Scoped Environmental Impact Study - 181 Burton Avenue, Barrie, ON

2020-10-28

Prepared for:
8952175 Canada Corp. o/a Upland Holding

Cambium Reference No.: 11580-001

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1.0 Introduction

Cambium Inc. (Cambium) was retained by 8952175 Canada Corp. o/a Upland Holding to conduct an Environmental Impact Study for the property located at181 Burton Avenue, in the City of Barrie, Ontario (the Site; Figure 1). The proposed development includes the rezoning of the property and the construction of a multi-unit apartment building. A Scoped Environmental Impact Study (EIS) is required to address potential negative impacts to natural heritage features (i.e., woodlands) identified during the preliminary planning review process.

Through pre-consultation with LSRCA staff in September 2020, it was confirmed that the Site is located adjacent to a woodland that is mapped on Schedule H of the City of Barrie's Official Plan as a Level 1 feature. The portion of the woodland extending onto the Site is mapped as a Level 1 feature with Existing Development Designation. As such, a Scoped EIS is required to delineate this feature and demonstrate conformity with applicable policy, in support of the current Site Plan application.

The following EIS provides an evaluation of reasonably anticipated ecological impacts, positive or negative, that may arise as a result of this proposed development, to guide the planning decision-making process. It also includes a habitat-based species at risk (SAR) screening, to determine if the Site provides suitable habitat for provincially listed at-risk species and address compliance with the Endangered Species Act, 2007.

1.1 Terms of Reference

The Lake Simcoe Region Conservation Authority (LSRCA) was contacted directly to confirm the Terms of Reference for the subject study. A record of Cambium's correspondence with LSRCA staff (Kate Lillie, Natural Heritage Ecologist) is included in Appendix A.

1.2 Proposed Development and Conceptual Site Plan

The current conceptual site plan includes a three-storey apartment building, with multiple units and parking facilities, to be accessed via Burton Avenue (see Appendix B). Landscaped buffer areas are proposed along the side and rear lot lines.

2.0 Applicable Natural Heritage Policy and Regulation

The Site is located within the Growth Plan for Greater Golden Horseshoe and the Lake Simcoe Protection Plan areas; however, it is also located within a designated Settlement Area. Most notably, the Site is located within an Urban Growth Centre (UGC) as identified by the Province of Ontario. As such, the natural heritage policies of the Provincial Policy Statement, 2020 (PPS) apply and the proposed development must meet the associated "no negative impact" policy test.

2.1 Provincial Policy Statement, 2020

Section 2.1 of the Provincial Policy Statement, 2020 (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 identified in the PPS include 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 it can be demonstrated that there will be no negative impacts on the feature or its 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*.

2.2 Conservation Authority Regulation (O.Reg. 179/06)

The Site is located within Lake Simcoe Region Conservation Authority (LSRCA) jurisdiction and is subject to the LSRCA Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation (O.Reg. 179/06), under the Conservation Authorities Act. As per O.Reg 179/06, LSRCA is required to *"prohibit, regulate or provide permission for straightening, changing, diverting or interfering in any way with the existing channel of a river,*

creek, stream, watercourse or changing or interfering with a wetland" and "prohibit or regulate or provide permission for development if the control of flooding, erosion, dynamic beaches, pollution or the conservation of land may be affected by the development". LSRCA policy requires that an EIS be prepared to assess possible hydrological and ecological impacts of the proposed development on regulated features.

2.3 City of Barrie Official Plan

According to the City of Barrie's mapping, Schedule A– Land Use (City of Barrie, 2018), the land use designation of the subject property is 'General Commercial' and as noted previously, is located within an Urban Growth Centre. Adjacent lands to the north are designated 'Environmental Protection Area'. Surrounding land use designations are predominantly 'General Commercial' to the east and west of the property and 'Residential' to the south.

A portion of the Site is also identified in the City of Barrie Official Plan Schedule H as a Level 1 EPA feature with an Existing Development designation subject to Section 3.5.2.4 (d). The Existing Development designation would allow the Site to be reviewed under the policies of a Level 2 feature; however, there are provisions in the Official Plan that first require the assessment as per a Level 1 EPA feature, where no development is allowed in sensitive features such as PSWs and SAR habitat. Based on our preliminary review, the Site does not contain sensitive (Level 1) features that would be strictly excluded from a potential development envelope. The woodland adjacent to the Site is identified as a Level 1 EPA feature. An Environmental Impact Study (EIS) is required for any development or site alteration within 120 metres of an area identified as Level 1 on Schedule H.

According to Section 4.7.2.6 (b) of the City of Barrie Official Plan, woodlands are generally defined as "a contiguous wooded area, of no less than 0.2 ha, irrespective of ownership, maturity, composition, and density in accordance with the City's Tree Preservation By-law".

Section 6.5.2.2 d(ii) states that all contiguous woodlands greater than 0.2 hectares are protected by the City's Tree Preservation By-law, irrespective of ownership, maturity, composition and density. The City will control development adjacent to woodlands to prevent destruction of trees.

2.4 City of Barrie Zoning By-law 2009-141

According to City of Barrie Zoning By-law 200-141 Map: South Section (City of Barrie, 2017), the Site is zoned ‘General Commercial’ (C4). Zoning of surrounding properties includes ‘General Commercial’ (C4) to the east and west, and ‘Environmental Protection Area’ / ‘Open Space’ to the north.

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, a provincially protected natural heritage feature.

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 aerial orthophotography, topographic base mapping, and geological records. Natural environment and land use schedules prepared in support of the City of Barrie Official Plan 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 and Natural Heritage Information Centre (Ministry of Natural Resources and Forestry, 2018); Accessed October 6, 2020
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2018); Accessed October 6, 2020
- Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005); Accessed October 6, 2020
- LSRCA Regulated Area mapping
- City of Barrie Official Plan and Zoning By-law Mapping
- Species Range Maps (Various Sources)

Existing local topographic and natural heritage feature mapping is shown on Figure 2.

3.1.1 Ministry Consultation

In early 2019, the Government of Ontario made changes to the regulating authority on matters related to SAR in the Province. The Ministry of Environment, Conservation and Parks (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" to "help clients better understand their obligation to gather information and complete a preliminary screening for Species at Risk before contacting the Ministry". This document was used to guide the SAR habitat-based screening for the subject study.

3.2 Field Investigations

Information gathered through the background information review was used to guide the development of the fieldwork program. A site visit was completed to verify information acquired through existing documentation and to gather additional site-specific information. The following field-based activities were carried out on the Site and are summarized in Table 1.

Table 1 Summary of Field Investigations

Date	Time On Site	Weather Conditions	Observer	Activities
2020-09-24	1130-1230	23°C, Sunny, Wind: 0, Noise: 3	T. Jamieson	Ecological Land Classification, Vegetation Inventory, Woodland Delineation, General Habitat-based Wildlife Survey

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

3.2.1 Ecological Land Classification, Vegetation Inventory and Woodland Delineation

The Ecological Land Classification (ELC) System for Southern Ontario (Lee, 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, 1998) and the revised 2008 tables. ELC units were initially identified by orthophoto interpretation during the desktop review. Field investigations served to confirm the type and extent of communities through vegetation inventory; where necessary, soil assessment is used to confirm wetland communities. The dripline of the woodland on the Site was marked with a hand-held GPS unit

and staked in the field. This boundary will need to be confirmed in the field with LSRCA staff and surveyed by Ontario Land Surveyor, prior to further site alteration.

3.2.2 General Habitat-Based Wildlife Survey

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. Any relevant species and habitat observations were documented and photographed.

4.0 Characterization of Natural Features and Functions

4.1 Landscape Position and Topography

The Site is located within the Mixedwood Plains Ecozone: Lake Simcoe Rideau Ecoregion 6E, which extends southward from a line connecting Lake Huron in the west to the Ottawa River in the east, including Ottawa, Kingston, Peterborough, Barrie, Tobermory, Kitchener, and Toronto. This ecoregion is characterized by a mixed geology that includes both shallow soil areas such as alvar and bedrock plains, as well as deep soil areas such as the Oak Ridges Moraine. It falls within the Great-Lakes St. Lawrence Forest Region, including deciduous and mixed forests; however, over 50% of the landscape in this Ecoregion is currently in use as agricultural land (Lee, 1998). The Site is within Ecoregion 6E-6 (Lake Simcoe-Rideau) of Ontario (Crins, Gray, Uhlig, & Wester, 2009).

Generally, the Site is confined to an existing developed area of the City, adjacent to an existing arterial roadway, existing residential and commercial developments, and a rail corridor. The front and centre portions of the property are relatively flat, with evidence of existing fill that has now become overgrown. A steep slope was observed along the rear (i.e., northern) lot line, extending to a low-lying area adjacent to the Site. Natural features in the area appear to be confined within this existing developed area with no connecting linkages to other significant natural heritage features.

4.2 Surface Water and Drainage Features

No surface water features, drainage features, springs, or seeps were observed on the Site during the field investigation. Given the existing topography and historical fill, the Site is unlikely to provide significant vernal pooling under spring conditions. A French drain was identified on adjacent lands, immediately north of the property boundary. Information provided by a neighbouring property owner suggests that this drain collects flows from adjacent lands southeast of the Site.

4.3 Vegetation Communities

Two vegetation community types were identified on the Site. The vegetation communities were initially classified through aerial photograph interpretation and were subsequently confirmed through a late-season vegetation inventory. The vegetation communities on the Site are summarized in Table 2 and illustrated on Figure 3. 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	N/A	Cultural	Terrestrial	N/A
2	FODM4-5	Dry - Fresh Manitoba Maple Deciduous Forest	Terrestrial	N/A

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

4.4 Wetland Delineation

A small wetland pocket, approximately 0.09 ha in size, was documented at the base of the slope on adjacent lands to the north of the subject property. The wetland is not connected to any mapped watercourses and is geographically isolated from Lake Simcoe by the rail corridor. The wetland was distinguished from the surrounding area based on the dominance of wetland vegetation (> 50% relative cover). Given the fact that the wetland was located on private land beyond the property boundaries to the north, a vegetation survey was limited to species observed from the property boundary. Vegetation in the wetland included; Cattails (*Typha spp.*), Willow (*Salix spp.*), Dogwood (*Cornus spp.*), Nodding Beggarticks (*Bidens cernua*), Canadian Wood Nettle (*Laportea canadensis*), and Bittersweet Nightshade (*Solanum dulcamara*).

4.5 Species at Risk

A list of SAR with potential to occur in the general vicinity of the Site was compiled based on known species' ranges and habitat requirements and review of background information sources (as listed in Section 3.1). As noted above, we have employed a habitat-based

screening, in order to identify suitable habitat for SAR located on or adjacent to the Site (refer to Appendix D). Based on our screening, the Site and/or adjacent lands have elevated potential to provide habitat for the following species:

Threatened and Endangered Species (habitat protected under the ESA)

- Little Brown Myotis (*Myotis lucifugus*; endangered)
- Northern Myotis (*Myotis septentrionalis*; endangered)
- Eastern Small-footed Myotis (*Myotis leibii*; endangered)
- Tri-coloured Bat (*Perimyotis subflavus*; endangered)

During the field investigation, the Site was surveyed for the presence of cavity trees and other trees in late stages of decay (i.e., snags) that could provide suitable maternity roosting habitat for SAR bats. No suitable trees were observed; therefore, the subject forest community is not considered to provide habitat for Endangered or Threatened species.

5.0 Assessment of Natural Heritage Significance

Based on information gathered from the background review and field investigations, the following sections discuss the assessment of natural heritage features on the Site and adjacent lands that receive protection under municipal and/or provincial policy.

5.1 Wetlands

A wetland was identified adjacent to the Site. All wetlands are considered to be KNHF and KHF that are afforded protection under the GPGGH, LSPP, and Ontario Regulation (179/06). Development within 30 m of an unevaluated wetland may be permitted if it is determined that there will be no negative impact to the hydrologic function of the feature.

5.2 Significant Woodlands

The woodland located on Site, was assessed in consideration of provincial criteria in the MNRF Natural Heritage Reference Manual (Ministry of Municipal Affairs and Housing, 2020).

1. **Woodland Size**: According to the City of Barrie's Urban Forest Strategy (Nov. 25, 2013), *the total mapped forested areas on both private and public land is 1,595 hectares, or 19.6% of the total land area within the City of Barrie.* Section 2.1 of this document states: "*Many municipalities have set targets for canopy area in their long term strategic goals. The current forest cover is mapped at 19.6% of the land area in Barrie, while current estimates of canopy cover is around 23-25%. An actual measurement of total canopy area (forested area plus individual trees) has never been completed for the City of Barrie.*"

   According to MNRF Natural Heritage Reference Manual, where woodland cover represents 15–30% of the land cover, woodlands 20 ha in size or larger should be considered significant. Therefore, the subject woodland is not considered significant based on provincial size criteria.

2. **Ecological Function**:

a. Woodland interior: The subject woodland offers no interior woodland habitat. Interior woodlands are those with a minimum 100 m from outer forest edge.

b. Proximity to other woodlands or other habitats: The only feature in close proximity is the wetland on adjacent lands; however due to limited size and its confinement to a highly disturbed area, this feature is not considered significant.

c. Linkages: The subject woodland is isolated and does not provide a connecting link between two other significant features, that are within a specified distance (e.g., 120 m) and meet minimum area thresholds (e.g., 1–20 ha, depending on circumstance).

d. Water protection: The subject woodland is within a sensitive watershed (Lake Simcoe), as is the case for most woodlands in City of Barrie, and is within a Significant Groundwater Recharge Area.

e. Woodland diversity: The subject woodland consists primarily of Manitoba Maple; and species diversity is low.

3. **Uncommon Characteristics**: No rare or provincially restricted woodland plant species were identified. No trees that would be over 100 years old were identified.

4. **Economic and Social Functional Values:** The subject woodland does not meet criteria for high economic, special services, or social values.

In conclusion, the woodland on the Site should not be considered significant as it does not meet the majority of the provincial criteria and is located in a highly disturbed and confined area surrounded by existing development.

5.3 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) guidance documents produced by MNRF for Ecodistrict 6E were used as a guide to identify and confirm SWH on the Site (Ministry of Natural Resources, 2000; Ministry of Natural Resources, 2013). Based on our observations during field

investigations and the vegetation communities described in Section 4.3, the Site does not meet the criteria for designation as SWH.

5.4 Habitat for Species at Risk

As summarized in Section 4.5 and detailed in the SAR Screening (Appendix D), the Site does not provide suitable habitat for SAR that are known to occur in Simcoe County.

6.0 Impact Assessment and Mitigation Measures

The following sections address potential impacts to the wetlands and woodlands identified adjacent to the Site, that may result from the proposed development and site alteration. No other natural heritage features protected by municipal or provincial policy were identified 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.

6.1 Wetlands and Woodlands

The wetland identified adjacent to the Site is limited in terms of its ecological function. The wetland area is relatively small (approximately 0.09 ha) and appears to be fed primarily by stormwater drainage from surrounding developed areas. A Functional Servicing Report (FSR), prepared by Pearson Engineering (July 2020; submitted under separate cover) described the proposed stormwater management strategy for the Site. A rooftop drainage infiltration system which directs stormwater towards the wetland is proposed, to achieve a pre/post-development water balance for the feature. The existing forested slope to the rear of the Site will remain undisturbed and will provide some buffering function for the wetland. As such, the proposed development is not expected to result in adverse hydrologic impacts to the adjacent wetland and no additional avoidance measures or setbacks are required.

As noted above, the ecological function of the forested area of the Site has been impacted through human disturbance and introduction of invasive species. The proposed development will require vegetation removals on the Site and the creation of a new woodland edge. An Edge Management Plan should be prepared for the landscape buffer along the rear lot line, to mitigate potential edge effects associated with the creation of a new woodland edge, restore native plant diversity, and improve wildlife habitat function. The function of the woodlands located adjacent to the Site, identified as a Level 1 EPA feature in the City of Barrie Official Plan, will not be negatively impacted by the proposed removal of trees on the Site, provided this recommendation is implemented.

6.2 Recommended 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., wetland, the stormwater management system and its receivers) 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 pass through a check dam structure, prior to discharge into a roadside drainage ditch.

Development and construction in proximity to natural areas can potentially lead to encounters with wildlife. Care should be taken to minimize these encounters and to appropriately handle any wildlife encounters that do occur. During the construction phase, the work area should be actively checked for the presence of wildlife. Species at Risk observations, including most species of snakes and turtles, should be reported to the MNRF Natural Heritage Information Centre (https://www.ontario.ca/page/report-rare-species-animals-and-plants).

Nesting birds, and their nests, eggs and young are protected under the Migratory Birds Convention Act, 1994. Vegetation clearing on the Site should occur outside the peak breeding bird season, which extends from April 15 to August 15 in the area as per Environment and Climate Change Canada Guidelines. Where feasible, construction should take place outside this period. In the event that site alteration is planned to proceed during the breeding season, the removals area should be investigated by a qualified professional for the presence of breeding birds and nests containing eggs and/or young. Nests discovered should be left undisturbed until young have fledged or the nest is determined to be inactive.

7.0 Recommended Mitigation, Compensation, and Best Practices

1. All relevant approvals and permits should be obtained, prior to the commencement of site alteration activities.
2. Clearing of vegetation should occur outside of the April 15 to August 15 breeding bird timing window, as per Environment and Climate Change Canada guidelines.
3. Prior to the commencement of any site disturbance or construction, heavy duty sediment fencing should be installed around the perimeter of construction area, as per Ontario Provincial Standard Drawing (OPSD) 219.110. This measure should be maintained in proper working order until the Site has been successfully revegetated or all loose substrate have been stabilized.
4. All erosion and sediment control measures should be inspected and maintained throughout the construction phase, until the Site has been fully stabilized. All temporary ESC measures should be removed following construction.
5. Equipment, construction materials, and stockpiles should be kept within the construction area throughout the construction period.
6. Any active bird nests should be left undisturbed until young have fledged or the nest is determined to be inactive by a qualified professional.
7. Any species at risk discovered on the property must be left undisturbed as required by the Endangered Species Act, 2007. If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. All SAR observations should be immediately reported to the MNRF Natural Heritage Information Centre.
8. An Edge Management Plan should be prepared for the landscape buffer along the rear lot line, to mitigate potential edge effects associated with the creation of a new woodland edge, restore native plant diversity, and improve wildlife habitat function.

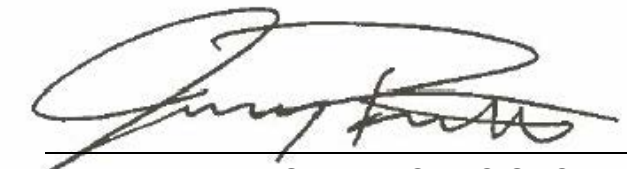
8.0 Closing

In summary, the woodland feature on the subject property does not qualify as a Level 1 EPA feature according to the City of Barrie Official Plan, nor does it qualify as a Significant Woodland based on provincial criteria. Provided that the recommendations outlined in Section 7.0 are adhered to, potential negative impacts to the form and function of the adjacent woodland can be avoided. In addition, given the proposed stormwater management strategy for the Site, no adverse hydrologic impacts to the adjacent wetland are anticipated.

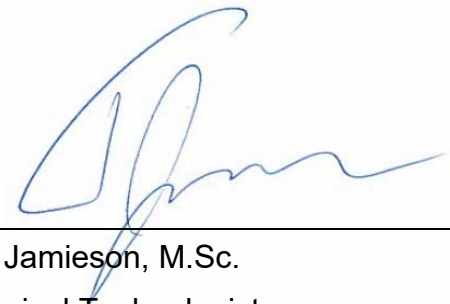
The information presented herein demonstrates that the proposed development and site alteration can be carried out in a way that will not adversely impact protected natural heritage and hydrologic features and functions identified on or adjacent to the subject Site. Furthermore, the subject study demonstrates that the proposed development is consistent with applicable natural heritage policy and regulation.

Respectfully submitted,

Cambium Inc.



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



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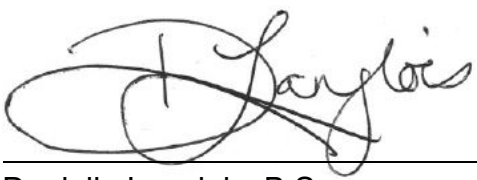
Ecological Technologist



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Appended Figures

ENVIRONMENTAL IMPACT STUDY

8952175 CANADA CORPORATION
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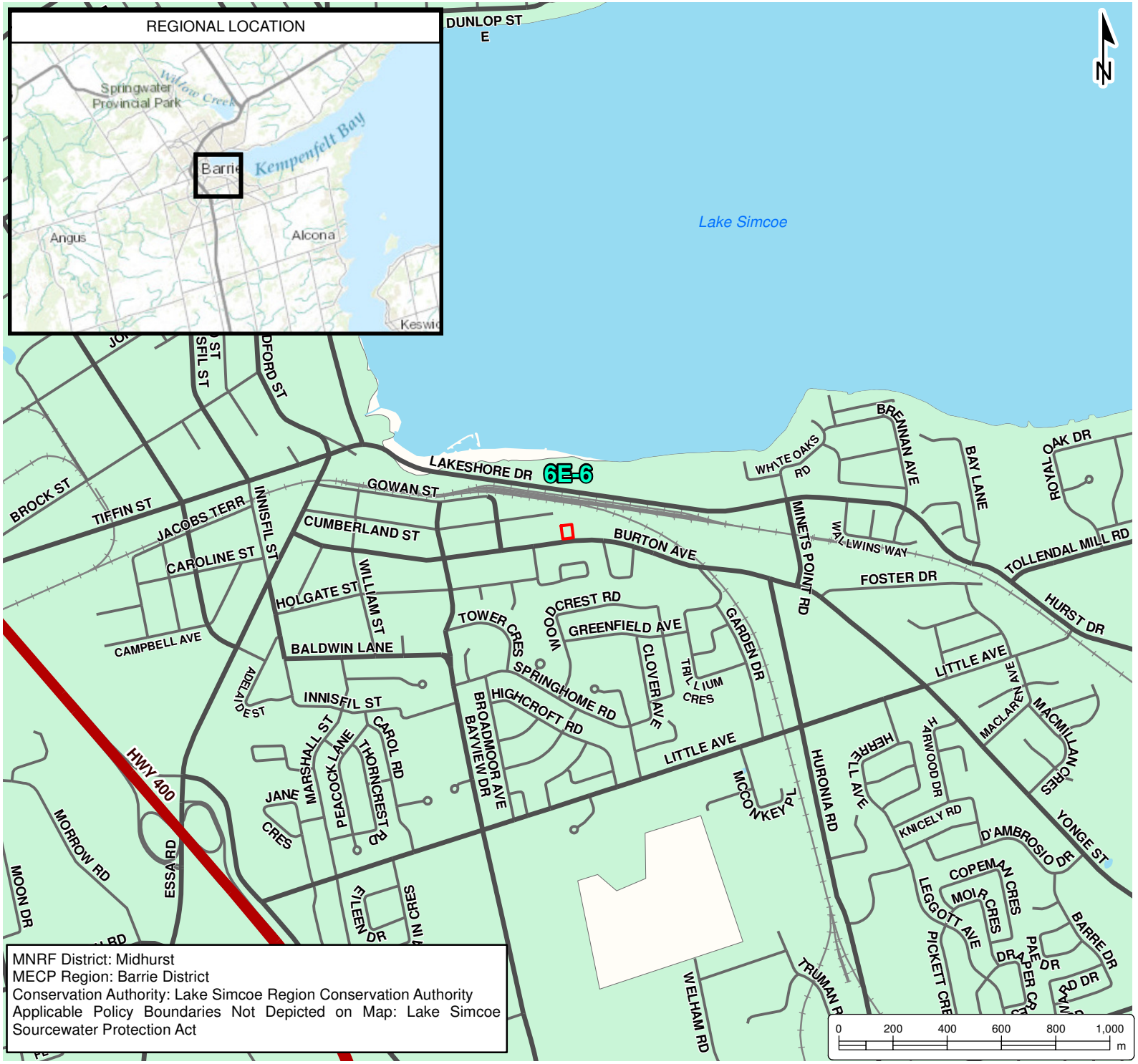
181 Burton Avenue,
Barrie, Ontario



MNRF District: Midhurst
MECP Region: Barrie District
Conservation Authority: Lake Simcoe Region Conservation Authority
Applicable Policy Boundaries Not Depicted on Map: Lake Simcoe Sourcewater Protection Act

LEGEND

- Highway
- Major Road
- Minor Road
- Railroad
- Water Area
- Greater Golden Horseshoe Delineated Boundary
- Ecodistrict
- Site (approximate) (0.20 ha)

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.

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SITE LOCATION AND SPECIAL PLANNING AREAS

Project No.: 11580-001		Date: October 2020	Rev.:
Scale: 1:20,000		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: JPP	Figure: 1	

O:\GIS\MXDs\11500-11599\11580-001 8952175 Canada Corp oa Upland Holding - Environmental Impact Study - 181 Burton Ave., Barrie\2020-10-08 FIG 1 - Site Location and Special Planning Areas.mxd

ENVIRONMENTAL IMPACT STUDY

8952175 CANADA CORPORATION
O/A UPLAND HOLDING
181 Burton Avenue,
Barrie, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Railroad
- Watercourse, Intermittent
- Watercourse, Permanent
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Unevaluated Wetlands
- Provincially Significant Wetlands
- Water Area
- Site (approximate) (0.20 ha)

Notes:
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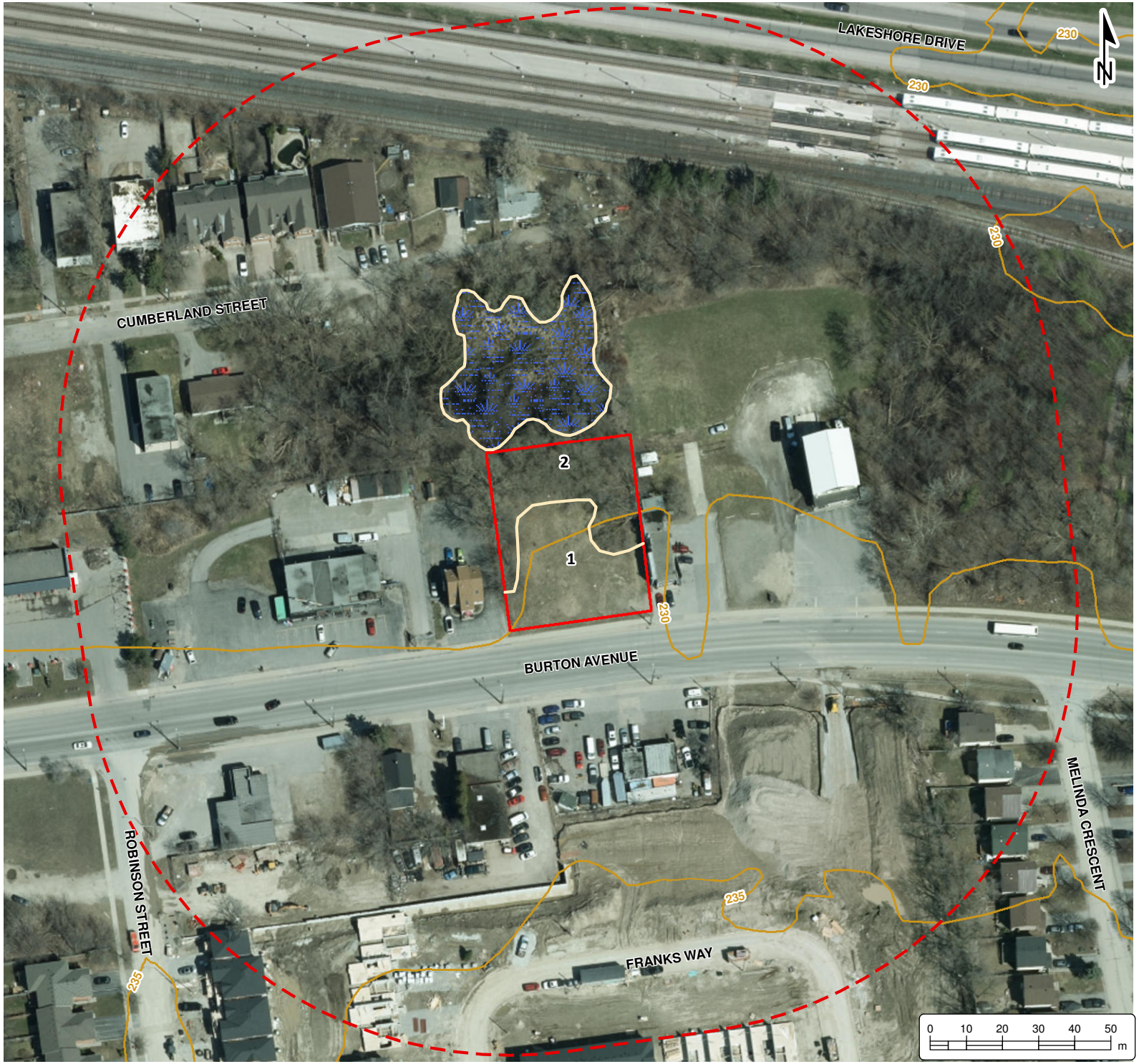
LOCAL NATURAL HERITAGE FEATURES

Project No.: 11580-001		Date: October 2020 Rev.:	
Scale: 1:20,000		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: JPP	Figure:	2

O:\GIS\MXDs\11500-11599\11580-001 8952175 Canada Corp oa Upland Holding - Environmental Impact Study - 181 Burton Ave., Barrie\2020-10-08 FIG 2 - Local Natural Heritage Features.mxd



ENVIRONMENTAL IMPACT STUDY

8952175 CANADA CORPORATION
O/A UPLAND HOLDING
181 Burton Avenue,
Barrie, Ontario

LEGEND

- 120m Adjacent Lands
- Vegetation Community
- Contour 5m Interval (Minor)
- Wetland
- Site (approximate) (0.20 ha)

VEGETATION COMMUNITIES

1: Cultural Meadow

2: FODM4-5; Dry - Fresh Manitoba Maple Deciduos Forest

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
P.O. Box 325, 52 Hunter Street East
Peterborough, Ontario, K9H 1G5
Tel: (705) 742.7900 Fax: (705) 742.7907
www.cambium-inc.com

SITE NATURAL HERITAGE FEATURES

Project No.: 11580-001		Date: October 2020 Rev.:	
Scale: 1:1,500		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: JPP	Figure:	3

O:\GIS\MXDs\11500-11599\11580-001 8952175 Canada Corp oa Upland Holding - Environmental Impact Study - 181 Burton Ave., Barrie\2020-10-08 FIG 3 - Site Natural Heritage Features.mxd

ENVIRONMENTAL IMPACT STUDY

8952175 CANADA CORPORATION
O/A UPLAND HOLDING
181 Burton Avenue,
Barrie, Ontario

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.

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Tel: (705) 742.7900 Fax: (705) 742.7907
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NATURAL HERITAGE CONSTRAINTS

Project No.: 11580-001		Date: October 2020 Rev.:	
Scale: 1:496		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: JPP	Figure:	**4**

O:\GIS\MXDs\11500-11599\11580-001 8952175 Canada Corp ou Upland Holding - Environmental Impact Study - 181 Burton Ave., Barrie\2020-10-08 FIG 4 - Natural Heritage Constraints.mxd

Appendix A
Correspondence

Danielle Langlois

From: Kate Lillie <K.Lillie@lsrca.on.ca>
Sent: September 10, 2020 3:38 PM
To: Danielle Langlois
Cc: Jeremy Prahl; Cambium File; Shawn Filson
Subject: RE: EIS - 181 Burton Ave, Barrie (11580-P) Proposed ToR

Hi Danielle,

Thanks for your follow up email and for your patience. The proposed scope of work for an EIS is appropriate with two small additions/points of clarification, included in **RED**, in line with your email below.

Please let me know if you have any questions.

Kind regards,

Kate Lillie, HBSc, EP, ISA
Natural Heritage Ecologist
Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
905-895-1281, ext. 286 | 1-800-465-0437
k.lillie@LSRCA.on.ca | www.LSRCA.on.ca

Twitter: @LSRCA
Facebook: LakeSimcoeConservation

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From: Danielle Langlois <Danielle.Langlois@cambium-inc.com>
Sent: September 10, 2020 11:11 AM
To: Kate Lillie <K.Lillie@lsrca.on.ca>
Cc: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Cambium File <file@cambium-inc.com>; Shawn Filson <S.Filson@lsrca.on.ca>
Subject: RE: EIS - 181 Burton Ave, Barrie (11580-P) Proposed ToR

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Good morning Kate,

Just wondering if you have had a chance to review the below proposed ToR for the scoped EIS on this property. We are hoping to complete the work this fall – do you have any comments or suggestions?

Thank you!

Danielle Langlois, B.Sc., EPt
Junior Biologist / Technician

Cambium Inc. - Barrie
p: 705.719.0700 | **c:** 249.359.6112 | **toll:** 866.217.7900 | **w:** cambium-inc.com

Under modified work conditions in response to the current pandemic and government directives, Cambium continues to provide the professional services you have come to expect to guide good decisions. The well-being and safety of our teams, clients, and communities are a top priority. We ask for your patience and look forward to working together as we evolve into the "new normal". Stay safe. Better days are ahead.

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From: Danielle Langlois
Sent: September 4, 2020 7:04 AM
To: 'Kate Lillie' <K.Lillie@lsrca.on.ca>
Cc: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Cambium File <file@cambium-inc.com>; Shawn Filson <S.Filson@lsrca.on.ca>
Subject: RE: EIS - 181 Burton Ave, Barrie (11580-P) Proposed ToR

Hi Kate,

Thank you for the prompt response and additional information. The following Terms or Reference (ToR) are proposed for the Scoped EIS:

- Compile and review applicable background information and environmental mapping pertaining to the Site.
- Conduct a survey of vascular plants on the Site in September, to provide a single season inventory.
- Classify existing vegetation communities on the Site, according to the Ecological Land Classification System for Southern Ontario (Lee et. al., 1998), and evaluate them for sensitivity, rarity, and botanical quality.
- Undertake a Species at Risk (SAR) screening to asses for potential SAR habitat and evaluate compliance with the provincial Endangered Species Act, 2007 (ESA). This includes reviewing species occurrence records as well as based on the habitat present on and adjacent to the subject property. We acknowledge that additional surveys may be required if habitat to support certain species is identified.
- Record observations of wildlife occurrences and assess wildlife habitat function, including significant wildlife habitat on the Site. Any evidence of breeding, forage, shelter or nesting sites, and/or travel corridors will be noted.
- Identify, assess, and include detailed descriptions of the natural features and functions identified on the Site and adjacent lands.
- Map key natural heritage and hydrologic features, vegetation communities and other environmental features (watercourses, woodlands, wetlands, areas of groundwater discharge, wildlife habitat, etc.) and proposed development and anticipated limit of disturbance on current, high quality aerial imagery.
- Delineate and collect GPS data for the dripline in the rear of the property, and show this limit on constraints mapping. Please confirm the limit of woodland on the property through a staking exercise with LSRCA. Note that a $1500 site visit fee may apply.
- Provide an assessment of the potential impacts of the proposed development on natural features and their related ecological and hydrologic functions.

- Demonstrate conformity with the applicable policies within the Lake Simcoe watershed, including: Lake Simcoe Protection Plan; Conservation Authorities Act and O.Reg. 179/06; Provincial Policy Statement, 2020; Endangered Species Act, 2007; and, City of Barrie Official Plan.
- Develop and provide an appropriate avoidance, mitigation, restoration, and/or offsetting strategy, to address the potential impacts identified.
- Complete one (1) final report for circulation for approval to the City and LSRCA.

Please let me know if you have any comments or suggested revisions to the above.

Thanks,

Danielle

From: Kate Lillie <K.Lillie@lsrca.on.ca>
Sent: September 3, 2020 12:18 PM
To: Danielle Langlois <Danielle.Langlois@cambium-inc.com>
Cc: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Cambium File <file@cambium-inc.com>; Shawn Filson <S.Filson@lsrca.on.ca>
Subject: RE: EIS - 181 Burton Ave, Barrie (11580-P)

Hi Danielle,

Thanks for your email. The EIS is triggered because of the woodland on and adjacent to the subject property. Please have a look at Schedule H in the City's Official Plan. The woodland off of the property is mapped as a Level 1 feature and the woodland extending onto the property is mapped as Level 1 with Existing Development Designation. The EIS will need to assess this feature and demonstrate policy conformity for the proposed development.

If you have a proposed terms of reference for the EIS, we can review let you know if it's appropriate.

Let me know if you have any questions.

Thanks,

Kate Lillie, HBSc, EP, ISA
Natural Heritage Ecologist
Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
905-895-1281, ext. 286 | 1-800-465-0437
k.lillie@LSRCA.on.ca | www.LSRCA.on.ca

Twitter: @LSRCA
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From: Danielle Langlois <Danielle.Langlois@cambium-inc.com>
Sent: September 3, 2020 11:27 AM

To: Kate Lillie <K.Lillie@lsrca.on.ca>
Cc: Jeremy Prahl <Jeremy.Prahl@cambium-inc.com>; Cambium File <file@cambium-inc.com>
Subject: EIS - 181 Burton Ave, Barrie (11580-P)

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Good morning Kate,

We have been asked to scope an EIS for a property located at 181 Burton Avenue in Barrie to support a Planning Act Application. The Client provided us with the Pre-Consultation document from LSRCA (APID: 99824) dated June 14, 2019 stating that an EIS is required.

We have completed a desktop review of the area and are wondering if you could provide us with details regarding the trigger for this EIS requirement given the lack of mapped features on or adjacent to the property.

Feel free to give me a call on my cell if you would like to discuss.

Thank you,
Danielle

Danielle Langlois, B.Sc., EPt
Junior Biologist / Technician

Cambium Inc. - Barrie
Environmental | Building Sciences | Geotechnical | Construction Monitoring
p: 705.719.0700 | **c:** 249.359.6112 | **toll:** 866.217.7900 | **w:** cambium-inc.com

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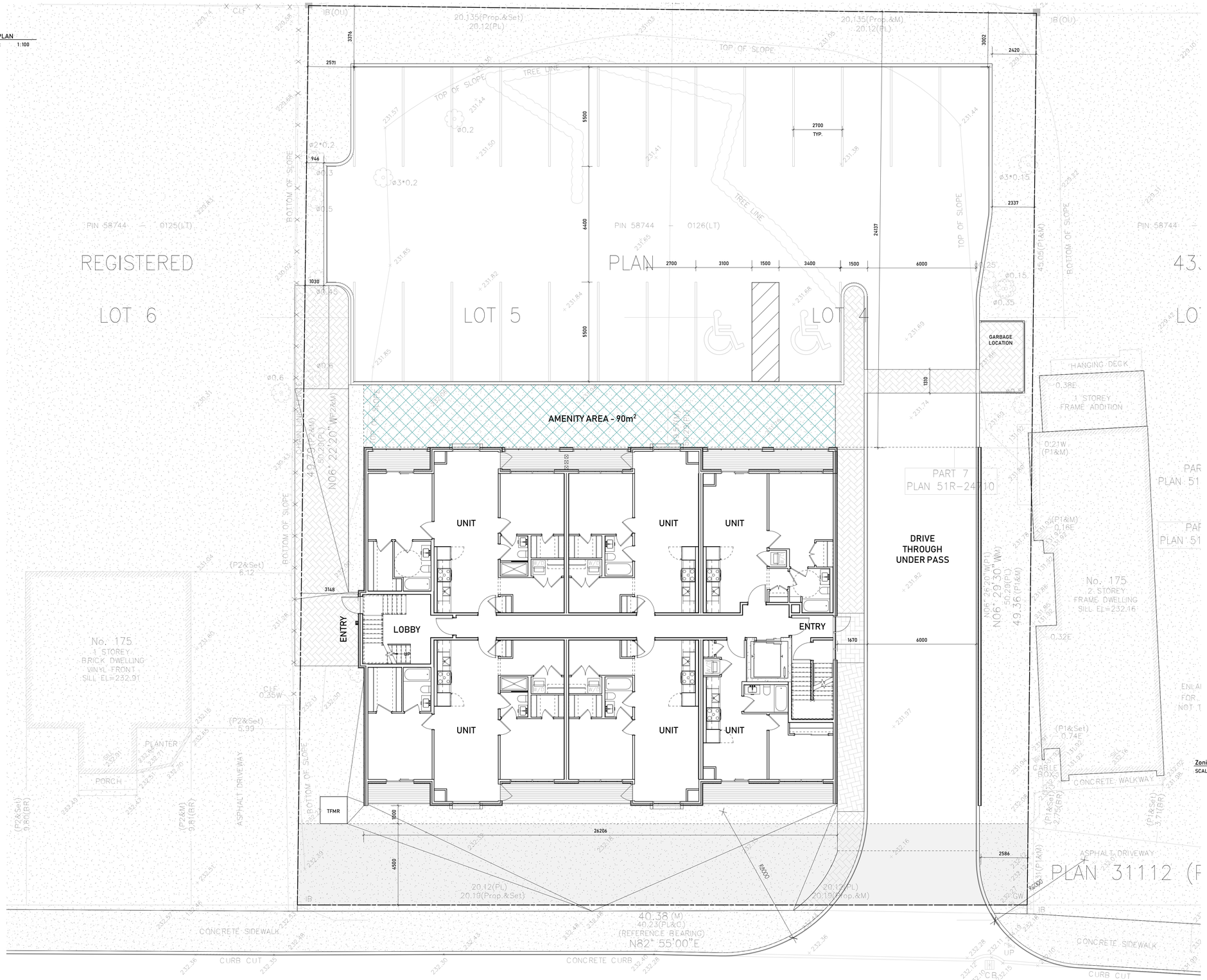
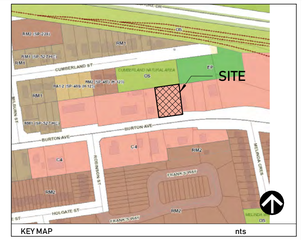
Appendix B
Conceptual Site Plans

SITE PLAN
SCALE: 1:100





Zoning Standard
SCALE: 1:1

STANDARDS

	REQUIRED BY BY-LAW (REZONING - MU2)	PROPOSED
LOT AREA (min.)	- m²	1,998.94 m²
LOT FRONTAGE (min.)	- m	40.38 m
FRONT YARD (min.)	1m(75%)-5m(25%)	1.00 m
WEST INTERIOR SIDE YARD (min.)	13.25 m	3.15 m
EAST EXTERIOR SIDE YARD (min.)	3 m (max.)	2.56 m *
REAR YARD (min.)	7 m	24.13 m
NUMBER OF UNITS	-	22
GROUND FLOOR AREA	-	475 m²
GROSS FLOOR AREA	-	1,590.0 m²
COMMERCIAL AREA	50% GFA main floor	0 m²
DWELLING UNIT AREA (min.)	35m² + 10m²/bedroom	One Bedroom: 42.2m² Two Bedroom: 68.5m²
LOT COVERAGE (max.)	-%	35%-698 m²
LANDSCAPING (min.)	35%	33% - 661 m²
G.F.A. (max.)	-%	1590 m² - 79.5%
AMENITY AREA (min.)	12m²/unit (228m²)	balcony (154 m²) + ground (90 m²) + 244 m²
BUILDING HEIGHT (min.)	7.5-25.5 m	12.6 m
PARKING (min.)	1 space/unit = 22 spaces	22 spaces = 1/unit
DRIVE AISLE WIDTH (min.)	6.4 m	6.4m
BARRIER FREE (min.)	1 Type A @ 3.4mx5.5m & 1 Type B @ 3.1mx5.5m Each B.F. space shall contain a 1.5m access aisle	1 Type A @ 3.4mx5.5m & 1 Type B @ 3.1mx5.5m Each B.F. space shall contain a 1.5m access aisle
LANDSCAPED BUFFER STRIP	3 m landscaped buffer side and rear lot line	3 m landscaped buffer side and rear lot line
DENSITY (max.)	-	105 units/hectare

ISM ARCHITECTS Inc.
97 Toronto Street
Barrie ON L4N 1V1
Tel: 705-726-2342
Email: ism@ismarchitects.ca
Website: www.ismarchitects.ca

#	Description	Date
1	CLIENT REVIEW	APR. 23/19
2	SITE PLAN CONTROL	MAY. 16/19
3	RENTAL UNIT CONVERSION	OCT. 16/19

Stamp

Orientation

Client Information
MARIA ROZENTS

Project
181 BURTON - RESIDENTIAL

Project Information
Project No.: 194060
Drawn by: JB
Checked by: ISM
Date: APRIL 16, 2019
Scale: As indicated

Drawing
SITE PLAN

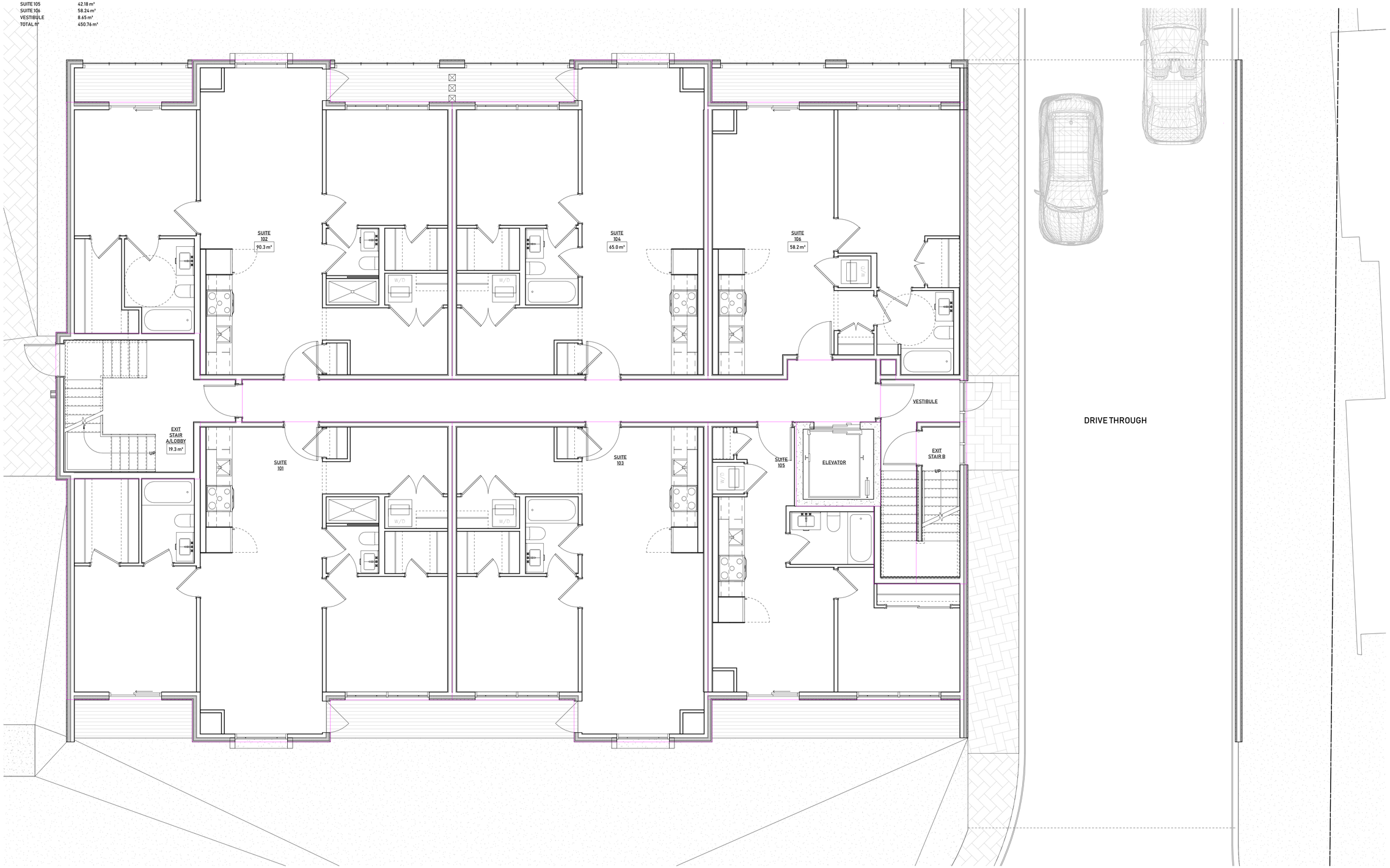
Drawing No.
A100

MAIN FLOOR

SCALE: 1:50

AREAS

ELEVATOR	6.01 m²
EXIT STAIR A	19.32 m²
EXIT STAIR B	6.92 m²
SUITE 101	89.08 m²
SUITE 102	90.26 m²
SUITE 103	65.05 m²
SUITE 104	65.05 m²
SUITE 105	42.18 m²
SUITE 106	58.24 m²
VESTIBULE	8.65 m²
TOTAL ft²	450.76 m²



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Tel: 705-726-2342
Email: info@ismarchitects.ca
Website: www.ismarchitects.ca

#	Description	Date
1	CLIENT REVIEW	APR. 23/19
2	PRELIMINARY	MAY. 14/19
3	RENTAL UNIT CONVERS.	OCT. 16/19

Stamp

Orientation

Client Information
MARIA ROZENTS

Project
181 BURTON - RESIDENTIAL

Project Information

Project No.:	194060
Drawn by:	JB
Checked by:	ISM
Date:	APRIL 16, 2019
Scale:	1 : 50

Drawing
MAIN FLOOR PLAN

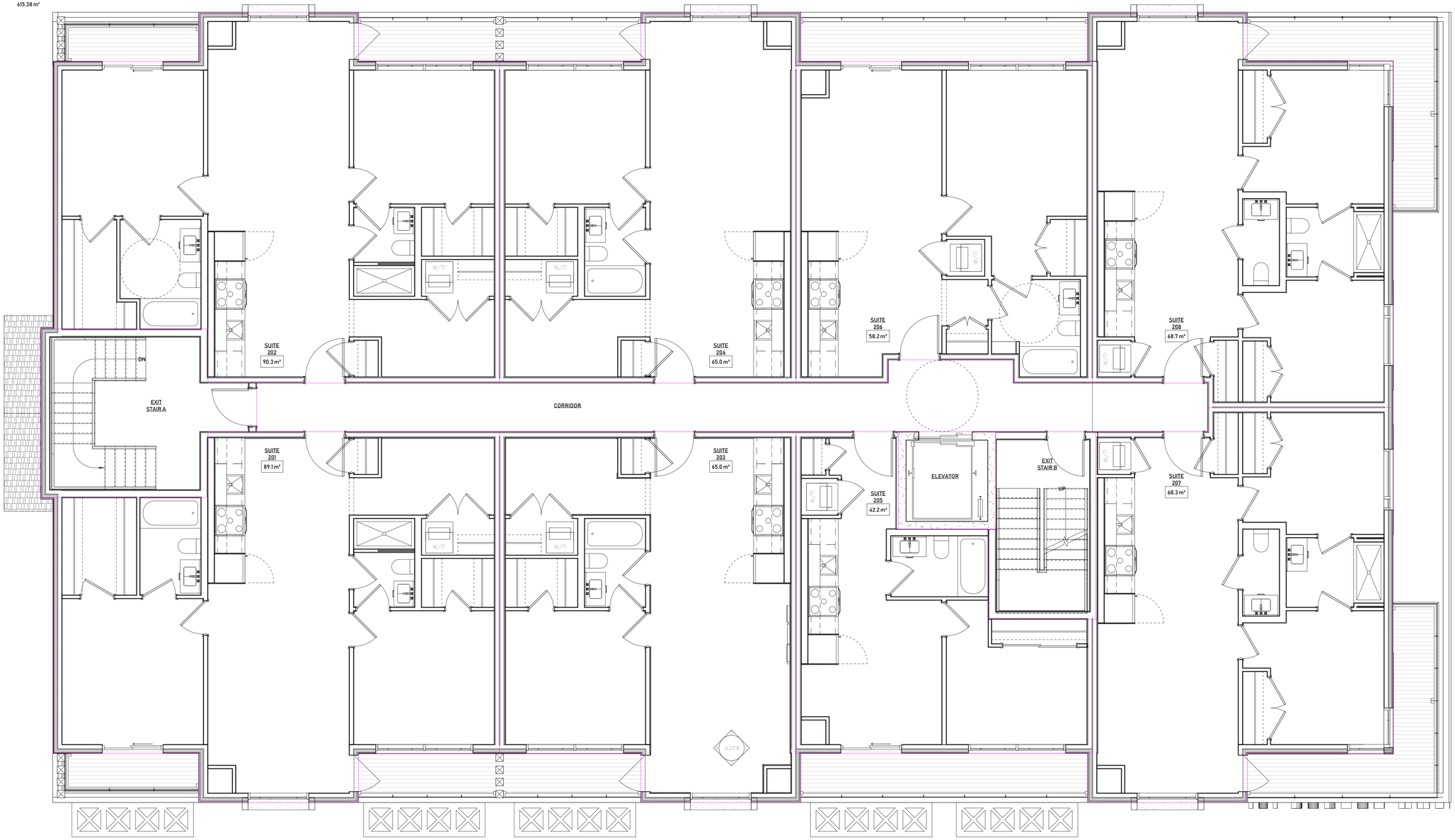
Drawing No.
A201

SECOND FLOOR

SCALE: 1 : 50

AREAS

CORRIDOR	30.94 m²
ELEVATOR	6.01 m²
EXIT STAIR A	19.32 m²
EXIT STAIR B	12.26 m²
SUITE 201	89.08 m²
SUITE 202	90.26 m²
SUITE 203	65.05 m²
SUITE 204	65.05 m²
SUITE 205	42.18 m²
SUITE 206	58.24 m²
SUITE 207	68.3 m²
SUITE 208	68.69 m²
TOTAL ft²	615.38 m²



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#	Description	Date
1	CLIENT REVIEW	APR. 23/19
2	PRELIMINARY	MAY. 14/19
3	RENTAL UNIT CONVERS.	OCT. 16/19

Stamp

Orientation

Client Information

MARIA ROZENTS

Project

181 BURTON - RESIDENTIAL

Project Information

Project No.:	194060
Drawn by:	JB
Checked by:	ISM
Date:	APRIL 16, 2019
Scale:	1 : 50

Drawing

SECOND & THIRD FLOOR PLAN

Drawing No.

A202

NORTH
SCALE: 1:100

EAST
SCALE: 1:100

SOUTH
SCALE: 1:100

WEST
SCALE: 1:100

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Email: jb@ismarchitects.ca
Website: www.ismarchitects.ca

#	Description	Date
1	CLIENT REVIEW	APR. 23/19
2	PRELIM SPEC	SEPT. 16/19
3	RENTAL UNIT CONVERS.	OCT. 15/19

Stamp

Orientation

Client Information
MARIA ROZENTS

Project
181 BURTON - RESIDENTIAL

Project Information

Project No.:	194060
Drawn by:	JB
Checked by:	ISM
Date:	APRIL 16, 2019
Scale:	1:100

Drawing
ELEVATIONS

Drawing No.
A300

Appendix C
Vegetation Species List

VEGETATION COMMUNITY CLASSIFICATION: Community 1: Cultural

LOCATION: 181 Burton Ave

COORDINATES: 44.37194290927452, -79

PROJECT NUMBER: 11580-001

DATE: September 24, 2020

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	COSEWIC	SARO	CoC	S-Rank
Black Walnut	*Juglans nigra*	Juglandaceae	-	-	5	S4?
Butter-and-eggs	*Linaria vulgaris*	Scrophulariaceae	-	-	-	SNA
Common Milkweed	*Asclepias syriaca*	Asclepiadaceae	-	-	0	S5
Common Mullein	*Verbascum thapsus ssp. thapsus*	Scrophulariaceae	-	-	-	SNA
Common Viper's Bugloss	*Echium vulgare*	Boraginaceae	-	-	-	SNA
Fragrant Sumac	*Rhus aromatica var. aromatica*	Anacardiaceae	-	-	8	S4
Manitoba Maple	*Acer negundo*	Aceraceae	-	-	0	S5
New England Aster	*Symphyotrichum novae-angliae*	Asteraceae	-	-	2	S5
Riverbank Grape	*Vitis riparia*	Vitaceae	-	-	0	S5
Smooth Brome	*Bromus inermis*	Poaceae	-	-	-	SNA
Tall Goldenrod	*Solidago altissima*	Asteraceae	-	-	1	S5
Virginia Creeper	*Parthenocissus quinquefolia*	Vitaceae	-	-	6	S4?

NOTES:

VEGETATION COMMUNITY PHOTOS:

VEGETATION COMMUNITY CLASSIFICATION: Community 2: FODM4-5 Dry - Fresh Manitoba Maple Deciduous Forest

LOCATION: 181 Burton Ave

COORDINATES: 44.25714707784449, -79

PROJECT NUMBER: 11580-001

DATE: September 24, 2020

PROJECT MANAGER: Jeremy Prahl

FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	COSEWIC	SARO	CoC	S-Rank
Black Walnut	*Juglans nigra*	Juglandaceae	-	-	5	S4?
Common Buckthorn	*Rhamnus cathartica*	Rhamnaceae	-	-	-	SNA
Garlic Mustard	*Alliaria petiolata*	Brassicaceae	-	-	-	SNA
Manitoba Maple	*Acer negundo*	Aceraceae	-	-	0	S5
Riverbank Grape	*Vitis riparia*	Vitaceae	-	-	0	S5
Yellow Avens	*Geum aleppicum*	Rosaceae	-	-	2	S5

NOTES: Woodland – dominated by Manitoba Maple.

VEGETATION COMMUNITY PHOTOS:

Appendix D
Species at Risk Screening

APPENDIX: Species at Risk Habitat-Based Screening - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	HABITAT-BASED SCREENING (High/Moderate/Low)	RATIONALE
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.

APPENDIX: Species at Risk Habitat-Based Screening - Simcoe County

COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	HABITAT-BASED SCREENING (High/Moderate/Low)	RATIONALE
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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 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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present. Moderately dense understorey and highly disturbed forest edge area with invasive species and signs of anthropogenic stressors (debris, road traffic, human encroachment). Preferred habiat located off-site.
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).	Low	No suitable habitat present.

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COMMON NAME	SCIENTIFIC NAME	Federal SARA	Provincial SARO	Provincial S-RANK	SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	HABITAT-BASED SCREENING (High/Moderate/Low)	RATIONALE
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.

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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).	Low	No suitable habitat present.
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, savanna, 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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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 agriultural 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).	Low	No suitable habitat present. Limited woodland area with on Site
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 large wooded areas with moist stands of trees and well-developed undergrowth and tall trees for perches (1).	Low	No suitable habitat present. Limited, highly distrubed woodland area on Site; not connected to larger wooded area.

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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).	Low	No suitable habitat present.
Fish							
American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.

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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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.

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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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
Invertebrates							

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Gypsy Cuckoo Bumble Bee	*Bumbus bohemicus*	END	END	S1S2	The Gypsy Cuckoo Bumble Bee is a medium-sized bumble bee that resides in a wide range of habitats such as open meadows, agricultural and urban areas, boreal forest, and woodlands. In Ontario, it was historically found throughout the province; however, in recent years it is only known to occur in Pinery Provincial Park (1).	Low	Site is not within species current range.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Moderate	Forested area on/ adjacent to the Site may provide suitable habitat.
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).	Moderate	Forested area on/ adjacent to the Site may provide suitable habitat.
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).	Moderate	Forested area on/ adjacent to the Site may provide suitable habitat.
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).	Moderate	Forested area on/ adjacent to the Site may provide suitable habitat.

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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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Low	No suitable habitat present.
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).	Moderate	Forested area on/ adjacent to the Site may provide suitable habitat.
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).	Low	No suitable habitat present.

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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).	Low	No suitable habitat present.

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