Environmental Impact Study (EIS) at 125 Simcoe Road, Bradford, ON

February 23, 2022

Prepared for:
County of Simcoe, Social Housing Department
Attn: Rachelle Hamelin, MCIP, RPP

Cambium Reference: 14210-001

CAMBIUM INC.

866.217.7900

cambium-inc.com

Peterborough |Barrie | Oshawa | Kingston |Calgary

Table of Contents

Appendix E Species Of Conservation Concern Screening

1.0 Introduction

Cambium Inc. (Cambium) was retained by County of Simcoe, Social Housing Department to conduct an Environmental Impact Study (EIS) at 125 Simcoe Road, Bradford, ON (Figure 1). The proposed development includes the creation of a 4 story, 50-unit apartment building and its associated amenities, including 84 parking spaces, gardens, detached shelters, and outdoor gathering areas. Based on the proposed development the study area has been focused on the southwest corner of the existing property and will be considered the Site for this report (Figure 1).

An Environmental Impact Study (the Study) is required to address potential negative impacts to natural heritage features identified during the preliminary development review process, as required by the Provincial Policy Statement (PPS), the Lake Simcoe Protection Plan (LSPP) and the Lake Simcoe Conservation Authority (LSRCA) (O. Reg. 179/06). The Site contains or is adjacent to (within 120 m of) the following mapped natural heritage and/or hydrologic features: A mapped watercourse and possible wetlands (as listed in the pre-consultation record). The Site is within Ecoregion 6E of Ontario (Crins, Gray, Uhlig, & Wester, 2009). The Site is located inside the Bradford Urban Area, shown on the Town of Bradford West Gwillimbury Official Plan mapping Appendix B.

The Site is within the jurisdiction of the LSRCA and their regulated area overlaps a portion of the Site associated with the mapped watercourse. As the Site and its adjacent lands contains wetlands and watercourses, the Study will consider regulations on development as imposed by the local Conservation Authority's Regulation under the *Conservation Authorities Act, 1990*.

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 landowner's responsibility to ensure that no harm to these species or their habitats occurs on their property. 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).

Cambium has conducted this Study to provide an evaluation of reasonably anticipated ecological impacts, positive or negative, that may arise as a result of this proposed development, to guide the decision-making process and address approval authority requirements.

1.1 Proposed Development and Conceptual Site Plan

This property is currently occupied by a recreational facility and its associated amenities, including baseball diamonds, soccer field, tennis courts, and a purpose-built recreational environment (skateboarding). The property is bounded by Simcoe Rd. to the west and by Marshview Blvd. to the south. Some existing residential houses are also present along the western boundary. To the north, the property is bounded by Edward St. as well several residential properties located along Back St.

The Site is situated in the southwest corner of the property and is occupied by a portion of the recreational fields described above (soccer and tennis). The existing drainage / mapped watercourse originates within the Site at a stormwater outlet headwall, and conveys flow east and north, ultimately confluencing with the Holland River canal system (Figure 2).

The proposed development includes the creation of a 4 story 50-unit apartment building and the associated outdoor amenities, including 84 parking space, outdoor shelters, and gardens as well as modification to the current parking area. The development will be focused toward the southwest corner of the Site, in the area currently occupied by a portion of the existing recreational area (soccer field and tennis courts) (Figure 3).

A conceptual Site Plan is provided in Appendix B

1.2 Terms of Reference

Cambium received email correspondence between the Client (Rachelle Hamelin, Simcoe County) and LSRCA staff (Liam Munnoch, Planner; Leslie Piercey, Natural Heritage Ecologist),

outlining the Terms of Reference (ToR) for the Study. This email correspondence was dated November 4, 2021 (Appendix A).

2.0 Applicable Natural Heritage Policy and Regulation

2.1 Provincial Policy Statement, 2020

Section 2.1 of the Provincial Policy Statement (PPS) (Ministry of Municipal Affairs and Housing, 2020) protects the form and function of natural heritage features as defined by the PPS. Natural heritage features included in the PPS are provincially significant wetlands (PSW), significant coastal wetlands, significant woodlands, significant valleylands, significant wildlife habitat (SWH), significant areas of natural and scientific interest (ANSI), fish habitat, and the habitat of endangered and threatened species. Given their significance, development is prohibited within PSWs in Ecoregions 5E, 6E, and 7E and within significant coastal wetlands. Development in fish habitat and the habitat of endangered and threatened species shall only be permitted in accordance with provincial and federal requirements. Development within other natural heritage features and on lands adjacent to all natural heritage features are permitted only if demonstrated that there will be no negative impacts on the feature or their ecological function. Development includes the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the *Planning Act*.

Section 2.2 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 Lake Simcoe Protection Plan, 2009

In response to a decline in the ecological integrity of Lake Simcoe, the Lake Simcoe Protection Act was passed in 2008 and the Lake Simcoe Protection Plan (LSPP) was established in 2009 (Ministry of Environment and Climate Change, 2016). The LSPP applies to the Lake Simcoe watershed and focuses on issues such as aquatic life, water quality and quantity, ecosystem health at the watershed scale, invasive species, climate change, and recreational activities.

The LSPP includes policies with respect to the Lake Simcoe shoreline, key natural heritage features (KNHF), and key hydrologic features (KHF). KNHF include wetlands, significant woodlands, significant valleylands, and natural areas abutting Lake Simcoe. KHF include wetlands, permanent and intermittent streams, and lakes other than Simcoe.

Pursuant to the LSPP, development and site alteration proposed within existing Settlement Areas are subject to Policies 6.32-DP, 6.33-DP, and 6.34-DP:

> **6.32-DP** Policies 6.32 - 6.34 apply to existing settlement areas and areas of Lake Simcoe adjacent to these lands, including the littoral zone, and these areas are not subject to policies 6.1 – 6.3, 6.5, 6.11 and policies 6.20 - 6.29.
>
> **6.33-DP** An application for development or site alteration shall, where applicable:
>
> a. increase or improve fish habitat in streams, lakes and wetlands, and any adjacent riparian areas;
>
> b. include landscaping and habitat restoration that increase the ability of native plants and animals to use valleylands or riparian areas as wildlife habitat and movement corridors;
>
> c. seek to avoid, minimize and/or mitigate impacts associated with the quality and quantity of urban run-off into receiving streams, lakes and wetlands; and,
>
> d. establish or increase the extent and width of a vegetation protection zone adjacent to Lake Simcoe to a minimum of 30 metres where feasible.
>
> **6.34-DP** Where, through an application for development or site alteration, a buffer is required to be established as a result of the application of the PPS, the buffer shall be composed of and maintained as natural self-sustaining vegetation.

This Study is intended to address the requirements of a Natural Heritage Evaluation (NHE) under the LSPP.

2.3 Official Plan and Zoning By-Law

Schedule 5.1 of the County of Simcoe Official Plan shows the Site as being contained within the settlement area for the Municipality of Bradford West Gwillimbury.

Within the Official Plan for the Municipality of Bradford West Gwillimbury, schedule A shows the Site mapped as part of the Bradford Urban Area, with schedule B identifying the property within a mapped residential area. Schedule E also shows mapped natural heritage features within the greater settlement area, although no mapped natural heritage features are identified within the Site or adjacent lands.

The Zoning Bylaw maps for the Township of Bradford West Gwillimbury show the Site as being classified as Institutional (I).

2.4 Conservation Authority Regulation

“Conservation Authorities are local watershed management agencies that deliver services and programs to protect and manage impacts on water and other natural resources in partnership with all levels of government, landowners and many other organizations” (Conservation Ontario, 2021). Conservation Authorities each have their own Ontario Regulation under the *Conservation Authorities Act, 1990*. In general, they regulate development within and adjacent to river or stream valleys, Great Lakes and inland lakes shorelines, watercourses, hazardous lands (flood, erosion, unstable soils) and wetlands.

Lake Simcoe Conservation Authority regulates these features under O. Reg. 179/06: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses

2.5 Endangered Species Act, 2007

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list 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. Protection of special concern species is provided through designation of their habitat as significant wildlife habitat (SWH), a provincially protected natural heritage feature.

2.6 Fisheries Act

Works within and adjacent to lakes, watercourses, and other bodies of water containing fish have the potential to impact fish and/or fish habitat. As a result of amendments to the federal *Fisheries Act* in 2019, projects near water that could potentially impact fish or fish habitat may require Fisheries and Oceans Canada (DFO) review. The primary purpose of the review is to determine whether death of fish, or the harmful alteration, disruption, or destruction (HADD) of fish habitat, as defined by the Act, can be avoided. The DFO Fisheries Protection Program provides a Decision Framework and guidance material applicable to these reviews (available on-line at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html).

3.0 Technical Approach and Data Collection Methods

3.1 Background Information Review

Existing 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. In southern Ontario, readily available data includes orthoimagery, topographic base mapping, and geological records. Natural environment and land use schedules prepared in support of Official Plans and Zoning By-Laws were reviewed to acquire municipal data. Natural area records and species occurrences were obtained from digital resources and reference materials. The comprehensive desktop review for this Site included the following resources:

- Natural Heritage Areas: Make-a-map (Ministry of Natural Resources and Forestry, 2018); Accessed January 2022
- Aquatic Species at Risk Maps - Ontario (Fisheries and Oceans Canada, 2018); Accessed February 2022
- Fish ON-Line (Ministry of Natural Resources and Forestry, 2018); Accessed Febuary 2022
- Conservation Authority regulated area mapping; Accessed January 2022
- Official Plan maps and/or GIS interactive mapping that shows OP and ZBL maps; Accessed January 2022

Mapped natural heritage features present in the general area of the Site are shown on Figure 2.

3.1.1 Ministry Consultation

Depending on the natural feature of the Site, ministry consultation may include the Ministry of Northern Development, Mines, Natural Resources, and Forestry (NDMNRF) and/or the Ministry of Environment, Conservation, and Parks (MECP), as applicable.

In early 2019, the Government of Ontario made changes to the regulating authority on matters related to SAR in the province. The MECP is now 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.

3.2 Field Investigations

Information gathered through the background information review was used to guide the development of the fieldwork program. The purpose of the field visit(s) was to verify information acquired through existing documentation and to gather additional site-specific information. The following sections detail the methodologies that were applied.

3.2.1 Ecological Land Classification and Vegetation Inventory

The Ecological Land Classification (ELC) System for Southern Ontario(Lee, 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, 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 communities on the Site through vegetation inventory and soil assessment with a hand auger. Where vegetation communities extend off the Site, classification is done through observation from property boundaries and publicly accessible lands.

3.2.2 Surface Water and Drainage Feature Mapping

Presence, location, boundary, and direction of flow were confirmed for all surface water features on and adjacent to the Site through visual investigation. Where feasible, the substrate type and cover features of surface water features were also noted. Indicators of surface 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 noted and GPS marked in the field, including bridges, culverts, and bed-level crossings.

3.2.3 Habitat-Based Wildlife 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 and habitat observations were documented and photographed.

4.0 Characterization of Natural Features and Functions

Data acquired through the background information review and field investigations is summarized in the following sections. Based on the information gathered, an assessment of significance has been completed to identify protected natural heritage features on and/or adjacent to the Site.

The following field investigations were carried out on the Site and are summarized in Table 1. Representative Site photos are included in Appendix C.

Table 1 Summary of Field Investigations

Date	Time On Site	Weather	Observer	Activities
2021-11-18	15:00 – 17:00	Cloudy; Rain in past 24 hours; scattered snow flurries	K. McKitterick	Ecological Land Classification Mapping Drainage Features Wetland Delineation

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, and includes 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, et al., 1998).

The Site is relatively level, as it has already been developed for use as a recreational facility. Several small mounds are located on adjacent lands which were likely the result of stockpiling, anthropogenic activity and landscaping. Several Scots Pine have established on these mounds and were likely historically planted.

4.2 Vegetation Communities

The majority of the Site is occupied by a single, CVR vegetation community consisting of built features, modified surfaces, manicured lawns and landscaped gardens. Species present include those commonly found in managed properties, as well as several invasive species. Kentucky Bluegrass was the dominant species, with other herbaceous species including Creeping Charlie, Common Plantain, Large Crab Grass as well as common, introduced trees and shrubs including Manitoba Maple, Norway Maple, and Scots Pine. A row of Norway Spruce and Eastern White Cedar was present along the southern boundary of the soccer field.

The portion of the drainage ditch along the east side has been mapped as a separate community and is dominated by vegetation typical of a MAM2-2 mineral meadow marsh ecotype. This community is dominated by Broadleaved Cattail (*Typha latifolia*) and Reed-canary Grass (*Phalaris Arundinacea*). Other species present include Spotted Joe-Pye Weed, Common Boneset, Milkweed, Bittersweet Nightshade, Philadelphia Fleabane, and Spotted Jewelweed.

The Drainage ditches along the north and south boundary of the property have been modified with armor stone retaining walls and contain wetland species present in the main channel with upland species present along the retaining wall. Species present include those typical of disturbed sites including Spotted Ladies Thumb, Tufted Vetch, Common Milkweed, Reed Canary Grass, Phragmites and Bittersweet Nightshade.

An additional wetland community is present on the far side of Marshveiw Blvd. this community is dominated by tall shrubs including Red-osier Dogwood, various sp. of Willow, and Speckled Alder. Other species present include Spotted Joe-Pye Weed, Sensitive Fern, Spotted Jewelweed, Common Boneset, and Reed Canary Grass. A large Cracked Willow was present on the far side of this community along Morris Rd.

The vegetation communities on the Site are summarized in Table 2 and are mapped on Figure 2. A list of identified species and representative photos for each community are provided in Appendix C.

Table 2 Vegetation Communities

No.	ELC Code	Community Description	Community Type	S -Rank
1	CVC	Maintained Commercial/Residential Area	Cultural	N/A
2	MAM2-2	Common Reed - Mineral Meadow Marsh Type	Wetland	S5
3	SWT2-5	Red-osier Mineral Thicket Swamp Type	Wetland	S5

A search for butternut (*Juglans cinerea*; provincially endangered) was completed as part of the vegetation survey; no butternut trees were identified.

4.3 Wetland Delineation

Two Wetland communities were identified during field visits to the site. Community 2, an emergent marsh dominated by forbes and grasses, is present in the riparian area located east of the Site. This wetland is contained within the channel associated with the existing drainage feature and transitions to upland species at the top of the bank. Community 3 was identified on the south side of Marshview Rd. and is dominated by tall shrubs and common wetland herbaceous species. Neither of these wetlands have been identified on existing mapping. The boundary of both these wetlands was marked with GPS in the field.

The wetland communities on the Site are summarized in Table 2 and are mapped on Figure 2.

4.4 Surface Water and Drainage Features

A stormwater outfall and associated drainage channel is located along the southern Site boundary and corresponds with the mapped hydrolayer available through Land Information Ontario (LIO) mapping. The feature is classified as a municipal drain, referred to as the Simcoe Road Branch, with assigned classification of Open, based on information available through the Ministry of Agriculture, Food and Rural Affairs (OMAFRA, 2022). The drainage feature originates within the Site and has an armor stone retaining wall for approximately 4 m along the north bank. Downgradient, the banks have been historically graded and populated with a mix of upland vegetation species typical of disturbed areas along the top of the bank, and

wetland species (predominantly Cattails and Reed Canary Grass) established lower in the channel. This drainage feature flows east, paralleling Marshview Blvd., before turning north and flowing along the eastern boundary of the property. This drainage channel was recently re-aligned as part of the construction of Marshview Blvd. (Figure 1).

4.5 Fish and Fish Habitat

As outlined above, the Site drainage feature flows east and north, ultimately confluencing with the Holland River Canal approximately 400 m downgradient from the Site. Although no fish sampling was completed during the field investigation, given the proximity to the receiving mainstem system, the drainage is assumed to be at least seasonally fish bearing and therefore considered fish habitat under the *Fisheries Act*. The Holland River Canal supports a diverse fish community and provides thermal habitat conditions varying from warmwater to coldwater (in deep water areas). Appendix D includes a list of fish species known to occur in The Holland River Canal, based on the background information review, and species-specific life history information.

4.6 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) guidance documents produced by the MNRF were used as a guide to identify and confirm SWH on the Site (MNR, 2000). The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (Ministry of Natural Resources and Forestry, 2015) apply to the proposed works. Information gathered during the background review and field investigations were compared to SWH criteria to identify SWH at the Site. Based on our observations during field investigations and the ELC classifications described in Section 4.2, the Site does not meet the criteria for designation as SWH. Details on species of conservation concern and their protected habitats are provided in Section 4.7.

4.7 Species of Conservation Concern

A list of species of conservation concern, including species at risk, 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 E and a discussion of the results is provided below.

4.7.1 Endangered and Threatened Species

Barn Swallows are listed as threatened both federally and provincially. They require open habitats including grassy fields, pastures, agricultural crops, shorelines, cottage areas, wetlands, or sub-artic tundras which are also in close association with human populations as this swallow typically nests inside man-made structures such as abandoned barns or other buildings with sufficient openings or road culverts. Community 1 contains several large buildings with overhanging features suitable for nesting. Additionally, a large culvert along Marshview Blvd. with suitable nesting spaces is present east of the site. No observations of Barn Swallows, or evidence of nesting (past or current) was observed during site visits.

4.7.2 Special Concern Species

The Midland Painted Turtle uses waterbodies such as ponds, marshes, lakes, and slow-moving creeks with a soft-bottom and aquatic vegetation as its habitat. Community 2 and 3 on site and may take advantage of watercourses and wetlands found on adjacent lands to the east and southeast. No Midland Painted Turtles were observed during field visits.

The Snapping Turtle is found in shallow water with soft mud and leaf litter, but travel to gravel or sandy embankments/beaches to lay eggs. Community 2 and 3 could support movement of snapping turtles between suitable habitats on adjacent lands. No Snapping Turtles were observed during field visits.

Observations for the Yellow Banded bumble bee, the Gypsy Cukoo Bumble Bee and the Rusty Patch Bumble bee have been recorded within the NHIC element occurrence data for the area

in which the site occurs, these species are habitat generalist and therefore could use community 1, 2 and 3. No bees were observed during site visits due to the timing of field visits.

5.0 Impact Assessment and Mitigation Measures

The proposed development includes the creation of a 4 story, 50-unit apartment building and its associated amenities, including 84 parking spaces, gardens, detached shelters, and outdoor amenity areas (Figure 3). The following sections address potential impacts to protected features identified on and adjacent to the Site that may result from the proposed development and site alteration:

- Drainage Features (Surface Water)
- Wetlands
- Fish Habitat

No other natural heritage features protected by provincial policy were confirmed on or adjacent to the Site.

Mitigation measures and best management practices have been recommended to ensure that the integrity of the current existing natural features are protected and/or enhanced and furthermore that their functions are not negatively impacted during or following construction.

5.1 Drainage Features

The drainage feature identified as Simcoe Road Branch municipal drain is partially located within the planned development area of the Site. This drainage has been recently realigned as part of the development of Marshveiw Blvd. to the south and east. To facilitate the proposed development, the existing stormwater outfall and upstream extent of the drainage will be moved southward. The new outfall location and proposed realignment is shown on ‘Landscape Restoration Plan (LP-3) submitted under separate cover. The landscaping plans also includes details for riparian restoration efforts that will be completed as part of the proposed development submitted as ‘Landscape Planting Plan (LP-2)’. Given the heavily impacted nature of the drainage, efforts to restore and naturalize its conveyance route will serve to maintain and enhance its function. Provided no additional changes are made and planting

restoration efforts are adhered to, Cambium expects no loss of form or function from a surface drainage and conveyance perspective.

5.2 Wetlands

Two wetlands are present within the study area. Community 2, located on adjacent lands to the east, and confined to the drainage channel described in section 5.1. Community 3 is located south of Marshview Blvd.

No development or site alteration should occur within the wetlands or watercourse on the Site. Potential indirect impacts from construction and residential development can occur and are discussed further below.

A 30 m setback is recommended for all wetlands located on adjacent lands, as shown on Figure 3. A 30 m setback will ensure that potential indirect impacts are appropriately mitigated. The 30 m setback is considered sufficient to protect the existing form and function of ecological and hydrologic features provided that the area be maintained as the existing forest cover and be allowed to naturally self-sustain (i.e., a buffer area where no vegetation removals or grading is allowed). The scale of the proposed development (i.e., low density residential development) is of low intensity and the 30 m setback is appropriate for buffering the features from this proposed use. Inland Lakes and Fish Habitat

5.3 Fish Habitat

Given the proximity of the Site to the Holland River Canal, the drainage is anticipated to be occupied at least seasonally by fish, and therefore considered fish habitat under the *Fisheries Act*. The proposed development will result in the relocation of habitat from within the Site limits to a new stormwater outfall and associated drainage channel immediately south. Given the highly impacted nature of the system, and the supporting restoration and riparian planting efforts proposed, potential utilization of the reach by fish and its overall function can be maintained or improved post-development. Nonetheless, given the proposed work scope and habitat conditions present, review by DFO is recommended prior to initiating the work.

5.4 Best Management Practices

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 and the watercourse) 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.

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. Eaves trough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration.

Turtles and snakes are particularly vulnerable to construction-related impacts on sites adjacent to wetlands, watercourses, and waterbodies.

ESC fencing can also function as wildlife exclusion fencing. In order to function as wildlife exclusion fencing should be installed around the entire perimeter of the construction area prior to the earlier of May 1 or commencement of Site preparation in order to keep turtles and snakes from entering the construction area. This fencing should be made of light-duty silt fence, staked at regular intervals, trenched-in at least 10-20 cm below ground, with an above ground height of at least 60 cm.

The silt 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. The area of construction 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 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 observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre.

Invasive species are becoming problematic throughout Ontario and can adversely impact our natural landscapes, including wetlands, woodlands, and watercourses. No vegetation dumping or yard waste disposal should occur within the wetlands or forested areas of the Site to maintain the natural state and avoid the introduction or spread of non-native or invasive species. Landscape Plans should focus on native or non-invasive species. Additional 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.
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.

Do not dispose of lawn or garden clippings in the forest or wetlands to avoid species introductions.

Noise and artificial lighting is not expected to increase significantly because of the proposed residential development as it is consistent with the land use on the surrounding properties. Maintaining the areas surrounding the PSW/watercourse will serve to buffer wildlife within the natural areas from any light or noise-related impacts.

6.0 Policy Conformity

Based on the key natural heritage and/or hydrologic features identified on or adjacent to the Site and the findings of the field investigations detailed herein, the proposed development of the Site is in conformance with the PPS and LSPP. Conformity with applicable natural heritage policy is summarized Table 3.

Table 3 PPS Policy Conformity Summary

Key Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Significant Wetland in Ecoregions 5E, 6E and 7E	Yes	Yes	Yes
	Explanation: No Significant wetlands are present on site or on adjacent lands. The proposed development will not directly impact wetlands on the Site. All wetlands on the Site will be afforded a 30m setback. A 30 m setback will ensure that potential indirect impacts are appropriately mitigated. Any in-direct impacts will be mitigated using erosion and sediment controls and the recommendations provided herein.		
Fish Habitat	Yes	Yes	Yes
	Explanation: The form and function of the existing drainage feature can be maintained and enhanced post-development, provided the recommendations and supporting restoration work is adhered to. Acknowledging conformity to the aforementioned policies, submission of the proposed work will be required to DFO for review under the *Fisheries Act*.		
Habitat of Threatened and Endangered Species	Potentially	Potentially	Yes
	Explanation: Potential habitat for Barn Swallow (existing structures) were identified on adjacent lands. No alterations to these structures are anticipated and therefore no impacts to nesting habitat for this species is expected. Feeding habitat for this species (wetland communities) will be given a 30m buffer, and		

	as such the setbacks and mitigation measures for these features will also protect SWH on Site		
Streams (permanent/intermittent)	Yes	Yes	N/A
	Explanation: The form and function of the existing drainage feature can be maintained and enhanced post-development, provided the recommendations and supporting restoration work is adhered to. Acknowledging conformity to the aforementioned policies, submission of the proposed work will be required to DFO for review under the *Fisheries Act*.		

Table 4 LSPP Policy Conformity Summary

Key Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Wetland	No	Yes	Yes
	Explanation: The prosed development will not directly impact wetlands on the Site. All wetlands on the Site will be afforded a 30m setback. A 30 m setback will ensure that potential indirect impacts are appropriately mitigated. Any in-direct impacts will be mitigated using erosion and sediment controls and the recommendations provided herein.		
Fish Habitat	Yes	Yes	Yes
	Explanation: The form and function of the existing drainage feature can be maintained and enhanced post-development, provided the recommendations and supporting restoration work is adhered to. Acknowledging conformity to the aforementioned policies, submission of the proposed work will be required to DFO for review under the *Fisheries Act*.		
Streams (permanent/intermittent)	Yes	Yes	Yes
	Explanation: The form and function of the existing drainage feature can be maintained and enhanced post-development,		

	provided the recommendations and supporting restoration work is adhered to. Acknowledging conformity to the aforementioned policies, submission of the proposed work will be required to DFO for review under the *Fisheries Act*.

7.0 Opportunities for Restoration and Enhancement

As part of the proposed development, the drainage feature within the development envelop will be modified and realigned. A detailed landscape plan has been drafted by JDB associates and will be submitted under separate cover with this report. This restoration plan includes a Landscape Concept Plan (LP-1), Landscape Planting plan (LP-2) and a Landscape Restoration plan (LP-3). Additionally, a fourth document containing additional planting details has been included as LP-4.

For restoration to be successful, it is essential that appropriate vegetation materials are selected. All vegetation materials should be native to the area and sourced as locally as possible. As such, species for the buffer enhancement were selected based on those observed during the field investigations. The Landscape Restoration plan (LP-3) highlights the riparian area around the watercourse proposed for realignment and includes a list of species that will be used in the restoration process. Cambium staff have reviewed the species lists identified in the Landscape Restoration Plan and determined this list contains suitable native species that should serve to improve the existing form and function of the feature.

During the Site Preparation phase, erosion and sediment control (ESC) measures should be put into place that provide protection to the adjacent wetland during driveway construction. This can be accomplished through the installation of light-duty sediment fence along the southern boundary of the construction area. Light-duty sediment fence is recommended in order to avoid entanglement risk to wildlife. If deemed necessary by the ESC designer, this light-duty sediment fence could be further stabilized using straw bales. The sediment fence should remain in place until the buffer area has been stabilized through the establishment of vegetation.

It is important to keep compaction in the surrounding area to a minimum. Compaction can impair infiltration of surface water, increasing the potential for erosion and sedimentation. Compaction can also impact the establishment of vegetation by restricting root growth. As such, the use of heavy equipment in the areas surrounding the driveway should be restricted.

It is recommended that an adaptive monitoring plan be implemented for the restoration/enhancement area. Plantings should be monitored once a year for the next two growing seasons after installation to ensure plantings have established and determine the need for replacement plantings. An 80% survival rate for planted trees should be achieved. Replacement plantings should be completed after two years, to bring the total number of living plants to 80%. Given the local seed source available from adjacent forest and wetlands areas, it is anticipated that other native species will establish on their own within the buffer. The buffer enhancement area should also be monitored for the presence of invasive species. Should invasive species be found, removal and ongoing management should be considered. Monitoring results should be reported to LSRCA at the end of each of the two growing seasons.

8.0 Summary of Mitigation, Compensation, and Best Practices

1. The drainage realignment work should adhere to the restoration strategy outlined in LP-3 and the recommendations provided Section 7 of this report.
2. All work below the high-water mark should be completed in isolation of flows, to facilitate work 'in the dry'. Additional mitigation measures, including those outlined on DFO's projects near water website (https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html) should be reviewed and applied to the project as appropriate.
3. In-water work should be completed within the appropriate in-water timing windows to respect sensitive life stages of the aquatic community, including fish. The recommended timing window for the proposed work is July 15 to March 15.
4. Notwithstanding the proposed realignment and restoration work associated with the drainage channel, a 30 m setback should be applied to any wetland features which have been identified on adjacent lands.
5. Prior to any construction activities taking place, light-duty sediment fencing should be installed around the perimeter of the construction area. All sediment fencing should be properly trenched in and maintained in good working order until the work area has been successfully revegetated and/or stabilized. Any observed overland drainage channels originating from the development areas, that may or may not have arisen as a result of erosion, should pass through a check dam structure prior to discharge into any surface water body. All temporary ESC measures be removed and properly disposed of following site stabilization.
6. Restrict use of heavy equipment in the areas surrounding the driveway to reduce soil compaction.
7. Plantings should be monitored once a year for the following two growing seasons following installation, to ensure plantings have established and determine the need for replacement plantings. An 80% survival rate for planted trees should be achieved. Replacement plantings should be completed after two years to bring the total number

of living plants to 80%. Given the local seed source available from adjacent forest and wetlands areas, it is anticipated that other native species will establish on their own within the buffer.

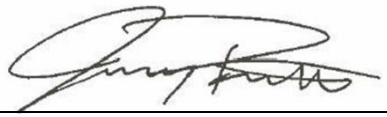
8. All stockpiled materials should be kept inside the construction area and ideally should be covered and well secured around the base, to discourage turtle nesting.
9. Any bird nests discovered should be left undisturbed until young have fledged or the nest is determined to be inactive.
10. Workers should be aware of the nesting season for turtles, generally from May 15 to August 15. If construction is proposed to occur during the nesting season for turtles, exclusion fencing or ESC fencing that serves to exclude wildlife, should be installed prior to May 15. Note that fencing material composed of plastic mesh backing should not be used as it can lead to entanglement of wildlife.
11. 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 NDMNRF 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 5.0 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.



Jeremy Prahl, B.Sc., EP, Can-CISEC
Senior Biologist / Project Manager

Keegan McKitterick, B.Sc.
Ecologist

\\camfile\Projects\14200 to 14299\14210-001 County of Simcoe, Social Housing Department - EIS - 125 Simcoe Road, Bradford\Deliverables\REPORT - EIS\Draft\2022-01-05 RPT EIS 125 Simcoe Road, Bradford - Final Draft.docx

References

Bird Studies Canada. (2005). *Atlas of the Breeding Birds of Ontario.*

City of Kawartha Lakes. (2012). *City of Kawatha Lakes Official Plan.*

Conservation Ontario. (2021). *Conservation Ontario*. Retrieved from What Are Conservation Authorities: https://conservationontario.ca/conservation-authorities/about-conservation-authorities

Crins, W. J., Gray, P. A., Uhlig, P. W., & Wester, M. C. (2009). *The Ecoregions of Ontario, Part I: Ecozones and Ecoregions.* Peterborough, Ontario: Ministry of Natural Resources: Inventory, Monitoring and Assessment. Retrieved from https://dr6j45jk9xcmk.cloudfront.net/documents/2712/stdprod-101587.pdf

Fisheries and Oceans Canada. (2018). *Aquatic Species at Risk Map.* Retrieved from Fisheries and Oceans Canada: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Government of Ontario. (2007, August). *O.Reg 230/08: Species at Risk in Ontario List under Endangered Species Act, 2007, S.O. 2007, c.6.* Retrieved from e-Laws: https://www.ontario.ca/laws/regulation/080230

Government of Ontario. (2015). *Aquatic Resource Area Summary.* Retrieved from Land Information Ontario: https://www.ontario.ca/data/aquatic-resource-area-survey-point

Lee, H., Bakowsky, W., Riley, J., Bowles, J., Puddister, M., uhlig, P., & McMurray, S. (1998). *Ecological Land Classification for Southern Ontario: First Approximation and Its Application.* Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guid FG-02: Ministry of Natural Resources.

Ministry of Environment and Climate Change. (2016). *Lake Simcoe Protection Plan.* Retrieved April 21, 2017, from Ministry of Environemnt and Climate Change: https://www.ontario.ca/page/lake-simcoe-protection-plan

Ministry of Municipal Affairs and Housing. (2020). *A Place to Grow: Growth Plan for the Greater Golden Horseshoe.* Queens Printer for Ontario.

Ministry of Municipal Affairs and Housing. (2020). Provincial Policy Statement. Ontario.

Ministry of Natural Resources. (2010). *Natural Heritage Reference Manual from the Natural Heritage Policies of the Provincial Policy Statement, 2005 - Second Ed.*

Ministry of Natural Resources and Forestry. (2015). *Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E.*

Ministry of Natural Resources and Forestry. (2018). Retrieved from Make a Map: Natural Heritage Areas: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US

Ministry of Natural Resources and Forestry. (2018). *Fish ON-Line*. Retrieved from https://www.gisapplication.lrc.gov.on.ca/FishONLine/Index.html?locale=en-US&site=FishONLine&viewer=FishONLine

Ministry of the Environment, Conservation and Parks. (2019). *Client's Guide to Preliminary Screening for Species at Risk.*

MNR. (2000). *Significant Wildlife Habitat Technical Guide. 151p.* Ministry of Natural Resources.

OMAFRA. (2022, 02 18). *Agmaps*. Retrieved from Agmaps - Ontario.Ca: https://www.lioapplications.lrc.gov.on.ca/AgMaps/Index.html?viewer=AgMaps.AgMaps&locale=en-CA

Ontario Nature. (2018). *Ontario Reptile and Amphibian Atlas.* Retrieved from Ontario Nature: https://ontarionature.org/oraa/maps/

Glossary of Terms

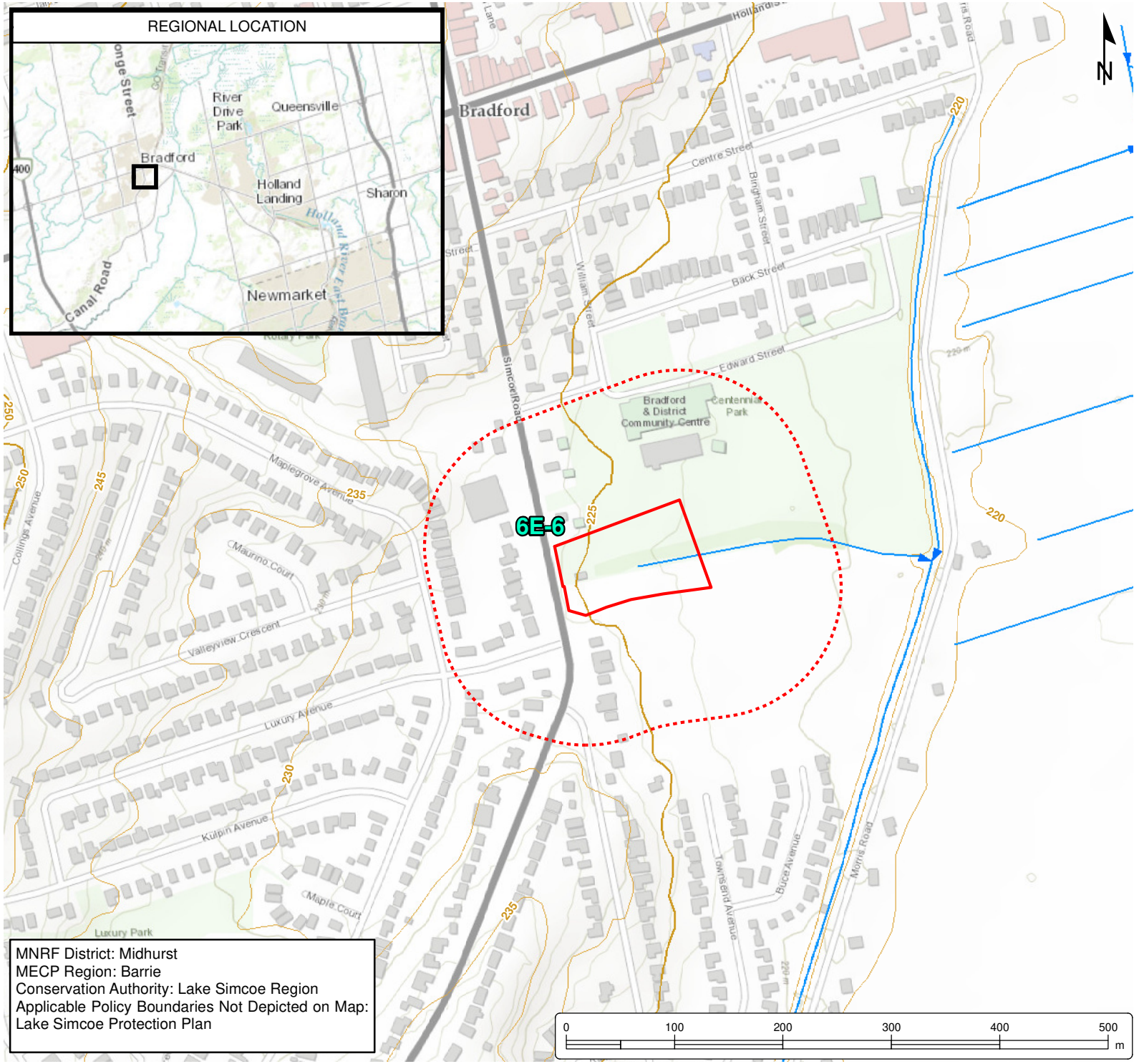
ANSI: Area of Natural and Scientific Interest
ARA: Aquatic Resources Area
ARA: Aggregate Resources Act
AS: Agricultural System
ATK: Aboriginal Traditional Knowledge
BMA: Bear Management Area
BMP: Best Management Practice
CA: Conservation Authority
CEAA: Canadian Environmental Assessment Act/Agency
CFA: 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 System
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
GIS: Geographic Information System
GLSL: Great Lakes – St. Lawrence
GPGGH: Growth Plan for the Greater Golden Horseshoe
GPS: Global Positioning System
HSA: Habitat Suitability Analysis
HIS: Habitat Suitability Index
KHA: Key Hydrologic Areas
KHF: Key Hydrologic Features
KNHF: Key Natural Heritage Features
LCFSP: Licence to Collect Fish for Scientific Purposes
LIO: Land Information Ontario
LRIA: Lake 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
MNDMRF: 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 Policy Statement (2014)
PSW: Provincially Significant Wetland
RLUP: Regional Land Use Plan
RMP: Regional Management Plan
R.P.F.: Registered Professional Forester
SAR: Species at Risk
SARO: Species at Risk in Ontario
SC: Special Concern species

F&W: Fish and Wildlife
FA: Fisheries Act (Federal)
FEC: Forest Ecosystem Classification
FMP: Forest Management Plan
FRI: Forest Resources Inventory
FWCA: Fish and Wildlife Conservation Act
GGH: Greater Golden Horseshoe
GHP: General Habitat Protection
SWH: Significant Wildlife Habitat
SWM: Stormwater Management
THR: Threatened species
TOR: Terms of Reference
TPP: Tree Preservation Plan
WIA: Woodlands Improvement Act
WMU: Wildlife Management Unit

Appended Figures

ENVIRONMENTAL IMPACT STUDY

COUNTY OF SIMCOE
125 Simcoe Road
Bradford, Ontario



LEGEND

- 120 m Adjacent Lands
- Site
- Watercourse, Permanent
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Ecodistrict

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
- 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

SITE LOCATION AND NATURAL HERITAGE POLICY AREAS

Project No.: 14210-001		Date: February 2022 Rev.:	
Scale: 1:5,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: JPP	Figure:	1

O:\GIS\MXDs\14200-14299\14210-001 County of Simcoe, Social Housing Department - EIS - 125 Simcoe Road, Bradford\2022-02-07 FIG1 Site Location and Natural Heritage Policy Areas.mxd

ENVIRONMENTAL IMPACT STUDY

COUNTY OF SIMCOE
125 Simcoe Road
Bradford, Ontario

LEGEND

- 120 m Adjacent Lands
- Site
- Vegetation Communities
- Watercourse, Permanent
- Wetland
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)

VEGETATION COMMUNITIES

CVC: Maintained Commercial/ Residential Area
MAM2-2: Common Reed - Mineral Meadow Marsh Type
SWT2-5: Red-osier Mineral Thicket Swamp Type

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
- 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 FEATURES

Project No.: 14210-001		Date: February 2022 Rev.:	
Scale: 1:2,500		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: JPP	Figure:	2

O:\GIS\MXDs\14200-14299\14210-001 County of Simcoe, Social Housing Department - EIS - 125 Simcoe Road, Bradford\2022-02-08 FIG2 Natural Heritage Features.mxd

ENVIRONMENTAL IMPACT STUDY

COUNTY OF SIMCOE
125 Simcoe Road
Bradford, Ontario

LEGEND

- 120 m Adjacent Lands
- Watercourse
- Site
- Wetland
- 30 m Wetland Buffer
- Proposed Watercourse Realignment
- Proposed Headwall

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
- 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.: 14210-001		Date: February 2022 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: JPP	Figure:	3

O:\GIS\MXDs\14200-14299\14210-001 County of Simcoe, Social Housing Department - EIS - 125 Simcoe Road, Bradford\2022-01-24 FIG 3 - Natural Heritage Constraints.mxd

Appendix A

Correspondence

Keegan McKitterick

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: Monday, November 8, 2021 9:01 AM
To: Jeremy Prahl
Cc: Danielle Langlois; Cambium Admin; Marchand, Jesse; Spiewak, Bradley
Subject: RE: contact info (14210-P)
Attachments: 2021-11-05 PRO EIS 125 Simcoe Rd Bradford.pdf; Ecological Offsetting Policy_July 2021 _FINAL.pdf; [EXTERNAL] RE: Request for EIS & Plans Scope - 125 Simcoe Road

Good morning Jeremy,

Please see attached Acceptance of Proposal. The inclusion of the PO provides the authority to proceed with the study request. The retainer will be released following internal payment procedures and deposited via EFT later this week, or next Monday (at the latest).

When submitting subsequent invoice(s) please email to accounts.payble@simcoe.ca and copy me, so that I may verify the payment request.

Also attached for reference are the LSRCA's ecological offsetting policy and email from LSRCA contacts that includes Non-invasive & Lake Simcoe native plant lists, and guidelines for planting plan.

The County has also engaged JDB Associates Ltd. A tree survey has already been completed. Stefan from JDB is the primary contact jdbellassociates@rogers.com and is working with the County to produce the necessary Landscaping Plans. Please let me know if you require additional information, or feel free to contact Stefan directly.

Sincerely,
Rachelle Hamelin, MCIP RPP
Program Supervisor
Mobile (705) 791-7994
County of Simcoe, Social Housing Department
1110 Highway 26, Midhurst, Ontario L9X 1N6

From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: Friday, November 05, 2021 9:23 AM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Cc: Gary Pearson <gpearson@pearsoneng.com>; Danielle Langlois <Danielle.Langlois@cambium-inc.com>; Cambium Admin <file@cambium-inc.com>
Subject: [EXTERNAL] RE: contact info (14210-P)

Good morning Rachelle,

Please see attached our proposal for an Environmental Impact Study at 125 Simcoe Road in Bradford. We would need to mobilize fairly quickly to capture fall vegetation and aquatic conditions given the recent weather, but please le me know if you have any questions.

Thanks,
Jeremy

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 3, 2021 2:31 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Subject: RE: contact info

Hi Jeremy,

Please see attached ToR.
Leslie Piercey has confirmed 'fall' for the one-season vegetation inventory is satisfactory.

Let me know if you require additional informaiton.
Thank you.
We look forward to receiving your proposal.

Sincerely,
Rachelle

From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: Wednesday, November 03, 2021 12:32 PM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Cc: Gary Pearson <gpearson@pearsoneng.com>
Subject: [EXTERNAL] RE: contact info

Hi Rachelle,

Thanks for reaching out about this project. We would be pleased to provide a proposal for the EIS. Given the rather unique aspects of the proposed development, it would be beneficial to have LSRCA provide terms of reference (ToR) for the study. Any requirements for seasonal (i.e., spring/summer) natural heritage inventory work would be particularly consequential to costing and timing in our proposal.

Let me know if ToR have been requested and/or whether we can assist in this regard.

Thanks,
Jeremy

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Project Manager/Senior Biologist

Cambium - Barrie

249.359.0689
866.217.7900
cambium-inc.com

Cambium is Celebrating 15 Years of Guiding Great Outcomes!
Since 2006, our team has worked diligently to bring the insights needed for good decisions and collective success. We are grateful for what has been and is yet to come!

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 2, 2021 3:49 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Subject: RE: contact info

Hi Jeremy,

Further to Gary's email below and attachment provided, the County of Simcoe will be submitting a site plan application for a proposed social and community services and affordable housing development on the south west portion of Town of BWG owned property in Bradford – 125 Simcoe Road (the property is to be conveyed).

Through the pre-consultation process, the LSRCA has identified the requirement for an EIS and Watercourse Protection, Enhancement and Restoration Plans in support of the proposed municipal drain realignment and top of bank setback reduction.

I have not yet received the scope for the EIS and watercourse plans. Do you require these to be able to provide a proposal/quote? If not, can you please provide a quote and time estimates for work?

Thank you.
If you require additional information, do not hesitate to contact me.

Sincerely,
Rachelle Hamelin, MCIP RPP
Program Supervisor

County of Simcoe, Social Housing Department
1110 Highway 26, Midhurst, Ontario L9X 1N6
Phone: 705-726-9300 Ext. 1485

From: Gary Pearson <gpearson@pearsoneng.com>
Sent: Tuesday, November 02, 2021 2:03 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Spiewak, Bradley <Bradley.Spiewak@simcoe.ca>
Cc: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>; Marchand, Jesse <Jesse.Marchand@simcoe.ca>; Alex Aiello <aaiello@pearsoneng.com>
Subject: [EXTERNAL] FW: contact info

Hi Jeremy,

Brad Spiewak of Simcoe County Housing Corp needs an EIS for a site we are working on in Bradford (see attached).

I will have Brad reach out to you to discuss further.

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Project Manager / Senior Biologist

Cambium Inc. - Barrie
p: 705.719.0700 x 412 | **c:** 249.359.0689 | **toll:** 866.217.7900 | **w:** cambium-inc.com

Regards,

Gary Pearson, P.Eng.
Principal

PEARSON ENGINEERING
~CELEBRATING 15 YEARS OF SERVICE~

BARRIE HEAD OFFICE
48 Alliance Blvd, Suite B7
Barrie, ON L4M 5K3
P: 705-719-4785 ext. 222
gpearson@pearsoneng.com
pearsoneng.com

VAUGHAN	OTTAWA	OWEN SOUND
905-597-5572	613-416-1232	226-256-7957

Keegan McKitterick

From: Jeremy Prahl
Sent: Friday, November 19, 2021 4:09 PM
To: Hamelin, Rachelle
Cc: Cambium Admin; Keegan McKitterick
Subject: RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

Hi Rachelle,

Thanks for forwarding these updated plans. We'll ensure that they are incorporated into our reporting.

Have a great weekend.
Jeremy

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 19, 2021 12:02 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Subject: FW: SC BWG - Site Plans with Channel Adjustments

Hi Jeremy,

Please see updated site plan for your use and reference.

The site plan has been updated to incorporate drainage channel re-alignment along Marshview Boulevard and include the following revisions:

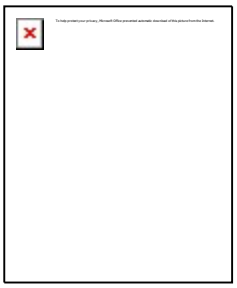
The revisions include:
-Shifted the entire site: building, parking and property line North by 4m. This increased the overall site boundary from 8,394 SM to 8,863 SM.
-Removed row of 11 parking spaces at the South, and moved the drive aisle and loading zone North by approx. 3m (Reduces outdoor amenity area)
-Shifted the building East by 1m to stay within Simcoe Road 6m building setback. (Reduces outdoor amenity area, and the space between the drop off zone and OW space)
-Relocated the transformer to corner parking island by amenity area.
-Increased the North parking boundary by 2.7m to achieve the 84 parking spaces required.
-The outdoor amenity was reduced to 219 SM (2,357 SF), previously 260 SM (2,799 SF). To keep the outdoor amenity at the original area, we would need to move the site an additional 1-2m North, instead of 4m.

If you require additional information, do not hesitate to contact me.

Sincerely,
Rachelle Hamelin, MCIP RPP
Program Supervisor

County of Simcoe, Social Housing Department

1110 Highway 26, Midhurst, Ontario L9X 1N6
Phone: 705-726-9300 Ext. 1485



Jeremy Prahl, B.Sc., EP, CAN-CISEC
Project Manager/Senior Biologist

Cambium - Barrie

249.359.0689
866.217.7900
cambium-inc.com

Cambium is Celebrating 15 Years of Guiding Great Outcomes!
Since 2006, our team has worked diligently to bring the insights needed for good decisions and collective success. We are grateful for what has been and is yet to come!

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

Keegan McKitterick

From: Katelin Campbell <katelin@mclarchitects.ca>
Sent: Monday, January 24, 2022 11:25 AM
To: Keegan McKitterick; Cambium Admin; Jeremy Prahl
Cc: Hamelin, Rachelle
Subject: RE: SC BWG - Site Plans with Channel Adjustments (14210-001)
Attachments: Simcoe County Affordable Housing - BWG - Jan 24, 2022 - SITE PLAN.dwg; ACAD-20055 - TRANS 12-DEC-2021.dwg

Good morning,

Please see attached Site Plan and grading plan in CAD for 125 Simcoe Road in BWG.

Best,

Katelin Campbell
McKnight Charron Limited Architects
Tel: 705 - 722-6739 - Ext. 127
Cell: 705 – 984-4820
48 Alliance Blvd.
Unit 110
Barrie, Ontario
L4M 5K3

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: Thursday, January 20, 2022 9:04 AM
To: Katelin Campbell <katelin@mclarchitects.ca>
Subject: RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

Hi Katelin,

Cambium is requesting a georeferenced CAD file of the BWG site plan.
When you have a moment, can you please forward to the email addresses below?

Thank you.

Sincerely,
Rachelle

From: Keegan McKitterick <Keegan.McKitterick@cambium-inc.com>
Sent: Thursday, January 20, 2022 8:58 AM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Cc: Cambium Admin <file@cambium-inc.com>; Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Subject: [EXTERNAL] RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

Hi Rachelle,

I am the ecologist that will be working on your report regarding the development at 125 Simcoe Rd, Bradford, ON. I was able to complete the field work for this project and am working towards finalizing the report. I have a site plan that you have sent to Jeremy but I was wondering if it would be possible to obtain a georeferenced CAD file or if there is an engineering firm working on this project with you that you could connect us with as they would likely have the necessary georeferenced files.

All the best,

Keegan

Keegan McKitterick
Project Coordinator / Intermediate Biologist

Cambium - Peterborough

705.957.1382
866.217.7900
cambium-inc.com

Cambium is Celebrating 15 Years of Guiding Great Outcomes!
Since 2006, our team has worked diligently to bring the insights needed for good decisions and collective success. We are grateful for what has been and is yet to come!

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

---

From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: Wednesday, December 8, 2021 4:15 PM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Cc: Cambium Admin <file@cambium-inc.com>
Subject: RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

Thanks Rachelle. And no problem, we work with JDB on a number of files so we're familiar with their expectations and look forward to hearing from Marc or Stefan.

Have a great holiday season if we're not speaking beforehand.

Jeremy

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Project Manager/Senior Biologist

Cambium - Barrie

249.359.0689
866.217.7900
cambium-inc.com

Cambium is Celebrating 15 Years of Guiding Great Outcomes!
Since 2006, our team has worked diligently to bring the insights needed for good decisions and collective success. We are grateful for what has been and is yet to come!

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: December 8, 2021 4:01 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Cc: Cambium Admin <file@cambium-inc.com>
Subject: RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

Please include PO# 4500091436 in the invoice to the County.

Also, a heads up that Stefan or Marc from JDB Landscape may be (hopefully) contacting you for the vegetation inventory in order for them to complete the watercourse restoration plan.

Thanks again!

Rachelle

From: Hamelin, Rachelle
Sent: Wednesday, December 08, 2021 3:25 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Cc: Cambium Admin <file@cambium-inc.com>
Subject: RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

OK, thanks for the update.
I will forward P.O # to include on the invoice.

Sincerely,
Rachelle

From: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Sent: Wednesday, December 08, 2021 3:10 PM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Cc: Cambium Admin <file@cambium-inc.com>
Subject: [EXTERNAL] RE: SC BWG - Site Plans with Channel Adjustments (14210-001)

Hi Rachelle,

We're not expecting to have our report ready until early in the new year. That being said, I will be invoicing for the Background Review and Field Studies phases of this project in the next day or two. Let me know if there's anything else I can do to assist.

Thanks,
Jeremy

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: December 7, 2021 3:48 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Subject: RE: SC BWG - Site Plans with Channel Adjustments

Hi Jeremy,

I have been requested to try and close existing POs in 2021.

Are you able to provide an estimated time of delivery for the EIS?

Thanks.

Rachelle

From: Hamelin, Rachelle
Sent: Friday, November 19, 2021 12:02 PM
To: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>
Subject: FW: SC BWG - Site Plans with Channel Adjustments

Hi Jeremy,

Please see updated site plan for your use and reference.

The site plan has been updated to incorporate drainage channel re-alignment along Marshview Boulevard and include the following revisions:

The revisions include:
-Shifted the entire site: building, parking and property line North by 4m. This increased the overall site boundary from 8,394 SM to 8,863 SM.
-Removed row of 11 parking spaces at the South, and moved the drive aisle and loading zone North by approx. 3m (Reduces outdoor amenity area)
-Shifted the building East by 1m to stay within Simcoe Road 6m building setback. (Reduces outdoor amenity area, and the space between the drop off zone and OW space)
-Relocated the transformer to corner parking island by amenity area.
-Increased the North parking boundary by 2.7m to achieve the 84 parking spaces required.
-The outdoor amenity was reduced to 219 SM (2,357 SF), previously 260 SM (2,799 SF). To keep the outdoor amenity at the original area, we would need to move the site an additional 1-2m North, instead of 4m.

If you require additional information, do not hesitate to contact me.

Sincerely,
Rachelle Hamelin, MCIP RPP
Program Supervisor

County of Simcoe, Social Housing Department
1110 Highway 26, Midhurst, Ontario L9X 1N6
Phone: 705-726-9300 Ext. 1485

Jeremy Prahl, B.Sc., EP, CAN-CISEC
Project Manager/Senior Biologist

Cambium - Barrie

249.359.0689
866.217.7900
cambium-inc.com

Cambium is Celebrating 15 Years of Guiding Great Outcomes!
Since 2006, our team has worked diligently to bring the insights needed for good decisions and collective success. We are grateful for what has been and is yet to come!

Environmental | Building Sciences | Geotechnical | Construction Quality Verification

Keegan McKitterick

From: Liam Munnoch <L.Munnoch@lsrca.on.ca>
Sent: Thursday, November 4, 2021 3:42 PM
To: Hamelin, Rachelle; Leslie Piercey
Cc: Melinda Bessey; Shawn Filson
Subject: [EXTERNAL] RE: Request for EIS & Plans Scope - 125 Simcoe Road
Attachments: Grow Me Instead - Non-invasive plants.pdf; Lake Simcoe Native Plants.pdf

Good Afternoon Rachelle,

Thank you for filling in the Terms of Reference and thank you Leslie for providing those modifications. Please use this document to assist in generating the EIS. I can provide both the attached and following information to assist with the Watercourse Protection, Enhancement and Restoration Plans ('Plantings Plan'):

Submission of a Planting Plan

- We recommend that the landowner to hire a qualified professional to prepare a planting plan to mitigate potential negative impacts from the proposed development to the key natural heritage features. General guidelines are included below for landowner's/professional's reference.
- Application to include a site plan drawing with the location of key natural heritage/key hydrologic features represented, including setback to the natural heritage features from the proposed development.

Below are some general guidelines for restoration and buffer plantings:

- Plantings should be targeted to areas directly adjacent to existing natural areas (i.e., woodlands, wetlands, watercourses, etc.)
- Plantings should be targeted to areas that have been disturbed.
- Plantings should include a variety of native trees and shrubs suitable to growing conditions on site.
- In general, 5 trees and 20-25 shrubs should be planted for every 100 sqm.
- Plant material should be large enough to be seen if planted in tall grass (i.e., seedlings are too small. Trees/shrubs in 1-to-5-gallon pots are acceptable)
- Plants should be arranged in nodal clusters and planted in colonies of the same species. This mimics how areas regenerate naturally.
- Any disturbed areas should also have a native seed mix of grasses and vascular plants applied at a rate of 22-25kg/ha.
- Newly planted trees and shrubs should have mulch applied around the base and rodent guards installed.

Planting plans should be drawings that show and include the following:

- Planting locations for individual trees and shrubs
- Any areas where seed mix will be applied.
- The common and scientific name for each species.
- The quantity of each species.
- Seed mix percent composition by species.
- Planting details for how material is to be installed. Any other relevant details and information (e.g. timing of planting, soil application, plant material warranty, etc.).

Kind Regards,

Liam Munnoch, BURPl.
Planner 1, Planning

Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
(905) 895-1281, ext. 232 | 1-800-465-0437 | Mobile- (289) 338-8759
l.munnoch@lsrca.on.ca| www.LSRCA.on.ca

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

Twitter: @LSRCA
Facebook: LakeSimcoeConservation

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 3, 2021 2:28 PM
To: Leslie Piercey <L.Piercey@lsrca.on.ca>; Liam Munnoch <L.Munnoch@lsrca.on.ca>
Cc: Melinda Bessey <M.Bessey@lsrca.on.ca>
Subject: RE: Request for EIS & Plans Scope - 125 Simcoe Road

Thank you for your quick reply.

Much appreciated.

Sincerely,
Rachelle

From: Leslie Piercey <L.Piercey@lsrca.on.ca>
Sent: Wednesday, November 03, 2021 2:27 PM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>; Liam Munnoch <L.Munnoch@lsrca.on.ca>
Cc: Melinda Bessey <M.Bessey@lsrca.on.ca>
Subject: [EXTERNAL] RE: Request for EIS & Plans Scope - 125 Simcoe Road

Hi Rachelle.

While its not ideal, fall will do for this site.

Regards.

Leslie Piercey
Natural Heritage Ecologist
Lake Simcoe Region Conservation Authority

120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
905-895-1281| 1-800-465-0437

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 3, 2021 2:24 PM
To: Leslie Piercey <L.Piercey@lsrca.on.ca>; Liam Munnoch <L.Munnoch@lsrca.on.ca>
Cc: Melinda Bessey <M.Bessey@lsrca.on.ca>
Subject: RE: Request for EIS & Plans Scope - 125 Simcoe Road

Thank you Leslie.

Can you confirm 'fall' for the one-season vegetation inventory is satisfactory?

Rachelle

From: Leslie Piercey <L.Piercey@lsrca.on.ca>
Sent: Wednesday, November 03, 2021 2:13 PM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>; Liam Munnoch <L.Munnoch@lsrca.on.ca>
Cc: Melinda Bessey <M.Bessey@lsrca.on.ca>
Subject: [EXTERNAL] RE: Request for EIS & Plans Scope - 125 Simcoe Road

Hi Rachelle.

I have had a look at the attached ToR you provided and have made a couple of minor modifications as follows.

- Wetland habitat may be present along the stream corridor
- Natural channel design may be required if any modifications to the channel are required.

I have attached an updated ToR for your review. Let me know if you have any questions.

Regards,

Leslie Piercey
Natural Heritage Ecologist
Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
905-895-1281| 1-800-465-0437

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 3, 2021 11:56 AM
To: Liam Munnoch <L.Munnoch@lsrca.on.ca>
Cc: Melinda Bessey <M.Bessey@lsrca.on.ca>; Leslie Piercey <L.Piercey@lsrca.on.ca>
Subject: RE: Request for EIS & Plans Scope - 125 Simcoe Road

Hi Liam,

Please see attached EIS Terms of Reference, completed to the best of my knowledge.

This information and the scope of requirements will assist the County in engaging the appropriate consulting firm in a timely manner.

Let me know if you require additional information.

Sincerely,
Rachelle

From: Liam Munnoch <L.Munnoch@lsrca.on.ca>
Sent: Tuesday, November 02, 2021 4:08 PM
To: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Cc: Melinda Bessey <M.Bessey@lsrca.on.ca>; Leslie Piercey <L.Piercey@lsrca.on.ca>
Subject: [EXTERNAL] RE: Request for EIS & Plans Scope - 125 Simcoe Road

Good Afternoon Rachelle,

Thank you for your email. My apologies I meant to send this with the pre-consultation comments to the Town, but if you could please prepare a Terms of Reference, using the attached fillable PDF to assist, our Natural Heritage Ecologist can review and assist to scope the requirements of the report.

Thank you also for bringing to my attention the broken link. It should bring you to the ecological offsetting plan document, I have attached the same document for your reference.

Please let me know if you need anything else.

Thank you,

Liam Munnoch, BURPl.
Planner 1, Planning
Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
(905) 895-1281, ext. 232 | 1-800-465-0437 | Mobile- (289) 338-8759
l.munnoch@lsrca.on.ca| www.LSRCA.on.ca

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

Twitter: @LSRCA
Facebook: LakeSimcoeConservation

From: Hamelin, Rachelle <Rachelle.Hamelin@simcoe.ca>
Sent: November 2, 2021 3:35 PM
To: Liam Munnoch <L.Munnoch@lsrca.on.ca>
Subject: Request for EIS & Plans Scope - 125 Simcoe Road

Hi Liam,

The Town of Bradford West Gwillimbury has forwarded the LSRCA's pre-consultation comments for the County's proposed development on the south west portion of the property known as 125 Simcoe Road, in Bradford.

Thank you for the concise comments and list of study requirements. The County has initiated many of the studies identified. In order to begin the EIS and Watercourse Protection, Enhancement and Restoration Plans however, the scope of the study requirements would be much appreciated. Are you able to forward or should I reach out to arrange a meeting? Also, I was not able to open the following link provided with the pre-con comments:
https://www.lsrca.on.ca/Shared%20Documents/Ecological-Offsetting-Plan-2019.pdf .

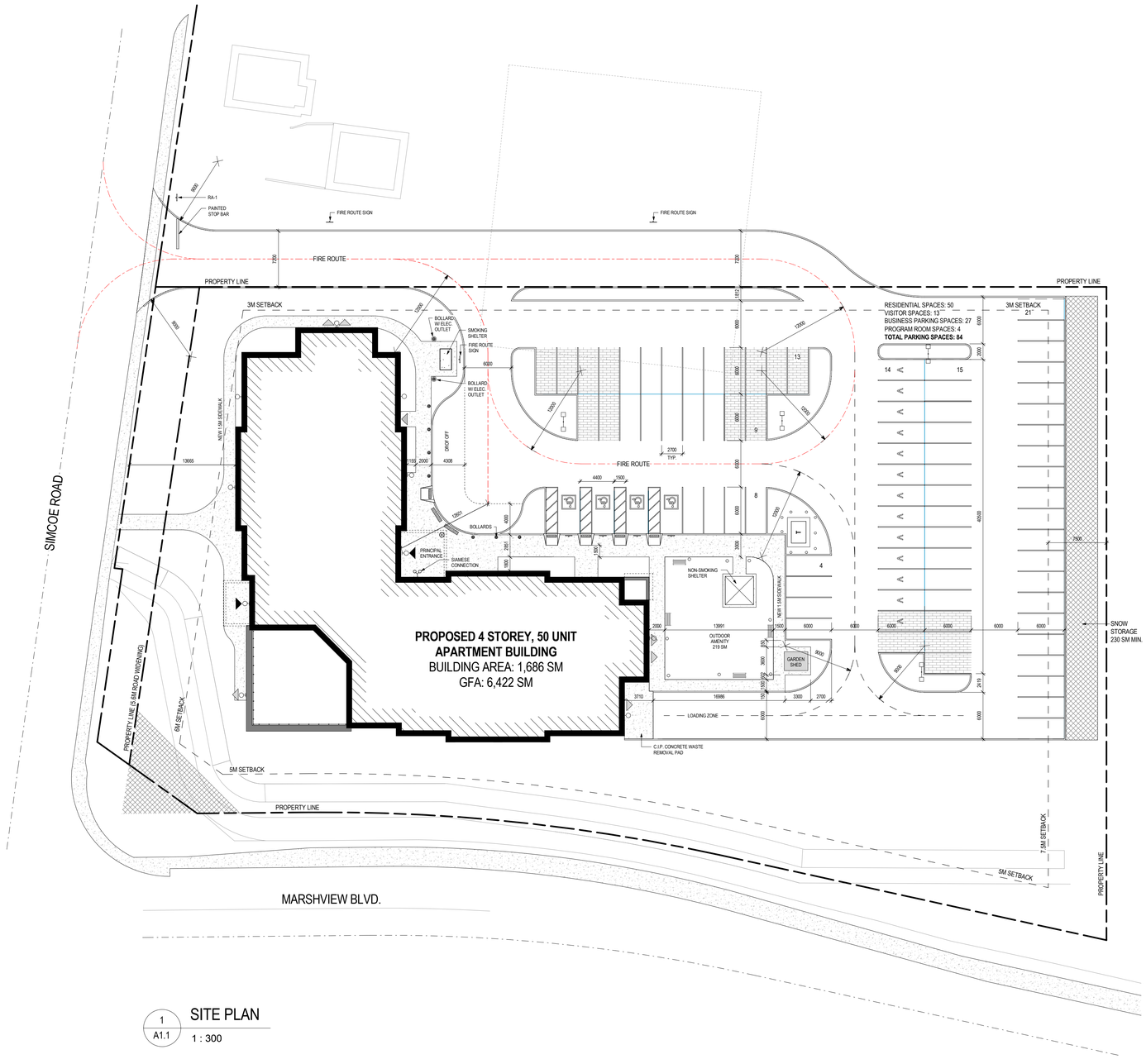
Your assistance is much appreciated.
If you require additional information, do not hesitate to contact me.

Sincerely,
Rachelle Hamelin, MCIP RPP
Program Supervisor

County of Simcoe, Social Housing Department
1110 Highway 26, Midhurst, Ontario L9X 1N6
Phone: 705-726-9300 Ext. 1485

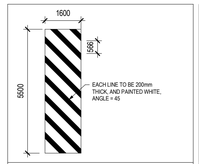
Appendix B

Conceptual Site Plans

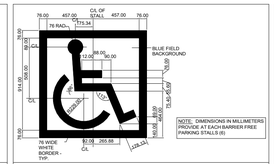


1 A1.1 SITE PLAN

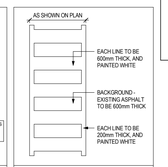
1 : 300



BARRIER FREE PARKING AISLE, CROSSWALK (CW) AND NO PARKING AREA (NPA) DETAIL (TYP.) N.T.S.



BARRIER FREE PARKING STALL PAINT MARKING N.T.S.



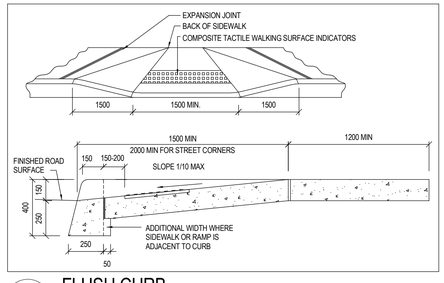
PEDESTRIAN CROSSWALK DETAIL N.T.S.

REFER TO THE ONTARIO TRAFFIC MANUAL FOR ALL SIGNAGE AND PAVEMENT MARKINGS DETAILS UNLESS NOTED OTHERWISE.
PROPOSED SIGN & DISIGNATION

NOTE:
1. ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL CONFORM TO THE ONTARIO TRAFFIC MANUAL.
2. PAVEMENT MARKINGS FOR PARKING STALLS SHALL BE PAINTED WHITE AND CONFORM TO OPSS 1712.
3. PAINT COLOR SPECIFIED ON DRAWING, PAINT TO BE QUICK DRYING WATER BASED LATEX PAINT (WITHOUT GLASS BEADS)

2 A1.1 B.F. PARKING

1 : 125



3 A1.1 FLUSH CURB

1 : 20

SITE PLAN LEGEND

- EXISTING SPOT GRADE
- NEW FINISH GRADE
- BORE HOLE (BH) / TEST PIT (TP)
- YARD HYDRANT
- CATCH BASIN
- PEDESTRIAN ENTRY DOOR LOCATION
- SERVICE/ OVERHEAD DOOR LOCATION
- B.F. PARKING STALL
- B.F. CURB CUT - WITH DETECTABLE GROOVES
- SIAMESE CONNECTION
- LIGHT STANDARD
- WALL MOUNTED LIGHT FIXTURE
- CONTROL JOINT
- ASPHALT TYPE 1
- TACTILE INDICATOR
- FIRE HYDRANT
- HYDRO POLE
- TRANSFORMER
- PAINTED STOP BAR
- HOSE BIB
- LIGHT BOLLARD
- SITE FURNITURE

SIGN LEGEND

- BARRIER FREE PARKING
- VISITOR PARKING W/ PAINTED "V"
- STOP SIGN

REVISIONS

ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON SITE. DISCREPANCIES TO BE REPORTED TO THE ARCHITECT. LATEST APPROVED STAMPED DRAWINGS ONLY TO BE USED FOR CONSTRUCTION.

MCL ARCHITECTS
MCKNIGHT CHARRON LIMITED
48 ALLIANCE BLVD., UNIT 110
BARRIE, ONTARIO L4M 0K3
WWW.MCLARCHITECTS.CA
T 705 722 6739
F 705 726 5418

DRAWING TITLE:
SITE PLAN

PROJECT NAME:
SIMCOE COUNTY AFFORDABLE HOUSING - BWG
125 SIMCOE RD, BRADFORD WEST GWILLIMBURY, ON

SIMCOE COUNTY

DATE: NOVEMBER 19, 2021		PROJECT #	SHEET #
DRAWN BY:	KC		A1.1
SCALE:	As indicated		

Appendix C

Vegetation Species List

VEGETATION COMMUNITY CLASSIFICATION: CVC

COMMUNITY #: 1 - CVC

LOCATION: 125 Simcoe Rd - BWG

COORDINATES: -79.5617170, 44.1110977

PROJECT NUMBER: 14210-001

DATE: November 18, 2021

PROJECT MANAGER: J. Prahl

FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Kentucky Bluegrass	Poa pratensis ssp. pratensis	Poaceae	3				SNA
Norway Maple	Acer platanoides	Aceraceae	5				SNA
Norway Spruce	Picea abies	Pinaceae	5				SNA
Eastern White Cedar	Thuja occidentalis	Cupressaceae	-3	4			S5
Manitoba Maple	Acer negundo	Aceraceae	0	0			S5
Ground-ivy	Glechoma hederacea	Lamiaceae	3				SNA
Common Plantain	Plantago major	Plantaginaceae	3				SNA
Smooth Crabgrass	Digitaria ischaemum	Poaceae	3				SNA
Scots Pine	Pinus sylvestris var. sylvestris	Pinaceae	3				SNA
Black-eyed Susan	Rudbeckia hirta var. pulcherrima	Asteraceae	3	0			S5
Common Milkweed	Asclepias syriaca	Apocynaceae	5	0			S5
Tufted Vetch	Vicia cracca	Fabaceae	5				SNA

NOTES: Maintained lawn and planted trees some weedy species along edges

VEGETATION COMMUNITY PHOTOS:

VEGETATION COMMUNITY CLASSIFICATION: MAM2-2

COMMUNITY #: 2 - MAM2-2

LOCATION: 125 Simcoe Rd - BWG

COORDINATES: -79.5597148, 44.1112414

PROJECT NUMBER: 14210

DATE: November 18, 2021

PROJECT MANAGER: J. Prahl

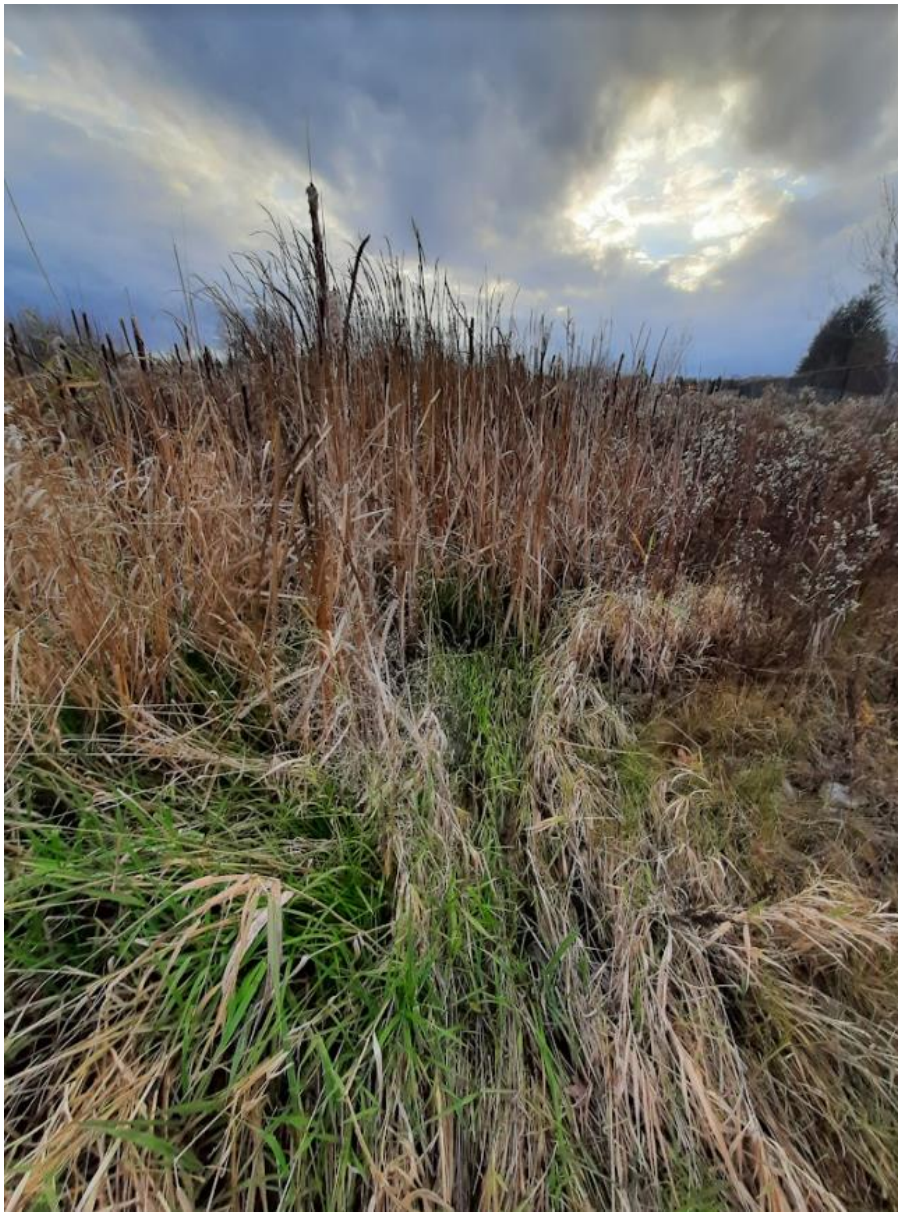
FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Broad-leaved Cattail	Typha latifolia	Typhaceae	-5	1			S5
Bebb's Willow	Salix bebbiana	Salicaceae	-3	4			S5
Pussy Willow	Salix discolor	Salicaceae	-3	3			S5
Red-osier Dogwood	Cornus sericea	Cornaceae	-3	2			S5
Reed Canarygrass	Phalaris arundinacea var. arundinacea	Poaceae	-3	0			S5
Spotted Lady's-thumb	Persicaria maculosa	Polygonaceae	-3				SNA
Spotted Joe Pye Weed	Eutrochium maculatum var. maculatum	Asteraceae	-5	3			S5
Common Boneset	Eupatorium perfoliatum	Asteraceae	-3	2			S5
Canada Goldenrod	Solidago canadensis var. canadensis	Asteraceae	3	1			S5
Meadow Horsetail	Equisetum pratense	Equisetaceae	-3	8			S5
Common Reed	Phragmites australis	Poaceae	-3	0			S4?
Spotted Jewelweed	Impatiens capensis	Balsaminaceae	-3	4			S5
Bittersweet Nightshade	Solanum dulcamara	Solanaceae	0				SNA
Philadelphia Fleabane	Erigeron philadelphicus var. philadelphicus	Asteraceae	-3	1			S5

NOTES: Small, narrow wetland in drainage channel - mostly dominated by Broad-leaved Cattail and other emergent veg with some shrubs along edge

VEGETATION COMMUNITY PHOTOS:



VEGETATION COMMUNITY CLASSIFICATION: SWT2-5

COMMUNITY #: 3 - SWT2-5

LOCATION: 125 Simcoe Rd - BWG

COORDINATES: -79.5596634, 44.1100637

PROJECT NUMBER: 14210

DATE: November 18, 2021

PROJECT MANAGER: J. Prahl

FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Crack Willow	Salix euxina	Salicaceae	0				SNA
Sensitive Fern	Onoclea sensibilis	Dryopteridaceae	-3	4			S5
Broad-leaved Cattail	Typha latifolia	Typhaceae	-5	1			S5
Bebb's Willow	Salix bebbiana	Salicaceae	-3	4			S5
Pussy Willow	Salix discolor	Salicaceae	-3	3			S5
Red-osier Dogwood	Cornus sericea	Cornaceae	-3	2			S5
Reed Canarygrass	Phalaris arundinacea var. arundinacea	Poaceae	-3	0			S5
Spotted Lady's-thumb	Persicaria maculosa	Polygonaceae	-3				SNA
Spotted Joe Pye Weed	Eutrochium maculatum var. maculatum	Asteraceae	-5	3			S5
Common Boneset	Eupatorium perfoliatum	Asteraceae	-3	2			S5
Canada Goldenrod	Solidago canadensis var. canadensis	Asteraceae	3	1			S5
Meadow Horsetail	Equisetum pratense	Equisetaceae	-3	8			S5
Common Reed	Phragmites australis	Poaceae	-3	0			S4?
Spotted Jewelweed	Impatiens capensis	Balsaminaceae	-3	4			S5
Bittersweet Nightshade	Solanum dulcamara	Solanaceae	0				SNA
Philadelphia Fleabane	Erigeron philadelphicus var. philadelphicus	Asteraceae	-3	1			S5

NOTES: Similar species to com 2 but mostly dominated by shrubs instead of emergent

VEGETATION COMMUNITY PHOTOS:

Appendix D

Fish Species List

Table 1 - Fish Species List and Life History Information

Family	Common name	Scientific name	S-Rank	SARA	ESA	Tolerance [1]	Thermal Regime [1]	Spawning Months [1]	Spawning Habitat Preferences [2]															
									Water depth (m)				Cover		Substrate									
									0-1	1-2	2-5	5+	Submergent Vegetation	Emergent vegetation	Bedrock	Boulder	Cobble	Rubble	Gravel	Sand	Silt	Clay	Hard-pan Clay
Cyprinidae	Bluntnose Minnow	*Pimephales notatus*	S5			Intermediate	Warmwater	June-August	X	X	X	-	medium	medium	-	medium	medium	high	high	medium	-	-	-
Gasterosteidae	Brook Stickleback	*Culaea inconstans*	S5			Intermediate	Coolwater	May-July	X	-	-	-	high	high	-	-	-	-	medium	high	high	-	-
Cyprinidae	Creek Chub	*Semotilus atromaculatus*	S5			Intermediate	Coolwater	May-June	X	-	-	-	-	-	-	-	-	high	high	high	-	-	-
Catostomidae	White Sucker	*Catostomus commersoni*	S5			Tolerant	Coolwater	April-June	X	X	-	-	low	low	-	-	-	medium	high	medium	-	-	-

Note:

A dash (-) indicated that the species was not reported to utilize a particular depth stratum, cover or substrate.

Tolerance refers to the ability of a species to adapt to environmental perturbations or anthropogenic stresses.

1 Eakins, R. J. (2018). Ontario Freshwater Fishes Life History Database. Version 4.81. Online database. (http://www.ontariofishes.ca), accessed 26 July 2018

2 Lane, J. A., Minns, C. K., & Portt, C. B. (1996). Spawning habitat characteristics of Great Lakes fishes (p. 47). Fisheries and Oceans Canada.

Appendix E

Species Of Conservation Concern Screening

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
Birds								
Bald Eagle	*Haliaeetus leucocephalus*	No Status	SC	S2N,S4B	The Bald Eagle is a bird of prey with a white head, neck and tail, a massive bright yellow beak, powerful legs, and a wingspan of over 2 m. It nests in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. These nests are usually on islands in freshwater lakes or in large trees such as the pine and poplar. During the winter, they may also be found near open bodies of water that do not freeze (1).	No	Known to occur in the general area	No further consideration required
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	THR	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).	Yes: adjacent lands only	Known to occur in the general area	Potential habitat for endangered or threatened species on-site
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).	No	Known to occur in the general area	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).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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*	THR	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).	No	Known to occur in the general area	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	THR	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).	No	Known to occur in the general area	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).	No	Known to occur in the general area	No further consideration required
Evening Grosbeak	*Coccothraustes vespertinus*	No Status	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).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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).	No	Known to occur in the general area	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
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 - 10 ha) and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. They require dense vegetation and open water with stable levels within 10 m for nesting, and access to clear, open water for foraging (4).	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*	THR	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

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
Peregrine Falcon	*Falco peregrinus*	SC	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*	THR	SC	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).	No	Known to occur in the general area	No further consideration required
Short-eared owl	*Asio flammeus*	SC	SC	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).	No	Known to occur in the general area	No further consideration required
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								

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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
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
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	THR	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).	No	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	Potential significant wildlife habitat on adjacent lands
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

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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	Potential significant wildlife habitat on adjacent lands
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

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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
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: on-site and adjacent lands	Known to occur in the general area	No further consideration required
West Virginia White	*Pieris virginiensis*	No Status	SC	S3	The West Viginia 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
Mammals								
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).	No	Known to occur in the general area	No further consideration required
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).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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).	No	Known to occur in the general area	No further consideration required
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 boreal 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).	No	Known to occur in the general area	No further consideration required
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	END	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		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
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).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
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

References

1. Ministry of Environment, Conservation and parks. (2019). Species at risk in Ontario. Retrieved from https://www.ontario.ca/page/species-risk-ontario
2. Government of Canada. (2019). Species at risk public registry. Retrieved from https://species-registry.canada.ca/index-en.html#/species?ranges=5&sortBy=commonNameSort&sortDirection=asc&pageSize=10
3. Committee on the Status of Endangered Wildlife in Canada. (2008).
4. Environment Canada. (2018).
5. Ontario Nature. (2020). Reptiles and amphibians. Retrieved from https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/species/
6. University of Michigan Museum of Zoology. (2004).