season, it is found in relatively large tracts of mature deciduous forests that feature large, tall trees and an open understorey (4).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B,S4N	The Chimney Swift is a small bird, between 12 and 14 cm, with a brown, cigar-shaped body, slender wings, and an erratic flight pattern. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow trees. Now, it is found mostly near urban and suburban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. They also tend to stay in habitat close to the water (1).	No	Known to occur in the general area	No further consideration required
Common Nighthawk	*Chordeiles minor*	SC	SC	S4B	The Common Nighthawk is a medium-sized bird with long, pointed wings, a long tail with a notch, and large eyes. Its plumage of dark brown with black and white specks blends with its roost site. It is typically found in open areas such as gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailing areas, cultivated fields, urban parks, gravel roads, and orchards (1).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	The Eastern Meadowlark is a medium-sized migratory songbird with a bright yellow throat and belly, a black V shape on its chest, and a pointed bill. It prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields, human-use areas such as airports and roadsides, or other open areas. The Eastern Meadowlark can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses (1).	No	Known to occur in the general area	No further consideration required
Eastern Whip-poor-will	*Antrostomus vociferus*	THR	SC	S4B	The Eastern Whip-poor-will is a medium-sized bird with mottled brown and grey feathers to blend in with its surroundings, a large flattened head, and small bill. They are usually found in areas with a mix of open and forested areas such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands or openings in more mature forests. Breeding habitat is dependent on forest structure rather than composition, although common tree associations are pine and oak, and it nests directly on the forest floor (2). The species prefers to nest in semi-open or patchy forests with clearings as it forages in open areas and uses forested areas for roosting (1).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	The Eastern Wood-pewee is a species of 'flycatcher', a bird that eats flying insects. It grows to approximately 15 cm, has greyish-olive upper parts and pale bars on its wings. This species lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation (1). It typically creates nests on tree branches 2-12 m in height (2).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Confirmed significant wildlife habitat on-site
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	The Evening Grosbeak is a large songbird with a thick greenish bill. It is a social bird that is often found in flocks, particularly during the winter months. Their preferred habitat is thick coniferous forest. During their breeding season, they are generally found in open, mature mixed forests dominated by Firs, White Spruce, or Trembling Aspen (1).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Golden Winged Warbler	*Vermivora chrysoptera*	THR	SC	S4B	The Golden-winged Warbler is a small songbird with distinctive yellow wing patches and patches behind their eyes. It inhabits early successional habitat of old fields and favour areas where trees are spread out or forest edges to use for perching, singing, and searching for food. They seem to prefer regeneration zones with young shrub growth, surrounded by mature forest, locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas for their breeding sites; often frequenting clusters of herbaceous plants and low bushes (1).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4B	The Grasshopper Sparrow is a small songbird with a streaked back, a white stripe down the center of its crown, a flattish head, and a conical beak. It inhabits open grasslands and prairies with well-drained soil, preferring areas that are sparsely vegetated. It will also nest in hayfields and pastures, as well as alvars and occasionally grain crops such as barley (1).	No	Known to occur in the general area	No further consideration required
King Rail	*Rallus elegans*	END	END	S2B	The King Rail is a large bird, standing at around 40 cm tall, with a long, curved bill, orange chest and neck, and black sides with vertical white bars. This species prefers densely vegetated freshwater marshes with open shallow water and shrub thicket areas. Current records for Ontario suggest that these birds prefer sites within coastal marshes of the Great Lakes. Most breeding pairs left in Ontario are found in wetlands bordering Lake St Clair or coastal marshes along Lakes Erie and Ontario (1).	No	Known to occur in the general area	No further consideration required

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COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	The Least Bittern is a small member of the heron family, reaching around 30 cm in length. It has brown and beige plumage with chestnut patches on its wings (1). The species nests in marshes (> 5 ha) and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. Although Least Bitterns usually nest in larger marshes territorial individuals have been found in marshes as small as 0.4 ha. They require dense vegetation and open water with stable levels within 10 m for nesting, and access to clear, open water for foraging (3).	No	Known to occur in the general area	No further consideration required
Loggerhead Shrike	*Lanius ludovicianus*	END	END	S2B	The Loggerhead Shrike is a small bird with a black, hooked bill, grey crown, and white throat and chest. This species has specific habitat requirements that are dependent on active livestock grazing, or grassland areas that have naturally short grass cover (i.e. alvar communities). They also require spiny, multi-branched shrubs, or barbed fencing, to catch prey. They prefer grassland habitats that have sporadic occurrences of low trees and shrubs; particularly hawthorn species, which are used as part of their feeding behaviour (1).	No	Known to occur in the general area	No further consideration required
Olive-sided Flycatcher	*Contopus cooperi*	SC	SC	S4B	The Olive-sided Flycatcher is a medium-sized songbird with olive colouring, often seen perching on top of tall trees waiting to catch their prey. It prefers open areas along natural mature forest edges, forest edges near natural openings such as rivers or swamps, human-made openings, or burned forest openings with numbers of dead trees. Breeding habitat usually consists of coniferous or mixed forests adjacent to rivers or wetlands, in Ontario often nesting in White and Black Spruce, Jack Pine, and Balsam Fir (1).	No	Known to occur in the general area	No further consideration required
Peregrine Falcon	*Falco peregrinus*	NAR	SC	S3B	The Peregrine Falcon is a bird of prey with a slate blue back, cream-coloured chest with dark markings, and pointed wings spanning around 1 m. It also has bright yellow feet and legs. This species can be found nesting on tall, steep cliff ledges close to large bodies of water. They prefer open habitats such as wetlands, tundra, savannah, sea coasts and mountain meadows for hunting , but may also be found above open forests. This species has also adapted well to living and nesting in urban areas, and has been documented using the ledges of tall buildings and other tall man-made structures for perches and nesting (1).	No	Known to occur in the general area	No further consideration required
Piping plover	*Charadrius melodus*	END	END	S1B	The Piping Plover is a small shorebird with light colouring, a stubby orange bill and orange legs. This species almost exclusively nests on dry sandy or gravelly beaches above the high-water mark to avoid waves. It can be found pecking the sand, searching for small pools of water for insects and small crustaceans to consume. Although not particularly common in Ontario, it is found along the shores of the Great Lakes, and in the Lake of the Woods in northwestern Ontario (1).	No	Known to occur in the general area	No further consideration required
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	S4B	The Red-headed Woodpecker is a mid-sized bird, at around 20 cm long, with a vivid red head, neck and breast as well a strong bill. The species can be found in open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. These areas must contain a large number of dead trees for perching and nesting (1).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Short-eared owl	*Asio flammeus*	SC	THR	S2N,S4B	The Short-eared Owl has a large round head with small tufts of feathers, long wings, a short tail, and cryptic colouring of brown streaks. This species is found in scattered pockets across the province where suitable open habitat, including grasslands, tundra, peat bogs and marsh, can be found in sufficient quantities. Adults build nests on the ground in grassy areas and occasionally agricultural fields (1). The main factor influencing their choice in habitat is believed to be an abundance of their food source, primarily rodents and other small mammals (2).	No	Known to occur in the general area	No further consideration required
Wood Thrush	*Hylocichla mustelina*	THR	SC	S4B	The Wood Thrush is a medium-sized songbird of around 20 cm with rusty brown coloured upper parts and white underparts with large dark spots. It breeds in deciduous and mixed forests with moderate understories, shade and abundant leaf litter where it forages for food, including larval and adult insects as well as plant material. They prefer moist stands of trees with well-developed undergrowth and tall trees for perches (1).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Confirmed significant wildlife habitat on-site
Yellow Rail	*Coturnicops noveboracensis*	SC	SC	S4B	The Yellow Rail is a small, quail-like marsh bird with a short yellow or black bill, short tail, with yellowish and black streaks on its back and white wing patches. This species is mainly found in the Hudson Bay Lowlands region, and is only found in localized marshes in southern Ontario. It is a secretive bird that lives deep within the reeds, sedges, and marshes of shallow wetlands which nest on the ground in areas that have an overlying mat of dry vegetation that can be used for nest building (1).	No	Known to occur in the general area	No further consideration required
Fish								
American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	No	Known to occur in the general area	No further consideration required
Deepwater Sculpin	*Myoxocephalus thompsonii*	SC	-	S1	The Deepwater Sculpin grows tup to 8 cm in length, and has eyes on top of its head, a large mouth, three dark bands on its pectoral fins, and lacks true scales. This species inhabits the bottoms of cold, highly oxygenated lakes (2).	No	Known to occur in the general area	No further consideration required
Grass Pickerel	*Esox americanus*	SC	SC	S3	Like other members of the pike family, the Grass Pickerel has a long, cylindrical body with a long snout and forked tail. Colouration may vary, but often consists of several thin, dark, wavy vertical bars along the sides. The fins are dusky to yellow-green. Adults have a dark bar extending below the eye. Grass Pickerel are foujnd in wetlands, pond, slow moving streams and shallow bays of larger lakes with warm, shallow, clear water and abundant aquatic vegetation. In Ontario, Grass Pickerel is found in coastal wetlands in the Great Lakes and tributaries of Lake St. Clair, Lake Erie, Lake Huron, the Niagara River, Lake Ontario and the St. Lawrence River, and inland in the Severn River system (2).	No	Known to occur in the general area	No further consideration required
Lake Sturgeon	*Acipenser fulvescens*	No Status	END	S2	The Lake Sturgeon, a large freshwater fish, has an extended snout with four whisker-like organs hanging near the mouth and is dark to light brown or grey on its back and sides with a lighter belly. In Ontario, this fish is found in the rivers of the Hudson Bay Basin, the Great Lakes basin, and their connecting waterways. Lake Sturgeon's live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel and are usually found at depths of 5 to 20 m. They spawn in relatively shallow, fast-flowing water or if available deeper water habitat as well (1).	No	Known to occur in the general area	No further consideration required
Nothern Brook Lamprey	*Ichthyomyzon fossor*	SC	SC	S3	The Northern Brook Lamprey is a small, elongate fish growing up to 16 cm long with a round, jawless mouth, sevel gill openings, and no pectoral or pelvic fins. This species has a larval stage, in which they require soft substrates for burrowing and typically use slow-moving portions of coolwater streams, and an adult stage, in which they are more typically associated with fast flowing ripples in coolwater strams with rock or gravel bottoms (1).	No	Known to occur in the general area	No further consideration required

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COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Northern Sunfish (Great Lakes - Upper St. Lawrence population)	*Lepomis peltastes*	SC	SC	S3	The Northern Sunfish is a small (about 130 mm long), typical looking member of the sunfish family (Centrarchidae). It has a deep, laterally compressed and olive coloured body with bright blue and red markings. In Ontario, the Northern Sunfish lives in shallow vegetated areas of quiet, slow flowing rivers and streams, as well as warm lakes and ponds, with sandy banks or rocky bottoms. Northern Sunfish prefer to be near aquatic vegetation where they can avoid strong currents. The Great Lakes - Upper St. Lawrence Populations are found throughout southern Ontario including waters flowing into Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario, as well as rivers and small lakes in eastern Ontario (1).	No	Known to occur in the general area	No further consideration required
Silver Lamprey (Great Lakes - Upper St. Lawrence River population)	*Ichthyomyzon unicuspis*	SC	SC	S3	The Silver Lamprey is an eel-shaped fish growing from 9 to 39 cm long, with a sucking disc mouth and no jaws or paired fins. They can be differed from other lamprey species based on fin shapes and teeth arrangements. Their habitat requirements include clear water, the availability of fish hosts, and relatively clean beds of sand or organic debris (1).	No	Known to occur in the general area	No further consideration required
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	END	THR	S3	Blanding's Turtles are identifiable by their bright yellow throat and chin and domed shell. They spend the majority of their life cycle in the aquatic environment, usually in large wetlands or shallow lakes with high densities of water plants (1). These turtles prefer shallow, nutrient rich water with organic sediment and dense vegetation. They use terrestrial sites for travel between habitat patches and to lay clutches of eggs, often going hundreds of meters from their nearest water body. Blanding's Turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (2). From late October until the end of April, they hibernate in the mud at the bottom of permanent water bodies (1).	Yes: adjacent lands only	Known to occur in the general area	No further consideration required
Eastern Musk Turtle	*Sternotherus odoratus*	SC	SC	S3	The Eastern Musk Turtle is small with a narrow carapace, a dark brown body and two light stripes on each side of their head (5). It is a small freshwater turtle found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield within which they burrow into overwinter. Nesting sites vary, but must be close to the water and exposed to direct sunlight (1).	No	Known to occur in the general area	No further consideration required
Midland Painted Turtle	*Chrysemys picta marginata*	SC	-	S4	The Midland Painted Turtle has a olive to black carapace with red or dark orange markings on the marginal scutes, as well as red and yellow stripes on the head and neck. The species uses a variety of waterbodies including, ponds, marshes, lakes and slow-moving creeks with a soft bottom and an abundance of basking sites and aquatic vegetation. This species usually hibernates on the bottom of waterbodies (5).	Yes: adjacent lands only	Known to occur in the general area	No further consideration required
Northern Map Turtle	*Graptemys geographica*	SC	SC	S3	The Northern Map Turtle is a medium sized turtle identified by its carapace's map contour-like patterning. It lives in larger lakes and rivers, requiring high water quality to support their primary prey species: molluscs. This species can often be seen in large groups basking together on rocks and logs. In the winter, the Northern Map Turtle can be found hibernating on the bottom of slow-moving rivers (1).	No	Known to occur in the general area	No further consideration required
Snapping Turtle	*Chelydra serpentina*	SC	SC	S3	The Snapping Turtle, with its large serrated carapace, small plastron, and spiked tail, is Canada's largest freshwater turtle (5). It spends the majority of its life in water, preferring shallow water with soft mud and leaf litter, and will travel upland to gravel or sandy embankments, roadsides, along railway lines or beaches to lay their eggs (1).	Yes: adjacent lands only	Known to occur in the general area	No further consideration required
Spotted Turtle	*Clemmys guttata*	END	END	S2	The Spotted Turtle is named after the distinct yellow spots on its carapace. The species is semi-aquatic and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. This species usually hibernates in wetlands or seasonally wet areas with structures such as overhanging banks, hummocks, tree roots, or aquatic animal burrows (1).	No	Known to occur in the general area	No further consideration required
Wood Turtle	*Glyptemys insculpta*	THR	END	S2	The Wood Turtle has orange coloured front legs, neck and chin and a sculpted carapace with raised, pyramidal scutes (5). They prefer clear rivers and streams that have moderate current, and sandy or gravelly substrates. This species spends more time on land than other turtle species including in meadows, swamps and fields. Wooded areas are an essential habitat component, and the species uses aquatic habitats for hibernation and mating. Nesting occurs in areas with sandy soil and abundant light (1).	No	Known to occur in the general area	No further consideration required
Eastern Fox Snake (Georgian Bay GLSL Population)	*Pantherophis gloydi*	END	THR	S3	The Eastern Foxsnake has a rusty orange head and a golden-brown body with dark blotches. The Georgian Bay population predominantly uses open habitats along shorelines (e.g., coastal rock barrens and meadow marshes) as habitat during the active season. The foxsnakes inhabiting this coastline do not venture far inland, restricting the majority of their activity to within 150 m of the water (4). The females require rotten logs, stumps, compost or decaying leaf piles for incubating their eggs (5).	No	Known to occur in the general area	No further consideration required
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	THR	S3	The Eastern Hog-nosed Snake can be a variety of colours and patterns so is most easily identified by its flattened, upturned nose. They prefer sandy well-drained habitats such as beaches and dry forests because they lay their eggs, hibernate and burrow in these areas. The main diet of this snake is toads and frogs, so they usually stay close to water including marshes and swamps, where they have an increased chance of finding their preferred prey (1).	No	Known to occur in the general area	No further consideration required
Eastern Milksnake	*Lampropeltis triangulum*	SC	NAR	S4	The Eastern Milksnake's colouration is grey or tan with reddish alternating blotches otlines in black along its back and sides (5). It has recently been delisted from being a species at risk in Ontario (1). This species tends to use open habitats such as rocky outcrops, fields and forest edges. The preferred prey of milksnakes are mice, small rodents, and ground nesting birds which are amply found in and surrounding agricultural outbuildings. The milksnake is secretive and is not likely to be encountered during the day or at night while hunting (5).	No	Known to occur in the general area	No further consideration required
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	The Eastern Ribbonsnake is slender with three bright yellow stripes running down its back and sides and a white crescent in front of each eye. This snake is usually found close to water as they are strong swimmers, often fleeing predators by diving into shallow water. It prefers wetland habitats where its prey species, frogs and small fish, are abundant. Over winter, they congregate in underground burrows or rock crevices to hibernate (1).	No	Known to occur in the general area	No further consideration required
Massasauga Rattlesnake (Great Lakes - St. Lawrence population)	*Sistrurus catenatus*	THR	THR	S3	The Massasauga, Ontario's venomous snake, can be identified by its rattle, vertical pupils, and triangular head. It inhabits a range of different habitats throughout Ontario, including tall grass prairies, marshes, bogs, shorelines, forests, and alvars. Within these habitats they require open areas to warm themselves in the sun (1).	No	Known to occur in the general area	No further consideration required
Common Five-lined Skink (Southern Shield Population)	*Plestiodon fasciatus*	SC	SC	S3	The Common Five-lined Skink is Ontario's only lizard species. Its Southern Shield population can be found underneath rocks on open bedrock in forests and like to bask on sunny rocks and logs. They hibernate in crevices among rocks or buried in the soil (1). They hibernate in groups under rocks and tree stumps or in rotting wood (5).	No	Known to occur in the general area	No further consideration required

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		SARA	SARO	S-RANK				
Western Chorus Frog	*Pseudacris triseriata*	THR	-	S3	The Western Chorus Frog is small with a dark stripe running through its eye and a light stripe underneath (5). It is primarily a lowland terrestrial species that requires access to terrestrial and aquatic habitats in close proximity to one another. Relying on marshes and wooded wetlands adjacent to forested habitats, this species also requires isolated, predator free pools for breeding. Temporary pools, such as vernal pools in wooded areas, are preferred. This species hibernates terrestrially in a variety of environments, including leaf litter, wood debris, and vacant animal burrows (2).	No	Known to occur in the general area	No further consideration required
Invertebrates								
Monarch Butterfly	*Danaus plexippus*	SC	SC	S2N,S4B	The Monarch is an orange and black butterfly with small white spots and a wingspan of around 10 cm. It relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers (1).	Yes: adjacent lands only	Known to occur in the general area	No further consideration required
Hine's Emerald	*Somatochlora hineana*	END	END	S1	Hine's Emerald is a medium-sized dragonfly with a dark abdomen, metallic gree thorax with two yellow stripes, and green eyes. Its habitat consists of groundwater-fed wetlands with grassy vegetation (1).	No	Known to occur in the general area	No further consideration required
West Virginia White	*Pieris virginiensis*	No Status	SC	S3	The West Virginia White is a small, dingy white butterfly. This species is found in moist deciduous woods, and requires a supply of toothwort, a small, spring-blooming plant, which provides the only source of food for its larvae. The West Virginia White is found mostly in the central and southern parts of Ontario, but its range extends north to Manitoulin and St. Joseph islands (1).	No	Known to occur in the general area	No further consideration required
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	The Yellow-banded Bumble Bee is a medium-sized bumble bee with a distinct yellow and black abdominal band pattern found on its queens, males, and workers. This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. It can be found in mixed and coniferous woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. The Yellow-banded Bumble Bee ranges from the Mixedwood Plains of southern Ontario to the Hudson Bay Lowlands in the north (1). Their nest sites are often found underground in abandoned burrows or decomposing logs.	Yes: on-site and adjacent lands	Known to occur in the general area	Potential significant wildlife habitat on-site
Mammals								
Eastern Red Bat	*Lasiurus borealis*	END	END	S3	The Eastern Red Bat has similar habitat needs to the hoary bat. It roosts among the foliage of trees and occasionally shrubs. Red bats roost alone, including at maternity roosts (with pups), and prefer sites with foliage overhead for cover, and open areas for flight below. Deciduous, mixed, and coniferous forests are are used, but roost trees are usually deciduous trees. Trees used for maternity roosts are typically mature tall trees, with a large diameter, reaching or exceeding the height of the surrounding canopy. Foraging habitat includes a variety of open habitats. (3)	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Hoary Bat	*Lasiurus cinereus*	END	END	S3	The Hoary bat has similar habitat needs to the eastern red bat. It roosts among the foliage of trees and occasionally shrubs. Hoary bats roost alone, including at maternity roosts (with pups), and prefer sites with foliage overhead for cover, and open areas for flight below. Deciduous, mixed, and coniferous forests are used, but roost trees are usually deciduous trees. Trees used for maternity roosts are typically mature tall trees, with a large diameter, reaching or exceeding the height of the surrounding canopy. Foraging habitat includes a variety of open habitats. (3)	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Silver-haired Bat	*Lasionycteris noctivagans*	END	END	S3	Silver haired bats primarily roost under the bark and in the cavities of trees. They are reliant on mature where large cavity and decaying trees occur such as mature or semi-mature forests Although they can utilize both deciduous and coniferous trees, deciduous trees more commonly have the characteristics requires by this species. Old woodpecker cavities are commonly used. Maternity roosts usually include small groups of females within these habitat features. Foraging habitat is not well understood but includes openings within forests, and along forest edges. (3)	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	The Tri-colored Bat is small, with pale brown with orange-red forearms, muzzle, and ears. It is named for the black, yellow, and brown hairs on its back. It is considered rare in this region of Ontario which is at the northernmost limit of the natural range. These bats prefer to nest in foliage, tree cavities and woodpecker holes, but are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bats prefer an open forest habitat type in proximity to water (6).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Eastern Small-footed Myotis	*Myotis leibii*	No Status	END	S2S3	The Eastern Small-footed Myotis has fur with black roots and shiny brown tips as well as very small feet. In the spring and summer, the Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects. They hibernate in winter, often in caves and abandoned mines choosing colder and drier sites than other similar bats (1).	Yes: on-site and adjacent lands	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Little Brown Myotis	*Myotis lucifugus*	END	END	S4	The Little Brown Myotis has glossy brown fur and a fleshy projection covering the entrance to its ears. This species roosts in trees and buildings, often selecting attics, abandoned buildings and barns for summer colonies where they can raise their young. Little Brown Bats hibernate from October/November to March/April, most often in caves or abandoned mines that are humid and remain above freezing (1).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Northern Myotis	*Myotis septentrionalis*	END	END	S3	The Northern Myotis has dull yellow-brown fur with pale bellies and long, rounded ears. This species is found in forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October/November to March/April, most often in caves or abandoned mines (1).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Algonquin Wolf	*Canis lycaon*	SC	THR	S4	Formerly called the Eastern Wolf, this canine was recently renamed the Algonquin Wolf. In the southern portion of the province, this species prefers deciduous and mixed forest landscapes while their northern range include mixed and coniferous forests. It is most prevalent in areas with abundant prey species which include Beaver, White-tailed Deer and Moose. Dens sites are usually found in coniferous forests with easily excavated soil types like sand and close to a permanent water source (1).	No	Known to occur in the general area	No further consideration required
Trees, plants, fungi and lichens								
American Ginseng	*Panax quinquefolius*	END	THR	S2	American Ginseng is a perennial plant which grows up to 60 centimetres in height. The leaves typically have five leaflets arranged in a whorl at the end of the leaf stem. The root looks like a gnarly parsnip. The flowers are an inconspicuous green-white in colour, but the berries are bright red and arranged in a cluster. In Ontario, the American Ginseng typically grows in rich, moist, and mature deciduous woods dominated by Sugar Maple, White Ash, and American Basswood. It typically grows in deep, nutrient rich soil over limestone or marble bedrock (1).	No	Known to occur in the general area	No further consideration required
American Hart's-tongue Fern	*Asplenium scolopendrium*	SC	SC	S3	American Hart's Tongue Fern is a perennial evergreen fern with fronds growing from a short underground stem. Its blades are strap-shaped with a heart-shaped base and pointed tip. The species grows on calcareous rocks on slopes in deciduous forests, preferring deep shade. In Ontario, most occurences are in maple-beech forests (1).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Black Ash	*Fraxinus nigra*	No status	END	S4	The Black Ash is a smaller-sized tree with a narrow crown, light grey and scaly bark, and green, oval leaflets on a central stalk. It grows everywhere in Ontario except for the far north, preferring moist climates and soils such as swampy woodlands or bogs (1).	Yes: adjacent lands only	Not observed during targeted surveys; unlikely to occur on Site	No further consideration required
Broad Beech Fern	*Phegopteris hexagonoptera*	SC	SC	S3	The Broad Beech Fern can grow to a height of 50 cm or more and has a creeping, scaly root (2). The fern has large divided leaves called fronds which grow from 25 to 75 cm long and triagular leaf blades. The Broad Beech Fern perfers rich, moist soils in deciduous forests, usually in full shade and often dominated by Maple and Beech trees. In Ontario, it is found in southern Muskoka, along Lake Erie, and in the eastern Lake Ontario - St Lawrence River region (1).	No	Known to occur in the general area	No further consideration required
Butternut	*Juglans cinerea*	END	END	S2?	The Butternut is a medium sized tree reaching 30 m in height. It has large compound leaves with 11 to 17 leaflets. The fruit is oval, fuzzy and sticky. In Ontario, the Butternut prefers moist, well-drained soil, often along streams, or occasionally well-drained gravel sites. It grows alone or in small groups in deciduous forests (1).	Yes: on-site and adjacent lands	Confirmed habitat on-site through targeted surveys	Consideration required under the ESA
Eastern Prairie Fringed-orchid	*Platanthera leucophaea*	END	END	S2	The Eastern Prairie Fringed-Orchid has distinctive fringed white flowers with a deep "nectar spur" containing nectar and a flat, fringed "lip" serving as a platform for pollinating insects. It may lie dormant for years before flowering. It can be found in areas of tallgrass prairie or fen throughout the province and in some tamarack swamps of the Bruce Peninsula and Ottawa Area (1).	No	Known to occur in the general area	No further consideration required
Purple Twayblade	*Liparis liliifolia*	THR	THR	S2	The Purple Twayblade is a small orchid with two broad, shiny leaves at the base of the plant and a single stem from which mauve-purple flowers cluster. It can be found in a variety of habitats including open woodlands, mixed deciduous forests, shrub thickets, deciduous swamps, and coniferous plantations. It requires partial, but can not tolerate full, shade and therefore depends on natural disturbances to keep its habitat relatively open (1).	No	Known to occur in the general area	No further consideration required

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Appendix D

Photographic Log

Photo 1 A view of Community 1 (FOD5-2) in the spring, May 2024.

Photo 2 A view of Community 1 (FOD5-2) in the summer, July 2024.

Photo 3 A view of the bottom of the slope in Community 1, July 2024.

Photo 4 A view of the top of the slope in Community 1, July 2024.

Photo 5 A view of Community 2 (CUM) in the spring, May 2024.

Photo 6 A view of Community 2 (CUM) in the summer, July 2024.

Photo 7 A view of Community 3 (CVR) in the spring, May 2024.

Photo 8 A view of a single Butternut tree identified within Community 1, July 2024.

Appendix E

Vegetation Species List

Common Name (Latin Name)	Vegetation Community		CoW	Rarity/Status[2]			CoC
	1	2		National	Provincial		
				SARA	SARO	S-Rank	
Alder-leaved Buckthorn (Endotropis alnifolia)	X		-5			S5	7
Allegheny Blackberry (Rubus allegheniensis)	X	X	3			S5	2
Alternate-leaved Dogwood (Cornus alternifolia)	X		3			S5	6
American Beech (Fagus grandifolia)	C		3			S4	6
Arrow-leaved Aster (Symphyotrichum urophyllum)	X		5			S4	6
Balsam Poplar (Populus balsamifera)	X		-3			S5	4
Basswood (Tilia americana)	X		3			S5	4
Bitter Dock (Rumex obtusifolius)	X		-3			SNA	0
Bitter Wintercress (Barbarea vulgaris)		X	0			SNA	0
Bittersweet Nightshade (Solanum dulcamara)	X	X	0			SNA	0
Black Cherry (Prunus serotina)	X		3			S5	3
Black Medick (Medicago lupulina)		X	3			SNA	0
Black Walnut (Juglans nigra)	X		3			S4?	5
Bladder Campion (Silene vulgaris)	X		5			SNA	0
Bull Thistle (Cirsium vulgare)		X	3			SNA	0
Butternut (Juglans cinerea)	X		3	END	END	S2?	6
Calico Aster (Symphyotrichum lateriflorum)	X	X	0			S5	3
Canada Goldenrod (Solidago canadensis)	X		3			S5	1
Canada Horseweed (Erigeron canadensis)		X	3			S5	0
Canada Lettuce (Lactuca canadensis)	X		3			S5	3
Canada Tick-trefoil (Desmodium canadense)	X		0			S4	5
Canada Violet (Viola canadensis)	X		3			S5	6
Chokecherry (Prunus virginiana)	X		3			S5	2
Coltsfoot (Tussilago farfara)	X		3			SNA	0
Common Apple (Malus pumila)		X	5			SNA	0
Common Burdock (Arctium minus)	X	X	3			SNA	0
Common Dandelion (Taraxacum officinale)	X	X	3			SNA	0
Common Evening-primrose (Oenothera biennis)	X	X	3			S5	0
Common Lady Fern (Athyrium filix-femina)	X		0			S5	4
Common Mullein (Verbascum thapsus)		X	5			SNA	0
Common Nipplewort (Lapsana communis)	X		3			SNA	0
Common Pokeweed (Phytolacca americana)	X		3			S4	3
Common Self-heal (Prunella vulgaris)		X	0			S5	0
Common Speedwell (Veronica officinalis)	X		5			SNA	0
Common St. John's-wort (Hypericum perforatum ssp. perforatum)		X	5			SNA	0
Common Tansy (Tanacetum vulgare)		X	5			SNA	0
Common Viper's Bugloss (Echium vulgare)		X	5			SNA	0
Creeping Bellflower (Campanula rapunculoides)		X	5			SNA	0
Curled Dock (Rumex crispus)		X	0			SNA	0
Dame's Rocket (Hesperis matronalis)	X		3			SNA	0

Common Name (Latin Name)	Vegetation Community		CoW	Rarity/Status[2]			CoC
	1	2		National	Provincial		
				SARA	SARO	S-Rank	
Eastern Hop-hornbeam (Ostrya virginiana)	S		3			S5	4
Eastern Prickly Gooseberry (Ribes cynosbati)	X		3			S5	4
Eastern Red Cedar (Juniperus virginiana)	X		3			S5	4
Eastern White Pine (Pinus strobus)	X		3			S5	4
English Plantain (Plantago lanceolata)		X	3			SNA	0
European Lily-of-the-valley (Convallaria majalis var. majalis)	X		5			SNA	0
Garden Bird's-foot Trefoil (Lotus corniculatus)		X	3			SNA	0
Garlic Mustard (Alliaria petiolata)	X		0			SNA	0
Giant Solomon's Seal (Polygonatum biflorum)	X		3			S4	8
Grass-leaved Goldenrod (Euthamia graminifolia)		X	0			S5	2
Hard Fescue (Festuca trachyphylla)		X	5			SNA	0
Herbaceous Carrionflower (Smilax herbacea)	X		0			S4?	5
Herb-Robert (Geranium robertianum)	X		3			S5	2
Highbush Cranberry (Viburnum opulus ssp. trilobum var. americanum)	X		-3			S5	5
Hoary Alyssum (Berteroa incana)		X	5			SNA	0
Jack-in-the-pulpit (Arisaema triphyllum)	X		-3			S5	5
Kentucky Bluegrass (Poa pratensis)		X	3			S5	0
Kidney-leaved Buttercup (Ranunculus abortivus)	X		0			S5	2
Large False Solomon's Seal (Maianthemum racemosum)	X		3			S5	4
Large-leaved Aster (Eurybia macrophylla)	X	X	5			S5	5
Large-toothed Aspen (Populus grandidentata)	X	X	5			S5	5
Long-stalked Sedge (Carex pedunculata)	X		3			S5	5
Manitoba Maple (Acer negundo)	X		0			S5	0
Marginal Wood Fern (Dryopteris marginalis)	X		3			S5	5
Meadow Hawkweed (Pilosella caespitosa)	X	X	5			SNA	0
Morrow's Honeysuckle (Lonicera morrowii)	X		3			SNA	0
Northern Red Oak (Quercus rubra)	C		3			S5	6
Orchard Grass (Dactylis glomerata)		X	3			SNA	0
Oxeye Daisy (Leucanthemum vulgare)	X	X	5			SNA	0
Paper Birch (Betula papyrifera)	X		3			S5	2
Pennsylvania Sedge (Carex pensylvanica)	X		5			S5	5
Poison Ivy (Toxicodendron radicans)	X	X	0			S5	2
Poverty Oatgrass (Danthonia spicata)		X	5			S5	5
Purple Crown-vetch (Securigera varia)	X	X	5			SNA	0
Red Clover (Trifolium pratense)		X	3			SNA	0
Red Columbine (Aquilegia canadensis)	X		3			S5	5
Red Elderberry (Sambucus racemosa)	X	X	3			S5	5
Red Fescue (Festuca rubra)		X	3			S5	0
Red Raspberry (Rubus idaeus)	X	X	3			S5	2
Riverbank Grape (Vitis riparia)	X	X	0			S5	0

Common Name (Latin Name)	Vegetation Community		CoW	Rarity/Status[2]			CoC
	1	2		National	Provincial		
				SARA	SARO	S-Rank	
Rough Fleabane (Erigeron strigosus)		X	3			S5	4
Scots Pine (Pinus sylvestris)	X	X	3			SNA	0
Slender Yellow Wood-sorrel (Oxalis dillenii)	X		3			S5?	0
Smooth Brome (Bromus inermis)		X	5			SNA	0
Spinulose Wood Fern (Dryopteris carthusiana)	X		-3			S5	5
Spotted Knapweed (Centaurea stoebe)		X	5			SNA	0
Staghorn Sumac (Rhus typhina)	X	D	3			S5	1
Sugar Maple (Acer saccharum)	D	X	3			S5	4
Sulphur Cinquefoil (Potentilla recta)		X	5			SNA	0
Tatarian Honeysuckle (Lonicera tatarica)	X	X	3			SNA	0
Tufted Vetch (Vicia cracca)		X	5			SNA	0
Virginia Creeper (Parthenocissus quinquefolia)	X	X	3			S4?	6
Virginia Dwarf-dandelion (Krigia virginica)		X	5			S1	10
White Ash (Fraxinus americana)	X	X	3			S4	4
White Clover (Trifolium repens)		X	3			SNA	0
White Sweet-clover (Melilotus albus)		X	3			SNA	0
Wild Carrot (Daucus carota)		X	5			SNA	0
Wild Chicory (Cichorium intybus)		X	5			SNA	0
Wild Strawberry (Fragaria virginiana)	X	X	3			S5	2

Appendix F

Bird Species List

Appendix - Avifauna Observations

Common name	Scientific name	Station	Breeding Code	COSEWIC	SARO	S-Rank	Date
American Redstart	*Setophaga ruticilla*	1	S	0	0	S5B	2024-06-04
Black-capped Chickadee	*Poecile atricapillus*	1	S	0	0	S5	2024-06-04
Eastern Phoebe	*Sayornis phoebe*	1	S	0	0	S5B	2024-06-04
Eastern Wood-pewee	*Contopus virens*	1	S	SC	SC	S4B	2024-06-04
Ovenbird	*Seiurus aurocapilla*	1	S	0	0	S4B	2024-06-04
Red-eyed Vireo	*Vireo olivaceus*	1	S	0	0	S5B	2024-06-04
Wood Thrush	*Hylocichla mustelina*	1	S	THR	SC	S4B	2024-06-04
Yellow Warbler	*Setophaga petechia*	1	S	0	0	S5B	2024-06-04
Canada Goose	*Branta canadensis*	1	X	0	0	S5	2024-06-04
Black-throated Blue Warbler	*Setophaga caerulescens*	1	S	0	0	S5B	2024-06-04
American Redstart	*Setophaga ruticilla*	2	S	0	0	S5B	2024-06-04
Black-capped Chickadee	*Poecile atricapillus*	2	S	0	0	S5	2024-06-04
Eastern Wood-pewee	*Contopus virens*	2	S	SC	SC	S4B	2024-06-04
House Wren	*Troglodytes aedon*	2	S	0	0	S5B	2024-06-04
Northern Cardinal	*Cardinalis cardinalis*	2	S	0	0	S5	2024-06-04
Ovenbird	*Seiurus aurocapilla*	2	S	0	0	S4B	2024-06-04
Red-eyed Vireo	*Vireo olivaceus*	2	S	0	0	S5B	2024-06-04
Song Sparrow	*Melospiza melodia*	2	S	0	0	S5B	2024-06-04
Chestnut-sided Warbler	*Setophaga pensylvanica*	2	S	0	0	S5B	2024-06-04
Yellow-bellied Sapsucker	*Sphyrapicus varius*	2	S	0	0	S5B	2024-06-04
American Goldfinch	*Spinus tristis*	3	H	0	0	S5B	2024-06-04
American Redstart	*Setophaga ruticilla*	3	S	0	0	S5B	2024-06-04
Eastern Wood-pewee	*Contopus virens*	3	S	SC	SC	S4B	2024-06-04
Great Crested Flycatcher	*Myiarchus crinitus*	3	S	0	0	S4B	2024-06-04
Northern Cardinal	*Cardinalis cardinalis*	3	H	0	0	S5	2024-06-04
Red-eyed Vireo	*Vireo olivaceus*	3	S	0	0	S5B	2024-06-04
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	3	S	0	0	S4B	2024-06-04

Appendix - Avifauna Observations

Common name	Scientific name	Station	Breeding Code	COSEWIC	SARO	S-Rank	Date
Chestnut-sided Warbler	*Setophaga pensylvanica*	3	S	0	0	S5B	2024-06-04
Blue Jay	*Cyanocitta cristata*	4	H	0	0	S5	2024-06-04
Eastern Wood-pewee	*Contopus virens*	4	S	SC	SC	S4B	2024-06-04
Great Crested Flycatcher	*Myiarchus crinitus*	4	S	0	0	S4B	2024-06-04
Ovenbird	*Seiurus aurocapilla*	4	S	0	0	S4B	2024-06-04
Red-eyed Vireo	*Vireo olivaceus*	4	S	0	0	S5B	2024-06-04
Chestnut-sided Warbler	*Setophaga pensylvanica*	4	S	0	0	S5B	2024-06-04
*Note: *Grey shaded cells indicate probable or confirmed breeding evidence*							

Appendix - Avifauna Observations

Common name	Scientific name	Station	Breeding Code	COSEWIC	SARO	S-Rank	Date
American Robin	*Turdus migratorius*	1	S	0	0	S5B	2024-06-26
Eastern Wood-pewee	*Contopus virens*	1	T	SC	SC	S4B	2024-06-26
Ovenbird	*Seiurus aurocapilla*	1	T	0	0	S4B	2024-06-26
Red-eyed Vireo	*Vireo olivaceus*	1	T	0	0	S5B	2024-06-26
Ring-billed Gull	*Larus delawarensis*	1	X	0	0	S5B,S4N	2024-06-26
Scarlet Tanager	*Piranga olivacea*	1	S	0	0	S4B	2024-06-26
Black-throated Green Warbler	*Setophaga virens*	1	S	0	0	S5B	2024-06-26
Yellow-bellied Sapsucker	*Sphyrapicus varius*	1	S	0	0	S5B	2024-06-26
Wild Turkey	*Meleagris gallopavo*	1	S	0	0	S5	2024-06-26
American Redstart	*Setophaga ruticilla*	2	D	0	0	S5B	2024-06-26
American Goldfinch	*Spinus tristis*	2	S	0	0	S5B	2024-06-26
Cedar Waxwing	*Bombycilla cedrorum*	2	S	0	0	S5B	2024-06-26
Eastern Phoebe	*Sayornis phoebe*	2	S	0	0	S5B	2024-06-26
House Wren	*Troglodytes aedon*	2	T	0	0	S5B	2024-06-26
Mourning Dove	*Zenaida macroura*	2	S	0	0	S5	2024-06-26
Ovenbird	*Seiurus aurocapilla*	2	T	0	0	S4B	2024-06-26
Red-eyed Vireo	*Vireo olivaceus*	2	T	0	0	S5B	2024-06-26
Ring-billed Gull	*Larus delawarensis*	2	X	0	0	S5B,S4N	2024-06-26
Scarlet Tanager	*Piranga olivacea*	2	S	0	0	S4B	2024-06-26
Song Sparrow	*Melospiza melodia*	2	T	0	0	S5B	2024-06-26
Veery	*Catharus fuscescens*	2	S	0	0	S4B	2024-06-26
Wood Thrush	*Hylocichla mustelina*	2	S	THR	SC	S4B	2024-06-26
Chestnut-sided Warbler	*Setophaga pensylvanica*	2	A	0	0	S5B	2024-06-26
American Redstart	*Setophaga ruticilla*	3	T	0	0	S5B	2024-06-26
American Robin	*Turdus migratorius*	3	S	0	0	S5B	2024-06-26
Ovenbird	*Seiurus aurocapilla*	3	S	0	0	S4B	2024-06-26
Red-eyed Vireo	*Vireo olivaceus*	3	T	0	0	S5B	2024-06-26
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	3	T	0	0	S4B	2024-06-26

Appendix - Avifauna Observations

Common name	Scientific name	Station	Breeding Code	COSEWIC	SARO	S-Rank	Date
Veery	*Catharus fuscescens*	3	S	0	0	S4B	2024-06-26
White-breasted Nuthatch	*Sitta carolinensis*	3	S	0	0	S5	2024-06-26
Wood Thrush	*Hylocichla mustelina*	3	S	THR	SC	S4B	2024-06-26
American Redstart	*Setophaga ruticilla*	4	S	0	0	S5B	2024-06-26
Eastern Phoebe	*Sayornis phoebe*	4	S	0	0	S5B	2024-06-26
Eastern Wood-pewee	*Contopus virens*	4	T	SC	SC	S4B	2024-06-26
Northern Flicker	*Colaptes auratus*	4	S	0	0	S4B	2024-06-26
Ovenbird	*Seiurus aurocapilla*	4	T	0	0	S4B	2024-06-26
Red-eyed Vireo	*Vireo olivaceus*	4	T	0	0	S5B	2024-06-26
Scarlet Tanager	*Piranga olivacea*	4	S	0	0	S4B	2024-06-26
Veery	*Catharus fuscescens*	4	S	0	0	S4B	2024-06-26
Chestnut-sided Warbler	*Setophaga pensylvanica*	4	T	0	0	S5B	2024-06-26
Mourning Warbler	*Geothlypis philadelphia*	4	S	0	0	S4B	2024-06-26
Black-throated Green Warbler	*Setophaga virens*	4	S	0	0	S5B	2024-06-26
*Note: *Grey shaded cells indicate probable or confirmed breeding evidence*							

Code	Description
X	Species observed during its breeding season, but NOT in suitable nesting habitat (no breeding evidence found). Note that this code is rarely used as birds tend to occupy nesting habitat during the breeding season. Do not use for species known to be migrants.
H	Species observed in suitable nesting Habitat during its breeding season.
S	Singing male or adult producing other sounds associated with breeding (e.g., calls or drumming) in suitable nesting habitat during the species' breeding season.
M	Multiple singing/calling/drumming individuals (7 or more) heard during one visit to a single square and in suitable nesting habitat during the species' breeding season. Use with caution to avoid counting migrants.
P	Pair observed in suitable nesting habitat during the species' breeding season.
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. Use discretion when using this code. "T" is not to be used for colonial birds, or species that might forage or loaf a long distance from their nesting site (e.g. Turkey Vulture, and male waterfowl).
D	Courtship or Displays involving a male and female (e.g., courtship feeding, copulation) or antagonistic behavior between two or more individuals (e.g., territorial disputes or chases), in suitable nesting habitat during the species' breeding season.
V	Bird Visiting a probable nest site in suitable nesting habitat during the species' breeding season.
A	Agitated behavior or alarm calls of an adult in suitable nesting habitat during the species' breeding season.
B	Brood patch or cloacal protuberance on an adult in suitable nesting habitat during the species' breeding season.
N	Nest-building by wrens or nest hole excavation by woodpeckers (both may build dummy or roosting nests so nest-building alone is not enough to confirm breeding).
NB	Nest building, including the carrying of nesting material, by all species except wrens and woodpeckers.
DD	Distraction Display, injury-feigning, or other displays attempting to draw attention away from a nest or young.
NU	Empty Nest Used or identifiable eggshells from earlier in the same nesting season.
FY	Recently Fledged Young (nidicolous species – whose young are raised in a nest) or downy young (nidifugous species – whose young leave the nest soon after hatching) incapable of sustained flight.
AE	Adult Entering, occupying, or leaving a nest site (visible or not) or whose behavior suggests the presence of an occupied nest.
FS	Adult carrying a Faecal Sac.
CF	Adult Carrying Food for young.
NE	Nest containing eggs
NY	Nest with Young (seen or heard)

Notes:

COSEWIC - Committee on the Status of Endangered Wildlife in Canada

SARO - Species at Risk in Ontario

S-Rank - Provincial rank used by the Natural Heritage Inforamation Centre to prioritize protection efforts

SC - Special Concern

THR - Threatened

END - Endangered

NAR - Not at risk

S1 - Extremely rare in Ontario

S2 - Very rare in Ontario

S3 - Rare to uncommon in Ontario

S4 - Considered to be common in Ontario

S5 - Species is widespread in Ontario

SNA - Not Applicable (typically introduced species)

SU - Status is uncertain due to insufficient information

"?" - Indicates uncertainty in classification due to lack of information

Appendix G

Significant Wildlife Habitat Assessment

APPENDIX: Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Seasonal Concentration Areas of Animals						
Waterfowl Stopover and Staging Areas (Terrestrial)	Meadow, Thicket, or Agricultural Field WITH spring flooding/sheet water (Mar-May) AND size potential to support 100+ individuals AND potential established/recurring annual use	American Black Duck, American Wigeon, Blue-winged Teal, Gadwall, Green-winged Teal, Mallard, Northern Pintail, Northern Shoveler, Wood Duck Defining Criteria: 100+ individuals SWH: ecosite + 100-300m radius; dependent on local site conditions and adjacent land use	No	N/A	SWH absent	No
Waterfowl Stopover and Staging Area (Aquatic)	Shallow Marsh, Deciduous Swamp, Shallow Aquatic, Open Aquatic, reservoirs managed as wetland/ lake/ pond AND size potential to support 100+ individuals for 7+ days *Rare: typically only a few locations per EcoDistrict *EXCLUDES SWM and sewage treatment ponds*	American Black Duck, American Wigeon, Black Scoter, Blue-winged Teal, Brant, Bufflehead, Cackling Goose, Canada Goose, Canvasback, Common Goldeneye, Common Merganser, Gadwall, Greater Scaup, Green-winged Teal, Hooded Merganser, Lesser Scaup, Long-tailed Duck, Northern Pintail, Northern Shoveler, Red-breasted Merganser, Redhead, Ring-necked duck, Ruddy Duck, Snow Goose, Surf Scoter, White-winged Scoter Defining Criteria: 100+ individuals for 7+ days (>700 waterfowl use days) OR annual staging of Ruddy Ducks, Canvasbacks and Redheads OR wetlands and shorelines associated with sites identified in SWHTG Appendix K SWH: combined ecosites + 100m radius	No	N/A	SWH absent	No
Shorebird Migratory Stopover Area	Beach/Bar, Sand Dune, Meadow Marsh, Shorelines of lakes, rivers and wetlands (including seasonally flooded, muddy, unvegetated shoreline habitats) WITH size potential to support 100+ Whimbrel OR 3+ species for 1000+ shorebird use days *EXCLUDES SWM and sewage treatment ponds*	American Golden Plover, Baird's Sandpiper, Black-bellied Plover, Dunlin, Greater Yellowlegs, Hudsonian Godwit, Least Sandpiper, Lesser Yellowlegs, Marbled Godwit, Pectoral Sandpiper, Purple Sandpiper, Red-necked Phalarope, Ruddy Turnstone, Sanderling, Semipalmated Plover, Short-billed Dowitcher, Solitary Sandpiper, Spotted Sandpiper, Stilt Sandpiper, Whimbrel, White-rumped Sandpiper Defining Criteria: 3+ species and 1000+ shorebird use days (#birds x #days) OR 100+ Whimbrel for at least 3 yrs (makes brief stops of <24 hrs during migration) SWH: combined ecosites + 100m radius	No	N/A	SWH absent	No
Raptor Wintering Area (Hawks and Owls)	COMBINATION of Forest, Meadow, Thicket, Savannah, Woodland or lightly grazed pasture of combined 20+ha area WITH 15+ha of the area consisting of open habitat; Fields should be wind swept with limited snow accumulation / depth	Hawks: American Kestrel, Red-tailed Hawk, Rough-legged Hawk, Northern Harrier Owls: Short-eared Owl, Snowy Owl Defining Criteria: 1+ Short-eared Owls OR 10+ individuals of 2+ listed hawk/owl species; AND must be used regularly (at least 20 days during each year for at least 3 in 5 years) SWH: not specified in Criteria Schedules	No	N/A	SWH absent	No
Raptor Wintering Area (Bald Eagle)	Forest or Treed Swamp on shoreline of large rivers or lakes WITH large trees and snags for roosting	Bald Eagle Defining Criteria: 1+ Bald Eagle AND used regularly (at least 20 days out of 3 in 5 years) SWH: shoreline forest ecosites directly adjacent to the prime hunting area (open water)	No	N/A	SWH absent	No
Bat Hibernacula	Crevices, Caves, Karst Features, Abandoned Mines *EXCLUDES buildings and active mines*	Big Brown Bat, Tri-coloured Bat Defining Criteria: all sites with confirmed hibernacula are SWH SWH: entrance + 1000m radius for wind farms OR + 200m radius for other projects	No	N/A	SWH absent	No
Bat Maternity Colonies	Mature Deciduous or Mixed Forests and Swamps WITH 10+/ha cavity trees WITH 25+ cm DBH; Trees in lesser decay categories (1-3) preferred *EXCLUDES Coniferous Forests and Swamps and buildings*	Big Brown Bat, Silver-haired Bat Defining Criteria: >10 Big Brown Bats OR >5 Adult Female Silverhaired Bats SWH: entire Ecosite or Ecoelement containing the maternity colony	Yes	Snag density work previously completed did not meet density requirements	SWH absent	Candidate SWH
Turtle Wintering Area (Painted and Snapping Turtles)	Swamp, Marsh, Shallow Aquatic, Open Aquatic, Open Fen, Open Bog WITH soft mud substrates AND enough depth to maintain free water beneath ice AND adequate dissolved oxygen *EXCLUDES man-made ponds such as SWM and sewage treatment ponds*	Midland Painted Turtle, Snapping Turtle Defining Criteria: 5+ Painted Turtles OR 1+ Snapping Turtle SWH: ecosite	No	N/A	SWH absent	No
Turtle Wintering Area (Northern Map Turtle)	Open Aquatic, including deeper rivers or streams and lakes WITH current AND soft mud substrates AND enough depth to maintain free water beneath ice AND adequate dissolved oxygen *EXCLUDES SWM and sewage treatment ponds*	Northern Map Turtle Defining Criteria: 1+ Northern Map Turtle SWH: ecosite OR the pool where overwintering occurs in a stream/river	No	N/A	SWH absent	No
Reptile Hibernaculum (Snakes)	Any ecosites other than very wet ones, broken/fissured bedrock, burrows, rock piles or slopes, old stone fences, or abandoned crumbling foundations, some wetlands (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)WITH openings below frost line:	Eastern Gartersnake, Eastern Ribbonsnake, Milksnake, Northern Brownsnake, Northern Red-bellied Snake, Northern Ring-necked, Northern Watersnake, Smooth Green Snake Defining Criteria: 5+ individuals of a species OR any number snakes of 2 or more species OR presence of a Special Concern species AND observed near a potential hibernacula on warmy sunny days in spring and fall SWH: feature containing hibernacula +30 m radius	No	N/A	SWH absent	No
Reptile Hibernaculum (Five-lined Skink)	Mixed Forests, Deciduous Forest, or Coniferous Forest dominated by Pine/Hemlock WITH cover rocks overlaying fissured granite bedrock	Five-lined Skink (Southern Shield population) Defining Criteria: All sites with active Skink hibernacula are SWH SWH: feature containing hibernacula +30 m radius	No	N/A	SWH absent	No
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Eroding banks, sandy hills/piles, pits, steep slopes, cliff faces WITH size potential to support 8+ nests *EXCLUDES all man-made structures (bridge abutments, silos, barns, etc.) AND recently (2 years) disturbed soil (berms, embankments, stock piles, aggregate operations)*	Cliff Swallow, Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies) Defining Criteria: 1+ nesting site with 8+ pairs SWH: peripheral nests + 50 m radius	No	N/A	SWH absent	No
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Deciduous and Mixed Swamp (excluding those dominated by Cedar) or Treed Fen, lake shorelines/ islands/ peninsulas WITH size to support 5+ nests; Nests are typically 11-15 m above ground near top of live or dead standing trees / occasionally in shrubs and emergent vegetation	Black-crowned Night Heron, Great Blue Heron, Green Heron, Great Egret Defining Criteria: 5+ active nests SWH: edge of the colony + minimum 300 m radius OR extent of the forest ecosite OR any island <15 ha with a colony	No	N/A	SWH absent	No
Colonially-nesting Bird Breeding Habitat (Ground; Terns and Gulls)	Rocky island or peninsula (natural or artificial) in lake or large river	Caspian Tern, Common Tern, Great Black-backed Gull, Herring Gull, Little Gull, Ring-billed Gull Defining Criteria: 25+ active Herring Gull or Ring-billed Gull nests OR 5+ active Common Tern nests OR 2+ active Caspian Tern nests OR 1+ active Little Gull or Great Black-backed Gull nest SWH: edge of the colony + 150+m radius OR the ecosites containing the colony OR any island <3 ha	No	N/A	SWH absent	No
Colonially-nesting Bird Breeding Habitat (Ground; Brewer's Blackbird)	Close proximity to watercourses in pastures, Meadows, Thickets, Savannah, Meadow Marsh, Shallow Marsh AND scattered trees or shrubs	Brewer's Blackbird Defining Criteria: 5+ pairs SWH: edge of the colony + 150+ m radius OR the ecosites containing the colony OR any island <3 ha	No	N/A	SWH absent	No

APPENDIX: Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Migratory Butterfly Stopover Area	Combination of Forest or Plantation AND Meadow, Thicket, or Savannah WITH size of 10+ha AND located within 5 km of Lake Ontario AND relatively undisturbed with abundance of preferred nectar plants	Monarch, Painted Lady, Red Admiral Defining Criteria: Monarch Use Days (MUD) of 5000+ OR 3000+ MUD and presence of Painted Ladies or Red Admirals SWH: not indicated in Criteria Schedules	No	N/A	SWH absent	No
Landbird Migratory Stopover Areas	Forest or Treed Swamp that may be complexed with grassland or wetland AND size of 10+ ha AND located within 5 km of Lake Ontario	All migratory songbirds and raptors Defining Criteria: 200+ birds/day of 35+ species AND 10+ bird species on 5+ survey dates (April/May and August/October) SWH: not indicated in Criteria Schedules	No	N/A	SWH absent	No
Deer Yarding Areas	Stratum I (Core): Coniferous Forest or Swamp WITH 60+% canopy cover by Pine, Hemlock, Cedar, or Spruce Stratum II (typically surrounds Stratum I): Mixed or Deciduous Forest or Swamp WITH plenty of browse (esp. those dominated by Poplar or Birch); can include agricultural fields *EXCLUDES woodlots with high densities of deer due to artificial feeding*	White-tailed Deer **Presence is determined by MNRF** *If present, consider Movement Corridors*	No	N/A	SWH absent	No
Deer Winter Congregation Areas	Forest and Treed Swamps; Typically applies to areas of 100+ ha, but can be smaller (e.g., conifer plantations) *EXCLUDES woodlots with high densities of deer due to artificial feeding*	White-tailed Deer **Presence is determined by MNRF** *If present, consider Movement Corridors*	No	N/A	SWH absent	No
Rare Vegetation Communities						
Cliffs and Talus Slopes	Cliff (near vertical bedrock 3+m tall) OR Talus. In 6E, most cliffs and talus slopes are associated with the Niagara Escarpment	No listed species Defining Criteria: no added criteria SWH: ecosite	No	N/A	SWH absent	No
Sand Barren	Sand Barren WITH size 0.5+ha AND <60% tree cover; usually located within other types of habitat; caused by lack of moisture, periodic fires and erosion	No listed species Defining Criteria: <50% cover by exotic/invasive species SWH: ecosite	No	N/A	SWH absent	No
Alvar	Alvar, Coniferous Forest dominated by Pine or Cedar, Bedrock Cultural Meadow, Juniper Bedrock Alvar Cultural Thicket, Bedrock Cultural Savannah (CUS2), Bedrock Cultural Woodland (CUW2) WITH size 0.5+ha AND <60% tree cover; typically level mosaic of rock pavements and bedrock overlain by thin veneer of soil	Indicator Species: Crawe's Sedge, Flat-stemmed Spikerush, Fluxweed, Philadelphia Panicgrass, Small Skullcap Defining Criteria: 4+ listed Alvar Indicator Species AND <50% cover by exotic / introduced species AND in excellent condition AND fits surrounding landscape with few conflicting land uses SWH: ecosite	No	N/A	SWH absent	No
Old Growth Forest	Forest, Treed Swamp WITH size of 30+ha WITH 10+ha interior habitat (measured 100 m from forest edge)	No listed species Defining Criteria: presence of 140+ year old trees AND no cut stumps or other signs of logging SWH: limited to area that meets criteria	No	N/A	SWH absent	No
Savannah	Tallgrass Savannah, Talgrass Woodland, Cultural Savannah of any size WITH tree cover 25-60%; may be a natural or restored site *EXCLUDES remnant sites such as railway right of ways*	Indicator Species (SHWTG Appendix N): Dwarf Hackberry, Early-branching Panicgrass, Illinois Tick-trefoil, Redtop Panicgrass, Side-oats Gramma, Small-leaved Tick-trefoil, White Prairie Gentian Defining Criteria: 1+ indicator species present AND <50% cover by exotic / introduced species SWH: ecosite	No	N/A	SWH absent	No
Tallgrass Prairie	Tallgrass Prairie of any size WITH <25 tree cover; may be a natural or restored site *EXCLUDES remnant sites such as railway right of ways*	Indicator Species (SWHTG Appendix N): Dwarf Hackberry, Early-branching Panicgrass, Illinois Tick-trefoil, Redtop Panicgrass, Side-oats Gramma, Small-leaved Tick-trefoil, White Prairie Gentian Defining Criteria: 1+ indicator species present AND <50% cover by exotic / introduced species SWH: ecosite	No	N/A	SWH absent	No
Other Communities Considered Provincially Rare	ELC communities considered provincially rare by the NHIC	ELC communities considered provincially rare by the NHIC	No	N/A	SWH absent	No
Specialized Habitat for Wildlife						
Waterfowl Nesting Area	Upland habitats 120+m wide AND adjacent shallow aquatic, shallow marsh, meadow marsh, thicket swamp, or deciduous treed swamp (i.e., all wetlands excluding coniferous and mixed treed swamps). Wetlands must be >0.5 ha or a cluster of three or more <0.5 ha wetlands within 120 m of each other where waterfowl nesting is known to occur. *Wood Ducks Bufflehead, Common Goldeneye, and Hooded Mergansers utilize large diameter trees (>40 cm dbh) in woodlands for cavity nest sites	American Black Duck, Blue-winged Teal, Gadwall, Green-winged Teal, Hooded Merganser, Mallard, Northern Pintail, Northern Shoveler, Wood Duck Defining Criteria: 1+ nesting site of American Black Duck OR 10+ nesting pairs (including Mallards) OR 3+ nesting pairs (excluding Mallards) SWH: 120 m radius (+/- as determined by site-specific study) of upland habitat adjacent to a wetland	No	N/A	SWH absent	No
Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat	Forest, Swamp AND directly adjacent to shoreline/riparian areas of rivers, lakes, ponds, wetlands *EXCLUDES nests on man-made objects (e.g., telephone poles, constructed platforms)*	Osprey, Bald Eagle Defining Criteria: 1+ active nest of either species AND known to be used annually; to be excluded, nests must be known to be inactive for 3+ yrs or suspected to be inactive for 5+ yrs SWH: Osprey: active nest +300m radius OR contiguous woodland; Bald Eagle: active nest +400-800 m radius	No	N/A	SWH absent	No
Woodland Raptor Nesting Habitat	Forest, Treed Swamp, Coniferous Plantations of 30+ ha AND 10+ ha of interior habitat (measured 200 m from the forest edge)	Barred Owl, Broad-winged Hawk, Cooper's Hawk, Northern Goshawk, Red-shouldered Hawk, Sharp-shinned Hawk Defining Criteria: 1+ active nest SWH: Red-shouldered Hawk, Northern Goshawk: active nest +400m radius OR 28 ha of suitable habitat; Barred Owl: active nest +200m radius; Broad-winged Hawk, Coopers Hawk: active nest +100m radius; Sharp-shinned Hawk: active nest +50m radius	Yes	Interior habitat present; however no raptors documented	Candidate SWH	Candidate SWH
Turtle Nesting Areas	Exposed mineral soil (sand and gravel) areas WITHIN 100 m of adjacent Bog, Fen, Shallow Marsh, Shallow Aquatic, or undisturbed shallow weedy areas of marshes, lakes, and rivers *EXCLUDES habitat along municipal or provincial roads*	Midland Painted Turtle, Snapping Turtle, Northern Map Turtle Defining Criteria: 5+ nesting Midland Painted Turtle OR 1+ nesting Northern Map Turtle or Snapping Turtle SWH: nesting area + 30-100m radius, depending on slope, riparian vegetation, adjacent land use, and consideration of travel routes to/from nest sites	No	N/A	SWH absent	No

APPENDIX: Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Seeps and Springs	Forest in headwaters area of a stream/river system; important wildlife feeding/drinking areas, especially in the winter	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp. Defining Criteria: 2+ seeps/springs SWH: ecosite/ecoelement; protection of the recharge area considering slope, vegetation, height of trees and groundwater condition	No	N/A	SWH absent	No
Amphibian Breeding Habitat (Woodland)	Wetland, pond or breeding pool, including vernal pools WITH size of 500+m^2 (~25m diameter) AND located in or within 120m of Forest or Treed Swamp *Permanent ponds or those containing water until at least mid-July are preferred	Blue-spotted Salamander, Eastern Newt, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog Defining Criteria: 1+ breeding salamander sp or newt OR 2+ breeding frog sp WITH 20+ individuals (adults or eggs masses) / Call Level Code 3 SWH: breeding pond/wetland +230m radius of woodland habitat *If present adjacent to woodland, travel corridor linking feature to the woodland is to be included*	No	N/A	SWH absent	No
Amphibian Breeding Habitat (Wetlands)	Swamp, Fen, Bog, Meadow Marsh, Shallow Marsh, Shallow Aquatic, Open Aquatic WITH size of 500+m^2 (~25 m diameter) AND typically >120 m from Forest except in the case of larger habitats containing predominantly aquatic species (e.g., Bullfrog) which may have riparian Forest *Shrubs and logs increase significance for some species because of structure for calling, foraging, escape, and concealment from predators	Blue-spotted Salamander, Eastern Newt, Four-toed Salamander, Spotted Salamander, American Toad, Bullfrog, Gray Treefrog, Green Frog, Mink Frog, Northern Leopard Frog, Pickerel Frog, Western Chorus Frog Defining Criteria: 1+ breeding salamander sp or newt OR 2+ breeding frog/toad sp WITH 20+ individuals (adults or eggs masses) / Call Level Code 3 OR any number of breeding Bullfrogs SWH: wetland ecosite + adjacent shoreline *If present, travel corridor SWH is to be considered*	No	N/A	SWH absent	No
Woodland Area Sensitive Bird Breeding Habitat	Forest and Treed Swamps, typically WITH mature (>60 yrs old) stands AND woodlots >30 ha; consider presence of interior forest habitat measured 200+m from any edge	Blackburnian Warbler, Black-throated Blue Warbler, Black-throated Green Warbler, Blue-headed Vireo, Canada Warbler, Cerulean Warbler, Northern Parula, Ovenbird, Red-breasted Nuthatch, Scarlet Tanager, Veery, Winter Wren, Yellow-bellied Sapsucker Defining Criteria: nesting or breeding pairs of 3+ listed species OR any breeding Cerulean Warbler or Canada Warbler SWH: not defined in criteria schedules	Yes	Breeding Bird Surveys observed only two probable area sensitive breeding pairs on Site.	Candidate SWH	Candidate SWH
Habitat of Species of Conservation Concern						
Marsh Bird Breeding Habitat	Wetland WITH shallow water AND emergent vegetation *Green Heron prefers edge of water (sluggish streams, ponds, marshes sheltered by shrubs and trees), but can also be found in upland shrubs or forest a considerable distance from water	American Bittern, American Coot, Black Tern, Common Loon, Common Moorhen, Green Heron, Sora, Marsh Wren, Pie-billed Grebe, Sandhill Crane, Sedge Wren, Trumpeter Swan, Virginia Rail, Yellow Rail Defining Criteria: 1+ breeding Black Tern, Sandhill Crane, Trumpeter Swan, Green Heron or Yellow Rail OR 5+ nesting pairs of Sedge Wren or Marsh Wren OR breeding by 5+ other listed species SWH: ecosite	No	N/A	SWH absent	No
Open Country Bird Breeding Habitat	Natural and Cultural Meadows WITH size 30+ha AND should have a history of longevity; present for at least 5 years *EXCLUDES Class 1 or 2 agricultural lands AND lands being actively used for row crops, intensive hay or pasture in the last 5 years*	Grasshopper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl, Upland Sandpiper, Vesper Sparrow Defining Criteria: nesting/breeding of 2+ listed species OR 1+ breeding Short-eared Owl SWH: contiguous ecosite field habitats	No	N/A	SWH absent	No
Shrub/Early Successional Bird Breeding Habitat	Field habitats succeeding to Cultural Woodland, Cultural Savannah or Cultural Thicket WITH size of 10+ha AND should have a history of longevity; present for at least 5 years *EXCLUDES Class 1 or 2 agricultural lands AND lands being actively used for crops or pasture in the last 5 years*	Indicator Species: Brown Thrasher, Clay-coloured Sparrow Common Species: Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher Special Concern: Yellow-breasted Chat, Golden-winged Warbler Defining Criteria: 1+ indicator species AND 2+ listed common species OR 1+ breeding Yellow-breasted Chat or Golden-winged Warbler SWH: contiguous ecosite field/thicket habitats	No	N/A	SWH absent	No
Terrestrial Crayfish *Canadian populations limited to SW Ontario	Meadow Marsh, Shallow Marsh, Thicket Swamp, Deciduous or Mixed Treed Swamp, or Cultural Meadow containing Meadow Marsh or Swamp inclusions	Chimney or Digger Crayfish (*Fallicambarus fodiens*), Devil or Meadow Crayfish (*Cambarus diogenes*) Defining Criteria: 1+ individuals of a listed species OR chimneys SWH: ecosite OR ecoelement of marsh/swamp habitat within a larger ecosite	No	N/A	SWH absent	No
Special Concern and Rare Wildlife Species	Any - varies by species; habitat needs to cover an important life stage component (e.g., nesting, foraging, or wintering habitat)	Species that are ranked S1-S3 by the NHIC and/or are provincially tracked Species with populations that are significantly declining or have a high percentage of their global population in Ontario Species listed as special concern under the ESA Species listed as threatened or endangered under SARA only Regionally or locally rare species, where lists are available Defining Criteria: no additional criteria SWH: finest scale that protects the habitat form and function	Yes	Community 1 - observed Eastern Wood-pewee -SC and Wood Thrush - SC breeding activity during targeted surveys	Community 1 - Confirmed SWH	Candidate SWH

APPENDIX: Significant Wildlife Habitat Screening - 6E

			SITE			ADJACENT LANDS
SWH Type	**Habitat Descriptions & Criteria for Candidate SWH**	**Listed Species & Defining Criteria for Confirmed SWH**	**Candidate SWH Criteria Present: Yes/No**	**Species or Defining Criteria Observations**	**Candidate/Confirmed /Absent SWH: Area to be Defined & Relevant Notes**	**Candidate or Confirmed SWH Potentially Present Based on Habitats and Field Observations: Yes/No**
Animal Movement Corridors						
Amphibian Movement Corridors	Any terrestrial habitat associated with water; shorter corridors are more significant than longer ones *potential determined based on identification of Amphibian Breeding (Wetland) SWH (i.e., not Woodland)	American Toad, Blue-spotted Salamander, Bullfrog, Eastern Newt, Four-toed Salamander, Gray Treefrog, Green Frog, Mink Frog, Northern Leopard Frog, Pickerel Frog, Spotted Salamander, Western Chorus Frog Defining Criteria: allowing amphibians to travel between terrestrial and breeding habitat; several layers of native vegetation; ideally unbroken by roads, waterways, waterbodies, and development; ideally with gaps less than 20 m SWH: 15+m on both sides of a waterway/ecosite OR up to 200m wide in woodland habitats	No	N/A	SWH absent	No
Deer Movement Corridors	Any forested habitat; shorter corridors are more significant than longer ones; often associated with Stratum II Deer Wintering Areas; typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges) *potential determined based on identification of Deer Wintering SWH	White-tailed Deer Defining Criteria: allowing movement to and from wintering areas; MNRF-identified deer wintering habitat will have corridors used by deer during spring and fall; should be unbroken by roads and residential areas SWH: Corridors should be 200+m wide including canopy gaps <20m OR 15+m riparian vegetation cover on both sides of a waterway	No	N/A	SWH absent	No

Appendix H

Curriculum Vitae

CAMDEN JERMEY, B.Sc. (HONS), CAN-CISEC

Project Manager / Ecologist

Ecologist and Project Coordinator with over ten years of professional consulting experience, specializing in environmental management of residential and municipal development projects. This includes extensive experience leading environmental habitat assessments, construction monitoring programs, habitat compensation and enhancement plan development, stream modification and habitat design, project proposals, invoicing and technical reporting as part of the regulatory and permitting process for infrastructure and energy projects in Ontario, Alberta, British Columbia, Manitoba and Saskatchewan. Graduated with Honours BSc. in Biology at Laurentian University in Sudbury, Ontario and is a registered Professional Biologist with the Alberta Society of Professional Biologists and the College of Applied Biologist.

SUMMARY OF PROFESSIONAL EXPERIENCE

2022 - Present — Project Manager/Ecologist. Cambium Inc.
Barrie, Ontario, Canada

- *Managed and coordinated multi-discipline environmental studies and associated technical reporting for a variety of client and development projects throughout the Ontario.*

2018 - 2022 — Project Coordinator / Aquatic Ecologist. R.J. Burnside & Associates
Barrie, Ontario, Canada

- *Managed all environmental requirements, including impact assessment studies, compensation strategies, and compliance monitoring, on several large-scale development projects.*
- *Represented clients in high-profile meetings with agencies and stakeholders to find solutions to development challenges in the context of environmental policies, regulations, and public concern.*
- *Exhibited high-level technical expertise, coupled with strong and effective technical writing, communication, and management skills.*

2017 - 2018 — Fisheries Biologist. Morrison Hershfield
Toronto, Ontario, Canada

- *Fisheries Specialist and subject matter expert in the development of project design and regulatory compliance for the Ministry of Transportation (MTO) and municipal infrastructure throughout Ontario.*

2012 - 2017 — Aquatic Specialist. CH2M (Formerly TERA Environmental Consultants)
Calgary, Alberta, Canada

- *Crew lead on remote field programs involving staffing, logistical planning, complex safety considerations, helicopter coordination, communication procedures, fish sampling (backpack and float electrofishing), detailed aquatic habitat assessments and training junior staff.*
- *Technical reporting for environmental permitting and approvals throughout life cycle of projects.*

EDUCATION AND TRAINING

2008	Bachelor of Science (Honours) – Laurentian University, Sudbury, Ontario, Canada
2019	Headwater Drainage Feature Assessment (HDFA) Training, Toronto and Region Conservation Authority
2018	Excellence in Project Management Training Course, Zweig Group
2017	Certified Inspector of Sediment and Erosion Control (CISEC). CISEC Canada
2017	MTO/DFO/MNRF Fisheries Protocol Training (MTO RAQS Accreditation), Ministry of Transportation

SELECTED EXPERIENCE

SEATON TFPM INC. THOMPSON'S CORNERS SUBDIVISION AND FIFTH CONCESSION ROAD EXPANDSION – SEATON, ONTARIO

Environmental Coordinator and Ecologist for Seaton TFPM Inc. Thompson's Corners and Fifth Concession Road expansion project site in the Seaton Development community. Work included the coordination of baseline environmental conditions surveys and associated Environmental Impact Study (EIS) for submission to agencies, including the Toronto and Region Conservation Authority (TRCA). In addition, extensive species at risk (SAR) permitting, mitigation strategies and compensation sites were required for Redside Dace, SAR bats, Butternuts, Meadowlark and Bobolink.

MATTAMY (SEATON LTD.) WHITEVALE SUBDIVISION, SEATON, ONTARIO (2018-2022)

Environmental Coordinator and Ecologist for the Mattamy Whitevale Sub-division, in the Seaton Development community. Work included the submission of an EIS to the TRCA, outlining existing conditions, potential impacts and on-site compensation and mitigation strategies. Compensation and mitigation strategies were developed through coordination with the Ministry of the Environment, Conservation and Park (MECP) for Redside Dace, Butternuts, SAR bats, and SAR bird species.

CITY OF BARRIE KIDD'S CREEK IMPROVEMENT PROJECT, BARRIE, ONTARIO (2019-2022)

Conducted aquatic habitat and ecological investigations to develop baseline conditions and generate an impact assessment report to support design considerations for the Kidd's Creek Improvement Project in the City of Barrie. The project involved the realignment of an existing open channel, installing two large open footed culverts, and 'daylighting' a section of subterranean storm sewer system. The newly constructed channel incorporated natural channel design strategies such as pool-riffle sequences, meander bends, LUNKER structures, and riparian plantings to naturalize the channel and support resident fish species (i.e., brook trout). Consultation with MNRF, DFO and LSRCA was completed throughout the design process in recognition of environmental sensitivities and agency approval requirements.

DANIELLE LEAL, B.Sc.

Project Coordinator/Ecologist

SUMMARY OF PROFESSIONAL EXPERIENCE

2018 - Present

Project Coordinator/Ecologist - Cambium Inc.

Ecological Technician/Technologist (2018-2022)

Barrie, Ontario, Canada.

Ms. Leal manages and coordinates environmental impact studies and associated technical reporting for a variety of client and development projects throughout the Ontario. In addition, Ms. Leal provides support for biomonitoring programs, ecological impact studies, surface water quality investigations, and species at risk assessments. Ms. Leal's duties also include assisting with proposal and report writing, background information reviews, data analysis, and mapping. Ms. Leal also provides drafting and GIS mapping support. Responsibilities include importing survey data to create features and surfaces and managing spatial and tabular data. She manages geodatabases; creating and updating feature classes, and topology and ensures quality control of data.

2017

Environmental Assistant - R.J. Burnside & Associates Ltd.

Barrie, Ontario, Canada

Ms. Leal conducted wildlife and species at risk field surveys, assisted in Ecological Land Classification, aquatic habitat assessment, fish community sampling and wildlife handling and relocation. Her duties also included completing applications for Licenses to Collect Fish for Scientific Purposes and Wildlife Collector's Authorizations and associated agency reporting.

EDUCATION & TRAINING

2018	Bachelor of Science (Honours) in Biology. University of Waterloo
2020	MTPO/DFO/MNRF Fisheries Protocol
2018	Crew Leader II Backpack Electrofishing
2018	Workplace Hazardous Materials Information System (WHMIS)
2016	MNRF Level 1 Fish Identification
2016	CPR/AED Level C Canadian Red Cross
2012	Ontario Pleasure Craft Operators Card

LANGUAGES

- English (Advanced)
- French (Intermediate)

PROFESSIONAL AREA OF FOCUS

SPECIES AT RISK

Cambium is frequently retained by private and public sector clients to carry out Species at Risk (SAR) studies. Ms. Leal has conducted surveys and carried out monitoring programs for SAR investigations and assessments, to ensure development and site alteration activities do not negatively impact SAR or their habitats.

HEWITT'S CREEK BLANDING'S TURTLE SURVEYS – BARRIE, ON

Conducted daily pre-construction Blanding's Turtle surveys for a sewer main replacement project adjacent to an environmental sensitive wetland area.

METROLINX LIGHT RAIL TRANSIT (LRT) BLANDING'S TURTLE SURVEYS – BARRIE, ON

Conducted roadside and visual encounter basking surveys for Blanding's Turtle surveys for an existing conditions study in support of a proposed LRT system upgrade being carried out by Metrolinx.

POST-DEVELOPMENT ECOLOGICAL MONITORING PROGRAM – MILTON, ON

Responsible for conducting amphibian call surveys, fish community sampling, and fish habitat assessments in addition to assisting with the preparation of annual monitoring reports for a 3-year post-development ecological monitoring program within restored and enhanced areas of the of Milton SIS 10 lands.

STORMWATER MANAGEMENT POND CLEANOUTS – VAUGHAN, ON

Completed applications for Licenses to Collect Fish for Scientific Purposes and Wildlife Scientific Collector's Authorizations, fieldwork, and associated agency reporting for fish and wildlife salvage operations in various stormwater management ponds.

LEVEL 1 AND 2 NATURAL ENVIRONMENT REPORT AGGREGATE PIT - TOWNSHIP OF SOUTH GOWER

Cambium was retained by the Cornwall Gravel Company Ltd. to complete a Level 1 and Level 2 Natural Environment Report (NER) in order to obtain a license under the Aggregate Resource Act. Ms. Leal was responsible for conducting the Blanding's turtle survey fieldwork and assisted with the preparation of the Level 1 and 2 Natural Environment Report.

ENVIRONMENTAL IMPACT STUDIES

Ms. Leal works closely with Cambium's natural science team to complete monitoring programs and assessments for diverse habitats, in support of environmental impact studies and natural heritage evaluations. The scope of field work for these projects have included wetland assessments, fish sampling and habitat assessments, amphibian surveys, bird nest sweeps, and Whip-poor-will, turtle and breeding bird surveys, to name just a few. She is also responsible for the background review of properties and contributes to the development of final reports.

SCOPED ENVIRONMENTAL IMPACT STUDY, SUBDIVISION DEVELOPMENT – PENETANGUISHENE, ON

Cambium conducted a scoped Environmental Impact Study (EIS) to provide an evaluation of reasonably anticipated ecological impacts, positive or negative, that may arise as a result of a proposed 33 lot subdivision. Ms. Leal formed part of the natural science team responsible for the project and carried out wildlife and wildlife habitat surveys, and reporting.

SCOPED ENVIRONMENTAL IMPACT STUDY, LOT SEVERANCES – WASHAGO, ON

Cambium conducted a scoped Environmental Impact Study (EIS) to provide an evaluation of reasonably anticipated ecological impacts, positive or negative, that may arise as a result of a proposed severance. Ms. Leal formed part of the natural science team responsible for the project and carried out wildlife and wildlife habitat surveys, specifically amphibian surveys and fish community and fish habitat assessments. Ms. Leal also assisted with the preparation of the EIS report.

ENVIRONMENTAL MONITORING

ENVIRONMENTAL MANAGEMENT PLANS, TRENT SEVERN WATERWAY, PARKS CANADA, ON

Prepared and implemented environmental management plans for ten large-scale infrastructure reconstruction projects on the Trent Severn Waterway, operated by Parks Canada Agency. Field tasks included walleye spawning surveys, fish and turtle relocations, species at risk habitat assessments, wildlife exclusion, avian nest surveys, and water quality monitoring. Project sites included Port Severn Main Dam & Little Chute.

INVASIVE SPECIES MANAGEMENT, WYE MARSH PROVINCIAL WILDLIFE AREA, MIDLAND, ON

Coordinated invasive Phragmites management in sensitive wetland habitat supporting various at-risk species, in coordination with Friends of Wye Marsh and Severn Sound Environmental Association.

ECOLOGICAL MONITORING, ORILLIA RECREATIONAL CENTRE, ORILLIA, ON

Completed flora and fauna surveys and benthic community sampling in an environmentally sensitive area at a new recreational complex with multi-use trails, on municipal parklands.

BRENDEN HNATIW, B.Sc. Dipl. *Technologist and ISA Certified Arborist*

SUMMARY OF PROFESSIONAL EXPERIENCE

2019 - Present	Technologist and ISA Certified Arborist. Cambium Inc. Peterborough, Ontario, Canada *Mr. Hnatiw performed a variety of tasks including field sampling activities such as groundwater, surface water, air, dust, soil and sediment sampling, erosion and sediment control inspections and biological surveys. Also responsible for monitoring events on several Trent Severn Waterway infrastructure rehabilitations and construction projects. This included the creation of environmental management plans, erosion and sediment control plans and field collection duties.*
2010-2012	Ground Technician. Arborvalley Urban Forestry Newmarket, Ontario, Canada *Mr. Hnatiw performed many duties associated with arboriculture. Including pruning trees using proper pruning techniques. Conducted trees removal by felling the trees and removal of trees using various rigging techniques to remove trees safely in when felling the tree not viable. Conducted stump removals using a motorized stump grinder. Helped diagnosed diseases and applied treatments to trees. Applied insecticide to Ash trees for the Town of Mississauga to help prevent Emerald Ash Bore. Proper planting and maintenance of trees such as spacing, depth and watering. Maintained and properly used equipment commonly used in the arboriculture industry, including but not limited to chainsaws, pruning poles, hedge trimmers, stump grinders, and woodchipper.*

EDUCATION & TRAINING

2013	Bachelor of Science in Ecological Restoration. Trent University. Peterborough, Ontario, Canada
2011	Ecological Restoration Diploma. Fleming College. Lindsay, Ontario, Canada
2019	Applied Planning Environmental Graduate Certificate. Fleming College. Lindsay. Ontario, Canada
2014	Advanced TESOL Certificate. 120 hours. Global TESOL College. Toronto, Ontario, Canada
2022	International Society of Arboricultural Certified Arborist. ON-2926A.
2023	Ontario Wetland Evaluation System Certification

PROFESSIONAL AREA OF FOCUS (LIST 1-4 DEPENDING ON THE PROJECT)

BUTTERNUT HEALTH ASSESSMENTS/ONTARIO

- Conducted Butternut Surveys to identify presence and six associated Butternut Health Assessments for Environmental Impact Study– 498 Moon Point Road, Oro-Medonte

- Conducted Butternut Surveys to identify presence and one associated Butternut Health Assessments for Environmental Impact Study– 1130 Anderson Line, Coldwater

- Assisted in conducting 4 Butternut Health Assessment for Environmental Impact Study – 5th Sideroad, Innisfil Ontario

TREE PRESERVATION PLANS/ONTARIO

- Responsible for conducting a tree inventory and associated preservation plan to supplement servicing alignments and future road addition for infrastructure activities– Courtice Road, Ontario

- Responsible for conducting a tree inventory and associated preservation plan for development application at 1485 Water Street, Peterborough.

ENVIRONMENTAL IMPACT STUDIES

- Responsible for conducting the required field work (i.e. vegetation surveys, amphibian surveys, wetland assessments etc.) and preparing the report for Phase 4 to 8 of the Lora Bay Development – Town of Blue Mountains, Ontario

- Responsible for conducting the required field work (i.e. vegetation surveys, amphibian surveys, wetland assessments etc.) and preparing the report for a subdivision development application – Part of Lot 19, Concession 19, Municipality of Trent Lakes, Ontario

SPECIES AT RISK SURVEYS/ONTARIO

- Conducted chimney swift surveys for 3 buildings owned by the City of Barrie for an Environmental Impact Study. - 161 Bradford Street, Barrie, Ontario

- Conducted Bat Maternity Roost Surveys and conducted acoustic monitoring for species at risk bats to facilitate tree clearing – 1001 Essa Road, Barrie

WILDLIFE SURVEYS/ONTARIO

- Conducted amphibian calling surveys, bat maternity roost surveys, whip-poor-will surveys to support an Environmental Impact Statement – 845 Memorial Drive, Orillia, Ontario

- Conducted Whip-poor-will surveys, Amphibian calling surveys, Turtle nesting and basking surveys, Snake Surveys (Cover boards and visual encounter), Gull nesting surveys, Waterfowl nesting surveys, Fish sampling and electrofishing to facilitate an Environmental Impact Statement for Georgina Island Fixed Link Project– Georgina Island, Georgina, Ontario

ENVIRONMENTAL CONSTRUCTION MONITORING

- Mr. Hnatiw conducted fish salvage activities with an electro fisher, within an isolated work area, to support the rehabilitation project. This involved acquiring the necessary permits from the local district Ministry of Natural Resources and Forestry office and completing mandatory reporting. He also conduced daily turbidity and pH monitoring during in water work – Bayview Dam E and Blind Dam C, Trent – Severn Waterway, Port Severn, Ontario.

- Mr. Hnatiw is responsible for conducting routine inspections at both sites, which includes water quality measurement, erosion and sediment control inspection, and providing recommendations when dealing with environmental concerns. Mr. Hnatiw also performs full day turbidity and pH monitoring while high-risk activities are ongoing. He has worked with Cambium's natural science team to complete fish salvage activities in isolated work areas prior to dewatering. Mr. Hnatiw is responsible for preparing inspection reports and regular communications with contractor staff – Trenton, Ontario

ADAM ALAIMO, B.Sc., Adv. Dip.

Ecologist/Project Coordinator

SUMMARY OF PROFESSIONAL EXPERIENCE

2024 - Present

Ecologist/Project Coordinator. Cambium Inc.

Peterborough, Ontario, Canada

Description of experiences gained

Conducted vegetation community and wetland delineations, as well as wildlife habitat assessments in support of various projects. Completed targeted and general wildlife surveys for a variety of wildlife and associated habitats including Species at Risk (SAR), fish spawning habitat surveys, mammals, amphibians, birds, and reptiles. Assisted in the preparation of various documents including Environmental Impact Studies, Erosion and Sediment Control (ESC) Inspection Reports, and costing proposals. Tasks included field investigations, data management, utilizing QGIS software, and project coordination.

2019 - 2024

Biologist / Environmental Technologist. GEMTEC Consulting Engineers and Scientists Ltd.

Ottawa, Ontario, Canada

Description of experiences gained

Lead Biologist tasked with managing and overseeing crews on aquatic related projects: electrofishing, fish community assemblage studies, fish rescues/salvages, wetland delineations, and in-water infrastructure projects (culverts, bridges, watercourse realignments). Delineate habitats for Species at Risk and Significant Wildlife Habitat; assessed terrestrial and aquatic ecosystems for their potential to support species and habitats at site-specific and landscape scales. Conduct targeted surveys for Species at Risk, including but not limited to: Eastern Whip-Poor-Will, Bobolink, Eastern Small-Footed Myotis, Blanding's Turtle, Gray Ratsnake, and Butternut. Coordinated field work operations and submission of deliverables in support of EISs and Species at Risk surveys; delegating field and office work for junior staff, summer students, and volunteers. Conducted wildlife sweeps and ESC inspections on active construction and long-term monitoring sites. Regularly consult with regulatory bodies including the DFO, MECP, MNRF, Conservation Authorities, and local planning authorities. Conducted desktop research and site investigations in support of Phase I and II ESAs. Utilized MS Office, Foxit, GPS, ArcGIS, ARC Field Maps and Survey 123. Critically review proponent development proposals by assessing ecological impacts on Species at Risk and Natural Heritage Features; provide clients with mitigation measures so that projects are in conformity with applicable regulations. Developed field protocol SOPs and report templates for: Species at Risk Surveys pertaining to in-water infrastructure work, Fisheries Studies, and ELC.

2019

Environmental Student Intern. Mississippi Valley Conservation Authority (MVCA)

Carleton Place, Ontario, Canada

Description of experiences gained

Assisting Aquatic Biologist and other staff with various tasks aimed at environmental monitoring and data collection. Identified benthic macroinvertebrates in support of benthic sampling programs. Assisted with groundwater well monitoring in support of Provincial Ground Monitoring Network. Aided field investigations for snowpack surveys and headwaters monitoring for flood forecasting.

2018	Ecological Restoration and Construction Labourer. Toronto and Region Conservation Authority (TRCA) Vaughan, Ontario, Canada *Description of experiences gained* *Contributed to various restoration efforts and projects throughout the watershed. Implemented restoration plantings on municipal and private lands in the Greater Toronto Area. Constructed new urban trails, operating heavy machinery, grading land, installing culverts. Installed sediment and erosion controls on construction sites, preventing sediment loading into waterbodies.*
2017	Water Quality Monitor and Maintenance Worker. Toronto and Region Conservation Authority (TRCA) Bolton, Ontario, Canada *Description of experiences gained* *Aided ongoing Park operations by contributing to regular maintenance and upkeep of the park. Responsible for water quality testing, logging data, and ensuring water was safe for consumption. Reported findings and trends in water quality to senior staff. Maintained Park in a clean and safe condition by operating heavy equipment for landscaping purposes and performing general maintenance on infrastructure. Assisted with emergency situations: search and rescue, first aid, and patient evacuation.*

EDUCATION & TRAINING

Education

2019	Advanced Diploma - Environmental Technology. Fleming College Lindsay, Ontario, Canada
2012	Bachelor of Science (Honours) – Kinesiology and Exercise Science. University of Guelph-Humber Toronto, Ontario, Canada

Training

2024	Canada Certified Inspector of Sediment and Erosion Control (CISEC) - In-Training (in process)
2024	Fish Identification Workshop – Species at Risk (SAR). Royal Ontario Museum
2023	Fish Identification Workshop – Minnows. Royal Ontario Museum
2022	Ecological Land Classification (ELC)
2022	Ontario Wetland Evaluation System (OWES)
2022	Amphibian and Reptile Ecology and Identification Course. Destination Conservation

2021	Fish Habitat Restoration (Instream Techniques). Natural Resources Training Group
2020	Fish Identification Workshop – Introduction. Royal Ontario Museum
2019	Electrofishing Crew Leader Certification (Class 2 Backpack)
2019	Ontario Benthic Biomonitoring Network (OBBN)
2017	Bear Safety and Awareness, Canadian Firearm Safety & Hunter Safety Training

PROFESSIONAL AREA OF FOCUS

ENVIRONMENTAL IMPACT STUDIES (EIS) FOR RESIDENTIAL DEVELOPMENTS

MULTIPLE LOCATIONS **–** KAWARTHAS, OTTAWA AND EASTERN ONTARIO.

Ecology Field Lead and Project Coordinator for numerous residential land development projects. Scale of projects varied greatly and covered all aspects of residential developments including subdivisions, severances, setback amendments, and preliminary constraints (baseline natural heritage studies) at the design and planning level. Deployed Ecological Land Classification (ELC) and Ontario Wetland Evaluation System (OWES) to delineate terrestrial and aquatic habitats on complex sites. Delineated habitats for Species at Risk and Significant Wildlife Habitat, as it applies to the Significant Wildlife Habitat Criteria Schedules. Lead and supervised an extensive full suite of biomonitoring surveys including botanical inventories, tree conservation reports, birds, mammals, reptiles, amphibians, fish, Species at Risk, headwaters drainage assessment, and aquatic habitat assessments. Other tasks included reporting, reviewing documentation and background data, data management, as well as corresponding with proponents, developers, and various agencies.

AVIAN SURVEYS

MULTIPLE LOCATIONS **–** KAWARTHAS, OTTAWA, AND EASTERN ONTARIO.

Ecologist and Team Lead tasked with conducting and overseeing efforts, as well as training junior staff on multiple avian related surveys. Examples of avian surveys include Breeding Bird Surveys, Nest Sweeps, as well as targeted and general avian Species at Risk surveys including Eastern Whip-Poor-Will, Bobolink, Eastern Meadowlark, Barn Swallow, Chimey Swift, and Redheaded Woodpecker. All surveys were conducted according to industry standard accepted protocols, as applicable. Efforts were in support of a wide variety of projects including residential (single-lot severances, new builds, and subdivisions), construction and infrastructure projects, land clearing, ecological background studies, and community development plans. Conducted background review, technical assessments evaluating the significance of avian habitat present on-site, potential impacts resulting from the proposed works, and providing mitigation measures to proponents to ensure compliance with appropriate legislations.

FISHERIES STUDIES AND ASSESSMENTS

MULTIPLE LOCATIONS - OTTAWA AND EASTERN ONTARIO.

Lead Biologist tasked with conducting, managing, and overseeing efforts on numerous aquatic and fisheries related projects. Efforts were in support of a wide variety of projects including in-water infrastructure works associated with culverts, bridges, erosion and sediment control, watercourse realignments, and bank stabilizations. Conducted background review, technical assessments evaluating the significance of fish habitat present on-site, Species at Risk habitat assessments, potential impacts resulting from the proposed works, and providing mitigation measures to proponents to ensure compliance with appropriate legislations. Work included electrofishing, fish community assemblage studies, fish rescues/salvages, pathways of effects evaluations, data collection and management, reporting, as well as developing cost proposals and fish removal plans. Responsible for corresponding with the DFO and MNRF to obtain necessary permits and submit mandatory report forms.

INFRASTRUCTURE AND COMMUNITY DEVELOPMENTS

BOWESVILLE COMMUNITY DEVELOPMENT - OTTAWA, ONTARIO.

Providing Ecological field support through the conduction of full suite of biomonitoring surveys; fish community assemblage studies, Species at Risk, breeding birds and amphibians, aquatic habitat assessments, and delineation of complex habitats using ELC and OWES. Project occupied a massive swath of land, requiring multiple crew members covering their own assigned parcels. Efforts in support of preliminary investigations to determine feasibility of expanding boundary development lines and potential impacts on Significant Wildlife Habitats.

APPLETON SENIORS COMMUNITY DEVELOPMENT - ALMONTE, ONTARIO.

Ecological Lead conducting a variety of biomonitoring surveys including for target Species at Risk, breeding birds, breeding amphibians, aquatic assessments, and wetland delineations. Development to include seniors living complex, as well as residential and commercial amenities. Corresponded directly with developers and proponents, providing direction for protection of sensitive habitats and habitat compensation while still permitting scope of proposed project. Work completed under direction of Minister's Zoning Order (MZO).

FORESTERS FALLS DAM REMOVAL - RENFREW COUNTY, ONTARIO

Providing Ecological and Technological support for various field work components in support of an Environmental Impact Assessment evaluating potential impact of various dam replacement/removal options. On-going surveys including targeted SAR turtle basking surveys, terrestrial wildlife and vegetation surveys, aquatic vegetation surveys, significant wildlife habitat assessment and water and sediment quality assessments. Work completed in support of a Provincial Class EA approval.

BOTANICAL INVENTORY - HYDROELECTRIC GENERATING STATIONS - CENTRAL ONTARIO

Biologist responsible for completing on-going botanical surveys for terrestrial and aquatic vegetation at 12 hydroelectric generating stations to update existing records. Work included conducting presence and absence surveys of all vegetation, field identification of vegetation, noting locally listed rare and invasive species, and data tabulation into a growing compendium from previous botanical surveys.

EROSION AND SEDIMENT CONTROL MONITORING

SOLAR FARM DEVELOPMENTS - PENDLETON, ONTARIO.

Lead Technologist responsible for conducting Erosion and Sediment Control (ESC) investigations throughout all phases of the construction of a solar farm. Responsible for developing a turbidity monitoring/sampling plan, regular monitoring through all phases of construction, assess and guide vegetation restoration efforts, reporting, data collection and management. Ensured ESC measures installed correctly, aligning with technical drawings and recommendations, providing feedback on any discrepancies as required.

TAGGART WATERMAIN - STITTSVILLE, ONTARIO.

Lead Technologist responsible for conducting ESC investigations during the installation of new watermain. Responsible for developing a turbidity monitoring/sampling plan, regular monitoring through all phases of construction, assess and guide vegetation restoration efforts, reporting, data collection and management. Provide feedback and assessments related to watercourse realignments. Ensured ESC measures installed correctly, aligning with technical drawings and recommendations, providing feedback on any discrepancies as required.

KANATA SOUTH LINKS – OTTAWA, ONTARIO.

Field Biologist responsible for daily construction and compliance monitoring, ESC investigations, as well as Species at Risk site sweeps during the removal and restoration of wetland habitats. Ensured ESC measures installed correctly, aligning with technical drawings and recommendations, providing feedback on any discrepancies as required. Conducted habitat monitoring documenting progressive restoration of habitat post-construction.

AGGREGATES AND MINING

McNAB-BRAESIDE PIT EXPANSION - OTTAWA, ONTARIO.

Ecology Field Lead/Project Coordinator. Developed and lead multi-taxa field program for a Natural Environment Study and Report, under the Aggregate Resources Act. Assisted with proposal writing, and scope/cost. Lead with report writing and data management. Conducted full suite of biomonitoring surveys as well as wetland delineations. Lead on multi-season botanical inventories. Project undertaken in support of proposed pit expansion from operations on adjacent property.

JOHNSON PIT - ENVIRONMENTAL ASSESSMENT. RENFREW COUNTY, ONTARIO

Field Lead/Project Support. Conducted wetland delineations, headwater drainage assessments, and ecological surveys in support of an EIS for the proposed development of a new aggregate pit. Supervised staff, managed field visits, provided support in initial draft reporting stage.

MOOSE CREEK QUARRY – ENVIRONMENTAL MONITORING. MOOSE CREEK, ONTARIO

Field support responsible for conducting regular groundwater sampling within the quarry as well as off-site monitoring wells. Conducting sampling and various tests on site, in addition to homeowner sampling on nearby properties. Submitting water samples for laboratory analysis.

MITCHELL HORN, B.Sc.

Environmental Technician

SUMMARY OF PROFESSIONAL EXPERIENCE

2023 - Present — Environmental Technician. Cambium Inc.
Barrie, Ontario, Canada

- *Data collection duties in support of Environmental Impact Studies on private land developments including: Ecological Land Classification, Species at Risk surveys and screenings, surface water and drainage feature mapping, wetland boundary delineation, vegetation inventories, fish community sampling, and significant wildlife habitat assessments.*
- *Providing support on environmental impact analysis, background literary reviews, data management, and report writing.*

2022 - 2023 — Forestry Program Assistant. Lake Simcoe Region Conservation Authority (LSRCA)
Bradford, Ontario, Canada

- *Assisted the Forestry Program Coordinator and Forest Technicians in the implementation of LSRCA's tree/shrub planting program in partnership with many stakeholders such as Forests Ontario, York Region, and Durham Region. Regularly performed forest management activities within Durham Regional Forest including tree marking, stand inventory, invasive species monitoring, trail development/maintenance and risk tree removal.*

EDUCATION & TRAINING

Education

2022 — Advanced Diploma, Ecosystem Management Technology. Fleming College
Lindsay, Ontario, Canada

2021 — Bachelor of Environmental and Resource Science (B.Sc). Trent University
Peterborough, Ontario, Canada

Training

2024 — Personal Track Safety Training – PNR Railworks
2023 — Chainsaw Operator Training, Fleming College
2022 — Standard First Aid and CPR - Level C
2022 — Reptile Ecology and Identification – Destination Conservation
2021 — Canadian Firearms Safety Training – Possession and Acquisition License
2020 — MNRF Class II Backpack Electrofishing – Crew Lead, Ontario Streams
2020 — Ontario Pleasure Craft Operator

PROFESSIONAL AREA OF FOCUS

ENVIRONMENTAL IMPACT STUDIES

- Responsible for conducting ecological-based field work and impact analyses for the purpose of identifying, predicting and evaluating the potential environmental and ecological impact of a proposed project. Activities include:
    - Collection of site-specific data and data management
    - Classifying ecosites under the Ecological Land Classification for Southern and Northern Ontario guidance manuals.
    - Screening for Species at Risk presence/absence and utilization of sites.
    - Conducting Species at Risk and wildlife surveys following standardized protocols.
    - Conducting aquatic habitat assessments, fish community sampling, wetland boundary delineation, surface water and drainage feature assessments, and vegetation inventories.

SPECIES AT RISK / WILDLIFE SURVEYS AND MONITORING – VARIOUS LOCATIONS, ON

- Species at Risk Bat surveys, including: Bat acoustic monitoring utilizing acoustic recording devices and managing the data via desktop. Bat Maternity Roost surveys – assessing the snag density of treed sites to determine if it is suitable for maternity roosting activities. Bat Exit Surveys – recording bats entering and exiting structures that have the potential to host Species at Risk bats.
- Wildlife surveys include: morning breeding bird surveys, grassland bird surveys, crepuscular (Eastern Whip-poor-will) breeding bird surveys., amphibian breeding surveys, Species at Risk snakes encounter surveys, Turtle basking/nesting surveys, and winter raptor and stick nest surveys.

ENVIRONMENTAL CONSTRUCTION MONITORING

EAST DON TRAIL METROLINX BRIDGE REPLACEMENT - BALA SUBDIVISION, TORONTO, ON (2024)

- Turtle Nesting and Wildlife Sweeps:

Contributed to the daily on-site monitoring for Species at Risk Turtles surrounding the construction site adjacent to the Don River. Activities included, wildlife exclusion fencing was maintained and in good condition, observing potential Turtles and wildlife within the vicinity of the site or trapped within the construction area, advising project managers of actions to take regarding wildlife.

- Fish Rescue/Salvage:

Supported backpack electrofishing activities to salvage fish trapped within a turbidity curtain prior to the construction of a cofferdam. Successfully rescued ~100 fish.

PARKS CANADA DAM G REHABILITATION, PORT SEVERN, ON (2023)

- Vibration Monitoring

Routinely maintained a vibration monitoring unit on site and provided the client with recommendations and advice in order to be compliant with Ontario noise and vibration regulations.

- Fish Rescue/Salvage

Supported backpack electrofishing activities to salvage fish trapped within a temporary cofferdam.

INVASIVE PLANT MANAGEMENT – WYE MARSH WILDLIFE CENTRE, MIDLAND, ON (2023-2024)

Supported Wye Marsh staff on-site with management, removal and mitigation strategies against invasive Phragmites. Reviewed background research and best management practices for mitigation against Phragmites. Compiled geospatial data and supported the creation of figures showing the annual progress of the program.