Environmental Impact Study - 42 & 52 Mill Street, Norwood, Ontario, Upper Mill Pond Subdivision

February 21, 2025

Prepared for:
CAP Norwood Developments Inc.

Cambium Reference: 14288-002

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1.0 Introduction

Cambium Inc. (Cambium) was retained by CAP Norwood Developments Inc. to conduct an Environmental Impact Study - 42 & 52 Mill Street, Norwood, Ontario, Upper Mill Pond Subdivision (Figure 1). The proposed development involves a Plan of Subdivision, which would consist of approximately 640 units. Based on the proposed development, the entire property will be considered the Site for this report.

An Environmental Impact Study (EIS; the Study) is required to address potential negative impacts on natural heritage features identified during the preliminary development review process, as required by the Provincial Policy Statement, 2020 (PPS) and the Growth Plan for the Greater Golden Horseshoe (GPGGH, 2020). The Site contains or is adjacent to (within 120 m of) the following mapped natural heritage and hydrologic features: Norwood East Wetland (evaluated, non-significant), Norwood Mill Pond, an unnamed waterbody (pond), watercourses, Norwood Esker Complex Earth Science Area of Natural or Scientific Interest (ANSI), fish habitat, and potential habitat for species at risk (SAR). The Site is within Ecoregion 6E of Ontario (Crins, Gray, Uhlig, & Wester, 2009). The property is located inside the County of Peterborough Settlement Area and Township of Asphodel Norwood.

The Site is within the Otonabee Region Conservation Authority (ORCA) jurisdiction, and their regulated area does not overlap the Site; however, ORCA's regulated area is adjacent (within 120 m) to the Site both to the east and the west. As the Site is adjacent to a waterbody, 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 the 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 Terms of Reference

ORCA approved the Terms of Reference (TOR) for this Study through an email from Jasmine Gibson, Planning Ecologist, on March 18, 2022, agreeing to the project's scope as described in Cambium's proposal. The scope of work includes the following:

- Classification of existing vegetation communities according to the Ecological Land Classification System for Southern Ontario.
- Breeding Bird Surveys
- Barn Swallow Surveys
- Turtle Basking and Nesting Surveys.

Relevant correspondence and documentation are included in Appendix A.

1.2 Proposed Development and Conceptual Site Plan

The Site is approximately 36 ha, bounded on the east side by Asphodel 10th Line, on the north side by the CP Railway, and to the south by Mill Street. The Site consists of active agricultural lands, with a farmhouse and barn fronting Mill Street. A telecommunications tower exists in the central portion of the Site, at the intersection of the two hedgerows traversing the Site. There is an existing access road to the telecommunications tower and a laneway to the residence on the west side of the railway. On the north side of the railway, there is an existing rural residential lot, a sawmill, and the Norwood Mill Pond. Land to the east, south and west of the Site is also primarily rural, with residential lots to the east and south.

The proposed development involves the construction of a residential subdivision, which would contain approximately 640 units. A Conceptual Site Plan is provided in Appendix B.

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 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 alternative development approaches should be considered for development near water features.

2.2 Growth Plan for the Greater Golden Horseshoe, 2020

The GPGGH contains policies regarding a provincial Natural Heritage System (NHS), key hydrologic features (KHFs), key hydrologic areas (KHAs), and key natural heritage features (KNHFs) (Table 1). Policies that reference the provincial NHS apply once the municipal Official Plan has incorporated the provincial NHS into their schedules; until that time, the policies that reference the NHS will apply outside settlement areas to the natural heritage systems identified in Official Plans that were approved and in effect as of July 1, 2017. The subject Site

is located within a designated Settlement Area, outside of municipal natural heritage systems; therefore, the “no negative impact” policy test of the PPS applies.

Table 1 Protected Features of the GPGGH

Key Hydrologic Features	Key Natural Heritage Features	
Permanent Streams	Habitat of Endangered and Threatened Species	Significant Wildlife Habitat
Intermittent Streams	Fish Habitat	Sand Barrens
Inland Lakes and their Littoral Zones	Wetlands	Savannahs
Seepage Areas and Springs	Life Science Areas of Natural and Scientific Interest (ANSI)	Tallgrass Prairies
Wetlands	Significant Valleylands	Alvars
	Significant Woodlands	

2.3 Official Plan and Zoning By-Law

The County of Peterborough Official Plan has designated the property as ‘Rural’. The Site is located within Community Core LU Designation. A ‘Waste Management Assessment Area overlaps the site’s northwest corner. Adjacent lands are zoned as ‘Rural’, ‘General Residential’, ‘Rural Residential’, ‘Limited Service Residential’, and ‘Industrial’.

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 have their own Ontario Regulation under the *Conservation Authorities Act 1990*. Generally, 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.

Otonabee Region Conservation Authority regulates these features under Ontario Regulation 167/06: *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 the 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 Species at Risk Act

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

2.7 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 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). If it is determined that “HADD” may be unavoidable, the project should be submitted to DFO for review and determination of project approach and conditions of approval.

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)
- Aquatic Species at Risk Maps - Ontario (Fisheries and Oceans Canada, 2018)
- Aquatic Resource Area Summary Data (Government of Ontario, 2015)
- Fish ON-Line (Ministry of Natural Resources and Forestry, 2018)
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2018)
- Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005)
- Conservation Authority reports – Watershed Management Plans, Fisheries Assessments, Water Quality Report Cards, etc.
- Conservation Authority regulated area mapping
- County of Peterborough Let Me Map online tool (County of Peterborough, 2021); Accessed November 19, 2021
- Preliminary Natural Heritage Constraints Letter Report (Cambium, 2021)

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 Wetland Boundary Delineation

In Ontario, wetlands are mapped and evaluated under the Ontario Wetland Evaluation System (OWES). Mapped evaluated wetlands have undergone extensive study and been assessed based on their form and function under four categories: Biological, Social, Hydrological, and Special Features (Ministry of Natural Resources, 2022). Evaluated wetlands that score high enough are deemed Provincially Significant Wetlands (PSW). Evaluated wetlands that did not score high enough to be a PSW are called Locally Significant Wetlands (LSW). The province also maps unevaluated wetlands. These mapped wetlands are approximate; as such, they require field verification to confirm their presence and determine their boundaries.

The subject wetland was delineated following provincially approved methods outlined in the Ontario Wetland Evaluation System: Southern Manual, 4th Ed. (Ministry of Natural Resources, 2022). Fieldwork was carried out by provincially certified Cambium staff.

The Site was visited during the early spring to document the extent of surface flooding at that time of year. This information is used to assist with the determination of wetland boundaries during the growing season.

For unevaluated wetlands, boundaries were initially delineated and classified by orthoimagery interpretation. The presence/absence of wetlands on the Site was confirmed through field investigations during the growing season (late May through October). Wetland boundaries were determined using the 50% wetland vegetation rule. Where vegetation-based delineation was inconclusive, soil assessment with a hand auger was used to confirm wetland boundaries. Wetland boundaries on the Site were marked with a hand-held GPS unit and staked/flagged in the field. Where wetland communities extend off the Site, classification was done through observation from property boundaries and publicly accessible lands.

3.2.3 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.

3.2.4 Aquatic Habitat Assessment

A roaming visual survey was completed to identify and map all aquatic features on the Site, including waterbodies, watercourses (permanent and intermittent), seeps, springs, and overland drainage paths. Aerial photography and topographic base mapping was reviewed to identify additional aquatic features on adjacent lands that weren't directly accessible. On-site features were characterized based on in-stream and riparian cover, channel structure/morphology, substrates, hydrologic measurements, and indicators of instability, thermal regime, and permanence of flow, where applicable. Definitions and technical criteria referenced in the Ontario Stream Assessment Protocol (Ministry of Natural Resources and Forestry, 2017) were applied to wadeable streams. In addition, all identified aquatic features were assessed to determine their function as habitat for fish. Fish presence, specialized habitat features, and potential barriers to fish movement were documented. All feature crossings including bridges, culverts, and bed-level crossings, were also noted and georeferenced in the field, if present. Finally, any evidence of erosion or sedimentation was noted, and up-gradient areas were investigated to identify potential sources.

3.2.5 Butternut Survey and Health Assessment

Butternut are an endangered species protected under the provincial *Endangered Species Act, 2007* (ESA) from being killed, harmed, or removed. The level of protection granted to Butternut trees is determined based on the degree to which an individual tree has been affected by the fungal pathogen known as butternut canker (*Sirococcus clavigignenti-juglandacearum*). Prior to undertaking any activity that may affect the Butternut or the lands within 25 m of a tree, an assessment of tree health must be performed by a certified Butternut Health Assessor (BHA). The BHA follows the MNDMRF methodology and a detailed report on all assessed trees must be submitted to the MECP. Butternut trees are classified as follows:

- Category 1: in the advanced stages of disease as a result of butternut canker ("non-retainable")

- Category 2: the tree does not have butternut canker or disease is not as advanced ("retainable")
- Category 3: could be useful in determining how to prevent or resist butternut canker ("archivable")

3.2.6 Breeding Bird Surveys

Two breeding bird surveys 7-10 days apart were carried out during the peak breeding season between May 24 and July 10. Point counts were complete using components of the Ontario Breeding Bird Atlas (OBBA) Guide for Participants (Ontario Breeding Bird Atlas, 2001) and the Forest Bird Monitoring Program (Cadman, Dewar, & Welsh, 1998) based on habitat characteristics. As outlined in the OBBA protocol, point counts are to be done between dawn and five hours after dawn, when wind speed is low (<19 km/h) and in the absence of rain or thick fog. All species observations (visual and auditory) were recorded during a five minute period. Each species observed was classified and assigned a code based on the highest level of breeding evidence, as defined by the protocol: Confirmed, Probable, Possible or Observed.

3.2.7 Barn Swallow Nesting Survey

Barn Swallows are SAR listed as Special Concern on the SARO list. The Barn Swallow lives in a variety of open habitats for foraging, such as grassy fields, pastures, certain agricultural crops, shorelines, cottage areas, wetlands, or subarctic tundra. It typically nests within human made structures such as barns, bridges, and culverts. Nesting surveys can be conducted anytime following the Barn Swallow nesting period (May to August), prior to the following year's nesting season. The survey area consists of any structures located on-site potentially suitable for nesting. The nesting survey consists of thorough walk through of all identified structures, observing beams, ledges, and overhang for mud nest cups.

3.2.8 Turtle Basking and Nesting Surveys

Blanding's turtle (*Emydoidea blandingii*) is a SAR listed as threatened on the SARO list. Blanding's turtles spend most of their life cycle in the aquatic environment, using terrestrial sites for travel between habitat patches and to lay clutches of eggs. These turtles prefer

shallow nutrient rich water with organic sediment and dense vegetation. Blanding's turtles nest in a variety of open habitats with low vegetation cover and high sun exposure such as in forest clearings, meadows, shorelines, beaches, rock outcrops, cornfields, gravel roads, road shoulders, ploughed fields, gardens, powerline rights-of-ways, yards and abandoned railroad beds (Ministry of Natural Resources and Forestry, 2017). The presence of turtle nesting on or adjacent to the Site was assessed using the visual encounter, nesting, and road survey protocols contained in the MNDMRF protocol for Blanding's Turtle (Ministry of Natural Resources and Forestry, 2015). According to the protocol, visual encounter surveys (VES) should be conducted between 8 am and 5 pm during sunny periods when air temperature is above 5°C and is warmer than water temperature. Nesting surveys should be conducted by first observing suitable nesting habitat (i.e., sandy, or gravelly soils) from a distance and then searching the nesting habitat for evidence of digging/trial nests and depredated nests. Road surveys are an effective way to determine if turtles are using a roadway as a migration route between resident and nesting habitat. If conducted during nesting season, road surveys should be done in the evening or morning. Any individuals observed or any signs of nesting such as disturbed soils, tracks, predated nests, etc. are recorded.

3.2.9 Bat Maternity Roost Habitat Surveys

Bats present in Ontario typically require a snag or cavity tree for maternity roosting habitat. A snag or cavity tree is defined as a standing live or dead tree ≥25 cm diameter at breast height (DBH), with cracks, crevices, hollows, cavities and/or loose or naturally exfoliating bark appropriate for bat roosting. High quality or SWH is defined as woodlands with greater than 10 roost trees per hectare. To determine if suitable habitat for bats existed on/or adjacent to the Site, Cambium staff conducted a bat maternity roost survey using the methods detailed in the *Bat and Bat Habitats: Guidelines for Wind Power Projects* (Ontario Ministry of Natural Resources, 2011). The protocol requires that for sites with ≤10 ha of deciduous or mixed treed forest or swamp ELC community types (i.e. FOD, FOM, SWD, SWM), a minimum of 10 randomly selected plots are to be surveyed, with an additional plot added per hectare, to a maximum of 35 plots for the project area. At each plot, the number of snag/cavity trees ≥25 cm DBH within a 12.6 m radius (0.05 ha) is to be recorded. A calculation is then made to

determine the snag density and if the number of cavity trees found meets the criteria for maternity surveys.

3.2.10 Habitat-Based Wildlife Surveys

In addition, 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 are 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.

An active railway is present along the northwestern property boundary. An existing dwelling and barn are located on the Site north of Mill Street. A telecommunications tower is present in the central portion of the Site and an access road leads from the tower to Asphodel 10th Line. A laneway is on the western portion of the Site, providing access to an adjacent residential property northwest of the railway. Most of the property is active agricultural land used for row crop production (i.e., soybean and corn).

The following field investigations were carried out on the Site and are summarized in Table 2. Representative Site photos are included in Appendix C and survey stations/areas are shown on Figure 3.

Table 2 Summary of Field Investigations

Date	Time On Site	Weather	Observer	Activities
4/20/2022	13:00-14:00	Temp: 7-8ºC Sky Code: 0 Wind Code: 4 Noise Code: 2	T. Radimer	Turtle Basking Survey 1
5/5/2022	16:00-16:30	Temp: 18ºC Sky Code: 2 Wind Code: 2 Noise Code: 1	T. Radimer T. Jamieson	Turtle Basking Survey 2
5/9/2022	12:00-12:50	Temp: 21ºC Sky Code: 0 Wind Code: 1 Noise Code: 1	T. Radimer	Turtle Basking Survey 3
5/10/2022	14:30-15:15	Temp: 25ºC Sky Code: 0 Wind Code: 1 Noise Code: 1	T. Radimer	Turtle Basking Survey 4
5/11/2022	8:30-9:10	Temp: 18ºC Sky Code: 1 Wind Code: 0 Noise Code: 0	T. Jamieson	Turtle Basking Survey 5

Date	Time On Site	Weather	Observer	Activities
5/12/2022	10:30-12:00	Temp: 25ºC Sky Code: 0 Wind Code: 0 Noise Code: 1	T. Jamieson	Ecological Land Classification 1 Wetland Delineation
6/6/2022	18:00-19:00	Temp: 18ºC Sky Code: 5 Wind Code: 1 Noise Code: 1	R. Doyle	Turtle Nesting Survey 1
6/7/2022	21:00-22:00	Temp: 14ºC Sky Code: 2 Wind Code: 2 Noise Code: 0	R. Doyle	Turtle Nesting Survey 2
6/8/2022	7:00-8:30	Temp: 15-16ºC Sky Code: 1 Wind Code: 2 Noise Code: 1-2	R. Doyle	Breeding Bird Survey 1
6/8/2022	16:30-17:30	Temp: 22ºC Sky Code: 2 Wind Code: 2 Noise Code: 1	R. Doyle	Turtle Nesting Survey 3
6/9/2022	19:45-20:45	Temp: 17ºC Sky Code: 1 Wind Code: 1 Noise Code: 1	R. Doyle	Turtle Nesting Survey 4
6/10/2022	16:45-17:45	Temp: 20-21ºC Sky Code: 1 Wind Code: 2 Noise Code: 1	R. Doyle	Turtle Nesting Survey 5
6/17/2022	7:00-8:30	Temp: 18ºC Sky Code: 1 Wind Code: 2 Noise Code: 1	R. Doyle	Breeding Bird Survey 2 Barn Swallow Survey
8/12/2022	07:45-09:45	Temp: 13-19ºC Sky Code: 0 Wind Code: 0 Noise Code: 1	T. Jamieson	Ecological Land Classification 2 Wetland Delineation

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.

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, et al., 1998).

The Site consisted of open agricultural lands with a rolling topography. In general, the Site slopes down towards the east.

4.2 Vegetation Communities

A review of recent (2018) publicly available imagery indicates the Site consists primarily of open agricultural fields surrounded by a network of vegetated hedgerows. An area of deciduous trees was noted near the southern property boundary.

The vegetation communities on the Site are summarized in Table 3 and are mapped on Figure 3. A list of identified species and representative photos for each community are provided in Appendix C.

Field investigations confirmed that most of the property is currently planted in annual row crops (OAGM1), soybeans, surrounded by a network of vegetated hedgerows (Community 3). A few areas of unmapped cultural meadow were identified in the field margins (Community 1). Soils within the northern area of Community 1 were sampled to a depth of 60 cm and consisted of silty very fine sand that extended to a depth of 35 cm over loamy very fine sand. No mottles or gleys were observed in the sample. Based on these observations the moisture regime was determined to be dry – moderately fresh (≤3) (Heck, et al., 2017). The southern area of Community 1 contained a large telecommunications tower.

An additional area of cultural meadow was confirmed in the northern portion of the Site (Community 2). Community 2 contained a large pile of stones likely related to agricultural activities from the fields (stone picking). No soils were sampled within this community.

The area of deciduous trees along the southern property boundary was recently cleared. The client confirmed that the deciduous trees in the Site's southern portion were cleared for forestry purposes. As such, this community was also classified as a cultural meadow (Community 4), though it does contain some species that would be expected in the understory of a woodland. Fresh stumps and burn piles were observed within this community.

Table 3 Vegetation Communities

No.	ELC Code	Community Description	Community Type	S -Rank
1	CUM1	Mineral Cultural Meadow	Terrestrial	S5
2	CUM1	Mineral Cultural Meadow	Terrestrial	S5
3	FODM11	Naturalized Deciduous Hedgerow	Terrestrial	SNA
4	CUM1	Mineral Cultural Meadow	Terrestrial	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

The Norwood East Wetland is located adjacent to the Site, approximately 115 m east of the property, and east of Asphodel 10th Line. It received a score of 507, therefore not achieving status as a Provincially Significant Wetland (PSW). The Norwood East Wetland comprises 90% swamp, deciduous, mixed, and coniferous communities, and 10% marsh. The wetland provides locally significant winter cover for wildlife, waterfowl breeding habitat, and locally significant fish spawning and nursery habitat. It also provides habitat for various species including at risk Midland Painted Turtle, Snapping Turtle, Barn Swallow, and Eastern Wood-pewee. There is no direct hydrological connection between the Site and the Norwood East Wetland.

An examination of publicly available imagery indicates the potential presence of standing water areas within portions of the Site's agricultural fields. All these areas were noted to be plowed and planted in row crops during field investigations. No standing water or wetland vegetation was observed in any of these areas. None of the areas were connected to an upstream or downstream surface water feature. A soil sample was collected in the central area of potential flooding. Soils were sampled to a depth of 90 cm and consisted of a loam horizon that extended to a depth of 30 cm over silty loam. Mottles were observed at 50 cm, and no gley was observed. Based on these observations, the soil moisture regime was determined to be Moderately Moist (4) (Heck, et al., 2017). These results indicate that soil saturation is likely brief, and only occurs during the spring freshet, or during heavy rain events. Due to the presence of crops in the other locations, soils were not collected in any of these areas of potential flooding as the soil profile would have been modified by annual ploughing and tilling. No wetlands were observed on the Site.

4.4 Surface Water and Drainage Features

The Site is within 120 m of a waterbody (the Mill Pond) located to the northwest. The Mill Pond is connected to a mapped watercourse that originates from the Norwood East Wetland to the northeast. The Mill Pond drains south into the Ouse River, which flows southeast before draining into Rice Lake. The railway line separates the Mill Pond from the Site. No surface water connection to the Site was identified during field visits.

An unmapped pond feature is present on adjacent lands and extends just beyond the property boundary onto the northwest portion of the Site. The pond is known to be connected to the Mill Pond via a culvert that passes under the CN rail line, however the culvert was not visible during field investigations. The pond was relatively shallow and contained abundant woody debris, and emergent and submerged aquatic vegetation. Further discussion of this feature and the habitat contained within is provided in Sections 4.5 and 4.6.

4.5 Fish and Fish Habitat

No fish habitat is located on the Site. Fisheries data indicates the following species are known to occur in the Mill Pond located on adjacent lands to the west; Brook Stickleback, Central

Mudminnow, Creek Chub, Finescale Dace, and Northern Redbelly Dace (Government of Ontario, 2015). The Ouse River contains Brook Trout, Brown Trout, Muskellunge, Rainbow Trout, and Walleye (Government of Ontario, 2015).

4.6 Wildlife Survey Results

Incidental wildlife observations were recorded during all site visits and included: white-tailed deer, groundhog, and American Toad. In general, wildlife habitat on the Site was limited as it is primarily an active agricultural property. The Site consisted of open agricultural fields surrounded by vegetated hedgerows, with patches of cultural meadow in the field margins.

4.6.1 Birds

OBBA breeding bird surveys were completed as a part of the current study Appendix D. Bird species observed on or adjacent to the Site, breeding evidence, federal and provincial status and s-ranks are provided in Appendix D. A total of two species had probable or confirmed breeding evidence in Appendix D. Species with probable or confirmed breeding evidence on the Site included: American Robin and Brown Thrasher.

Barn Swallows were not observed during the field surveys. A Barn Swallow nesting survey was completed as part of the current study. The interior of the barn was inspected for the presence of Barn Swallow and other migratory bird nests. No Barn Swallow nests or nests of other bird species were observed. As such, the barn and the property are not considered to provide habitat for Barn Swallows. Details on species of conservation concern and their protected habitats are provided in Section 4.8.

4.6.2 Reptiles and Amphibians

Turtle surveys were completed, and two species were identified on or adjacent to the Site, as shown in Table 4. Snapping Turtle is provincially listed as Special Concern on the Species at Risk in Ontario List, O. Reg. 230/08.

Turtle nesting surveys were completed as part of field investigations. The main areas of focus for the nesting surveys were the laneway that leads into the Site from Mills Street, and the area adjacent to the pond at the western corner of the Site. The laneway was paved with asphalt

and was not suitable for nesting. The western shoulder of the laneway was densely vegetated with tall grass. The shoulders of the laneway were found to be hard and compacted and likely not suitable for nesting. No signs of nesting were observed along the laneway.

Although turtles were observed basking in the pond feature on adjacent lands, no signs of nesting were observed in the area adjacent to the pond or within the Site. The field directly east of the pond is actively farmed for row crops (i.e., soybeans); as such, this area is not favourable for nesting turtles.

Table 4 Summary of Reptile Survey Results

Survey Date	Species	Location	# of Individuals	Activity
2022-05-09	Maitland Painted Turtle	Small pond near western corner of the Site.	5	Basking
2022-05-09	Snapping Turtle	Small pond near the western corner of the Site.	1	Basking
2022-05-10	Maitland Painted Turtle	Small pond near the western corner of Site; near the shore of Mill Pond.	2	Basking
2022-05-10	Snapping Turtle	Small pond near the western corner of the Site.	1	Basking
2022-05-11	Maitland Painted Turtle	Small pond near the western corner of the Site.	1	Basking

No amphibian surveys were conducted at the Site. Amphibian habitat is assumed to be present in both the pond and Mill Pond located to the west of the property boundary.

4.6.3 Mammals

The bat maternity roost survey included investigating the vegetated hedgerows for suitable cavity trees. Individual trees that met the criteria were marked with a hand-held GPS unit. The survey revealed one suitable tree located along the southern Site boundary (Figure 2). The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E states that the certain forest communities (i.e., FOD, FOM, SWD, SWM) are bat maternity colonies if they meet the SWH criteria of >10/ha large diameter wildlife trees. As this single tree was within a hedge row, not a forest, it does not meet the ELC community type to be deemed SWH Bat Maternity Colony.

There was a barn on the property that may provide roosting habitat for bats. The bat habitat in the barn was investigated further in additional acoustic surveys which are reported in the EIS

Addendum “Bat Exit Survey Memorandum – 52 Mill Street, Norwood, Ontario” (Cambium 2025).

4.7 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 (Section 4.6) and the ELC classifications described in Section 4.2, the pond at the western property boundary meets the criteria for Turtle Wintering Area SWH.

No amphibian surveys were conducted at the Site; however, potential amphibian habitat likely exists within the pond and Mill Pond on adjacent lands to the west. As such, these features are considered Candidate Amphibian Breeding SWH (Wetlands) and should be treated as though this habitat type is present in the absence of sufficient evidence.

Details on species of conservation concern and their protected habitats are provided in Section 4.8.

4.8 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.

No Critical Habitat for aquatic species at risk listed under SARA was identified in the watercourse adjacent to the Site.

4.8.1 Endangered and Threatened Species

Tri-colored Bat, Eastern Small-footed Myotis, Little Brown Myotis will all utilize forests for maternity habitat. No forest habitat is present on the Site. These species are known to occur within the general landscape. A single cavity tree was observed within the hedgerow along the southern property boundary. This single tree is exposed to winds, rains and other weather events being located within a farm field. As such, this single tree is unlikely to provide suitable conditions to support bat maternity habitat. No bats or evidence of use by bats was observed during the field investigations.

4.8.2 Special Concern Species

Barn Swallows are listed as special concern provincially (i.e. on Jan 25, 2023, O. Reg. 230/08 Species at Risk in Ontario List was updated). The species 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 anthropogenic structures such as abandoned barns or other buildings with sufficient openings or road culverts. The Barn on the Site, therefore, offers potential breeding habitat for this species. The interior of the Barn was inspected on June 17, 2022. No Barn Swallows or their nests were observed on the Site.

The Eastern Wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests with little understorey vegetation. No vegetation communities suitable for Eastern Wood-pewee life process are present on the Site. A single Wood Pewee was observed flying over adjacent lands. As no suitable habitat exists on or immediately adjacent to the property, it is not anticipated this species will be negatively impacted by the proposed development and it will not be discussed further herein.

Midland Painted Turtle and Snapping Turtle were observed in the pond on adjacent lands west of the Site. These species rely on aquatic habitats for most of their biophysical requirements. No aquatic habitat is present on the Site that would support the life processes of these

species. Nesting surveys were completed on the Site and no turtle nesting was observed on or adjacent to the Site.

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). Monarch has the potential to utilize the cultural meadow communities on Site for foraging. Monarch was not observed on Site during the field investigations.

The Yellow-banded Bumble Bee is a medium-sized bumble bee with a distinct yellow and black abdominal band pattern found on its queens, males, and workers. This species is a forage and habitat generalist, able to use a variety of nectar producing plants and environmental conditions. It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands, and urban areas. Yellow-banded Bumble Bee was not observed on the Site during the field investigations.

4.9 Areas of Natural and Scientific Interest

Areas of Natural and Scientific Interest (ANSI) are natural heritage features identified by the MNDMRF. There are two types of ANSIs: Life Science and Earth Science. ANSIs represent important natural features that are not found in protected areas. The Natural Heritage Reference Manual provides the following definitions for ANSIs (Ministry of Natural Resources, 2010):

> Life science ANSIs are significant representative segments of Ontario's biodiversity and natural landscapes, including specific types of forests, valleys, prairies, savannahs, alvars and wetlands, their native plants and animals, and their supporting environments. They contain relatively undisturbed vegetation and landforms, and their associated species and communities. Provincially significant life science ANSIs include the most significant and best examples of the natural heritage features in the province, and many will correspond to other significant features and areas such as wetlands, valleylands and woodlands. Earth science ANSIs are geological in nature, consist of some of the most significant

representative examples of the bedrock, fossils, and landforms in Ontario, and include examples of ongoing geological processes.

The Norwood Esker Complex ANSI is a regionally significant feature which is located adjacent to the Site, approximately 45 m to the north. The railway forms a physical barrier between the Site and the ANSI. This regionally significant ANSI is located north of the Site and is bisected by Highway 7. This ANSI is not a provincially significant feature.

5.0 Impact Assessment and Mitigation Measures

The proposed development involves the construction of a residential subdivision, which would contain approximately 640 units.

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:

- ANSI- Norwood Esker Complex
- Other Wetlands
- Fish Habitat
- Surface Water Features - Waterbodies
- Habitat of Endangered and Threatened Species

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 is protected and/or enhanced and furthermore that their functions are not negatively impacted during or following construction.

5.1 Areas of Natural and Scientific Interest-Regionally Significant

As discussed in Section 4.9, the Norwood Esker Complex ANSI (regionally significant) is located adjacent to the Site, approximately 45 m to the north. The proposed development will not encroach into the ANSI. The railway forms a physical barrier between the Site and the ANSI. As such, the proposed development will not result in direct or indirect negative impacts to the ANSI.

5.2 Other Wetlands

No wetlands are present on the Site. Accordingly, there will be no direct impacts to wetlands from the proposed development. As stated in Section 4.3, the Norwood East Wetland is located adjacent to the Site, approximately 115 m to the east of the property, and east of

Asphodel 10th Line. The Site is not hydrologically connected to the Norwood East Wetland. Asphodel 10th Line forms a barrier between the site and the wetland. The development is not anticipated to result in negative impacts to the ecology or hydrology of the Norwood East Wetland located on adjacent lands.

5.3 Fish Habitat

No fish habitat is located on the Site. The pond and Mill Pond located on adjacent lands provides direct fish habitat. A 30 m waterbody setback will be applied to these features to protect fish and fish habitat. It is recommended that the lands on Site within the 30 m waterbody setback to the pond be revegetated with native trees and herbaceous plants to enhance the ecological form and function of the setback. The native plantings should be designed to facilitate future maintenance of the stormwater pond on the Site. A Restoration and Planting Plan should be developed during the Detailed Design to enhance the 30 m waterbody setback based on soil/sun conditions and native shoreline species.

Runoff from the Site is expected to increase with the introduction of impermeable surfaces (i.e., building roofs, roadways, and walkways) and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development. Eavestrough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration.

Indirect impacts to fish habitat from the proposed subdivision development on the Site, including potential for changes to water quality, will be mitigated through appropriate Erosion and Sediment Control (ESC) measures and Storm Water Management (SWM) design. An ESC Plan should be developed in conjunction with the SWM and outflow design. The outflow of the SWM pond, which is proposed to discharge at the limit of the 30 m setback, will be designed to avoid scour and erosion. Potential mitigation options may include the use of level spreaders, other outlet structures, and enhanced bioswales at the pipe outlet to maintain and enhance the vegetated buffer.

Prior to any construction activities taking place, it is essential that perimeter ESC fencing be installed around construction areas and outside of the waterbody/floodplain and their setbacks. ESC 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 the waterbody. 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 because of erosion, should be directed to a check dam structure, prior to discharging to off-site areas.

5.4 Surface Water Features - Waterbodies

There is no waterbody or watercourse located on the Site. A pond and Mill Pond are located on adjacent lands to the west. No direct impacts will occur within the pond or Mill Pond. The proposed development will maintain a minimum 30 m setback to the pond and Mill Pond as shown on Figure 3.

Potential exists for indirect impacts to the waterbody because of the proposed development and site alteration. Mitigation measures listed in Section 5.3 to protect fish habitat will also protect the ecological form and function of the identified waterbodies. Provided these mitigation measures are implemented, the proposed development is not anticipated to negatively impact the pond or Mill Pond.

5.5 Habitat of Endangered and Threatened Species

The Site was screened for habitat of the following endangered / threatened species that may occur in the regional area of the Site:

- SAR bats: Tri-colored Bat, Eastern Small-footed Myotis, Little Brown Myotis

A single tree was observed on the property that might provide roosting habitat for SAR bats. The removal of this single tree is not anticipated to result in negative impacts to SAR bats or their habitat as roost trees are not a limiting habitat feature for these species on the landscape. Tree removal should be timed to avoid the active bat season from April 1 to September 30. Thus, provided these this tree is removed from October 1 to March 31, the activity is not

anticipated to kill, harm, or harass bats, or damage or destroy their habitat. As such, the removal of trees within the hedgerows is can be carried out in compliance with the provisions of the *Endangered Species Act*, 2007 (MECP, 2021).

The barn on site was assessed for bat habitat, which is documented in the EIS Addendum "Bat Exit Survey Memorandum" (Cambium 2025). No bat species currently listed under the ESA were detected using the barn during the exit survey. Provided the barn is removed from October 1 to March 31, the activity is not anticipated to kill, harm, or harass bats, or damage or destroy SAR bat habitat.

5.6 Significant Wildlife Habitat

As stated in Section 4.7, the pond at the western boundary of the Site meets the criteria for Turtle Overwintering SWH. The pond and Mill Pond are also both considered Candidate Amphibian Breeding SWH (wetland). No impacts to these features are anticipated, provided the recommendations regarding setbacks (Section 5.4) and best management practices (Section 5.7) are adhered to.

5.7 Best Management Practices

To minimize potential impact to the natural environment on and surrounding the Site, Cambium recommends that the best management practices outlined in Table 5 be implemented at the Site.

Table 5 Best management practices.

Potential Impact	Recommended Best Practice
Erosion and Sedimentation	Prior to any construction activities taking place, it is essential that perimeter sediment fencing be installed around construction areas. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key control measure will help prevent sediment from entering surface water features (i.e., wetlands 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

Potential Impact	Recommended Best Practice
	result of erosion, should be directed to a check dam structure, prior to discharging to off-site areas. Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.
Increase in Runoff - Impervious Surfaces	Runoff from the Site is expected to increase with the introduction of impermeable surfaces (i.e., building roofs, roadways, and walkways) and compacted surfaces with reduced infiltration capacity. Measures to increase infiltration of run-off from these surfaces should be encouraged and, where possible, included in the Site Plan for the development. Eavestrough downspouts should be directed to vegetated areas (such as lawn, or gardens) and not onto hardened surfaces, to encourage infiltration.
Changes to Water Quality and Quantity	A Draft Stormwater Management Plan has been prepared by Jewell Engineering (December 1, 2023). This report provides details regarding quantity control, quality control and erosion and sediment control. The stormwater management features in the plan include a wet pond SWMF and enhanced swales to treat post-development water quality and quantity parameters.
Wildlife: Birds (Disturbance and Harm) and SAR Bats	Nesting birds and their nests, eggs, and young are protected under the *Migratory Birds Convention Act, 1994*. Vegetation clearing on the Site should occur outside the breeding bird season, which extends from April 15 to August 15 in the local area (as per Environment and Climate Change Canada Guidelines). To avoid impacting bats and their habitat, tree clearing should be completed from October 1 to March 31 to avoid their active period. Thus, to prevent, impacts to migratory birds and bats, vegetation removal should be completed from October 1 to March 31. If vegetation clearing or construction is to occur between April 1 and August 31, the vegetation should be investigated by a qualified biologist to confirm if any active bird nests are present, or if suitable bat roost habitat is present prior to site alteration. Vegetation clearing can proceed provided there are no active nests. If active nests are confirmed, the nests should be left undisturbed until young have fledged or the nest is determined to be inactive. Note that some birds nest on the ground and in low-lying vegetation and shrubs; therefore, all habitat types should be inspected prior to ground disturbance if removals are to occur during the breeding season.

Potential Impact	Recommended Best Practice
Wildlife: Reptiles (Disturbance and Harm)	Turtles are particularly vulnerable to construction-related impacts on sites adjacent to wetlands, watercourses, and waterbodies. With some modification, sediment fencing can function as wildlife exclusion fencing. To exclude wildlife from the Site, sediment fencing should be installed around the entire perimeter of the construction area prior to the earlier of May 1 or commencement of Site preparation to keep turtles and snakes from entering the construction area. Typical silt fence is constructed with the fabric mounted on the construction side of the fence. Unfortunately, this allows turtles a foot-hold to climb over the fence. As such, we recommend that perimeter fence be double walled, with smooth fencing on the outside of the fence as well, with straw bales placed in between the layers. The sediment fence should be inspected regularly to ensure that it remains in good condition: and any downed areas, rips, or holes should be repaired or replaced immediately. A designated point of ingress/egress should be identified, and a moveable barrier be constructed, to allow for the Site to fully remain enclosed while allowing vehicular access to the Site as needed. The construction area should also be actively inspected for turtles and snakes each day prior to the start of work throughout the duration of construction. As the Site is located adjacent to potential habitat for turtles, workers should be aware of the nesting season for turtles, which extends from May 15 to August 15. All stockpiled materials should be kept inside the exclusion fencing area and ideally should be covered and well secured around the base, to prevent turtles from nesting in loose substrates. Should any nesting turtles be encountered, work should stop immediately, and the turtle should be left to finish nesting undisturbed. The turtle should be photographed, and the nest marked to ensure it is not disturbed during construction, or until eggs have hatched (late August – September). If a nest is laid in a stockpile or other area that requires disturbance, Cambium should be contacted to determine if the nest can be relocated. If any individuals are encountered, they should be photographed and allowed time to move out of harm's way.
Species at Risk (SAR; Threatened and Endangered)	SAR observations, including most species of snakes and turtles, should be reported to the Natural Heritage Information Centre (NHIC).

Potential Impact	Recommended Best Practice
	If any individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR should not be handled by unauthorized individuals.
Spread of Invasive Species	Invasive species are becoming problematic throughout Ontario and adversely impact our natural landscapes, including wetlands, woodlands, and watercourses. Best management practices to reduce the spread of invasive species include: 1. Preventing the introduction and spread of invasive species is considerably more cost effective than controlling established populations. Ensure vehicles, equipment, and materials (i.e. aggregates, soils) entering the Site are clean and free from soil, seeds, and plant materials. The Clean Equipment Protocol for Industry provides detailed steps to prevent the unintentional introduction of invasive species from equipment and vehicles. It is recommended that this protocol be followed to prevent the introduction of invasive species (Halloran, 2013). 2. Revegetate with species native to the local area. 3. Request fill and compost from reputable sources that are conscious of the potential for the spread of invasive species via these media. 4. Get to know the most common invasive species in the area. 5. Brush off or clean any shoes, boots and equipment that have encountered invasive species before returning to the property. Equipment and vehicles coming into the work area should be free of soil and seeds that could introduce non-native and invasive species following the Clean Equipment Protocol for Industry: Inspecting and Cleaning Equipment for the Purposes of Invasive Species Prevention (Halloran, 2013) 6. Immediately eradicate invasive species if they are observed on the property. 7. Do not compost invasive species; put them in plastic bags and dispose of them in the garbage. 8. Do not dispose of lawn or garden clippings in the forest or wetlands to avoid species introductions. An excellent resource for identifying and controlling invasive species can be found through the Ontario Invasive Plant Council: Home - Ontario Invasive Plant Council (ontarioinvasiveplants.ca) (OIPC, 2022)

6.0 Policy Conformity

Based on the key natural heritage and hydrologic features identified 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 GPGGH. Conformity with applicable natural heritage policy is summarized Table 6.

Table 6 PPS Policy Conformity Summary

Natural Heritage / Hydrologic Feature	On Site	On Adjacent Lands	Meets Associated Policy
Fish Habitat	No	Yes	Yes
	Explanation: No in-water work is proposed within the pond or Mill Pond. A 30 m setback will be applied to the pond and Mill Pond. The SWM Pond will be designed to meet water quality, and quantity		
Habitat of Threatened and Endangered Species	Potentially	Potentially	Yes
	Explanation: A single tree was observed on the property that might provide roosting habitat for SAR bats. The removal of this single tree is not anticipated to result in negative impacts to SAR bats or their habitat as roost trees are not a limiting habitat feature for these species on the landscape.		
Areas of Natural and Scientific Interest	No	Yes	N/A
	Explanation: The proposed development will not encroach into the ANSI. The railway forms a physical barrier between the Site and the ANSI. As such, the proposed development will not result in direct or indirect negative impacts to the ANSI.		

7.0 Summary of Mitigation, Compensation, and Best Practices

The following recommendations are provided for the proposed development:

- All required approvals and permits should be obtained prior to the commencement of any Site alteration / construction activities.
- Future Site Plans should show a 30 m waterbody setback from the pond and Mill Pond located on adjacent lands. As well, future Site Plans should include the location of perimeter control Erosion and Sediment Control (ESC) / Wildlife Exclusion Fencing.
- A Restoration and Planting Plan should be developed during the Detailed Design to enhance the 30 m waterbody setback based on soil/sun conditions and native plant species.
- SWM Design should consider supporting the coldwater thermal regime of the watercourse downstream of the outlet.
- An Erosion and Sediment Control (ESC) Plan should be developed with the SWM and outflow design to prevent sedimentation into the waterbody.
    - Before any construction activities take place, it is essential that perimeter ESC fencing be installed around construction areas and outside of the waterbody setback
    - ESC 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 successfully revegetated. Any observed overland drainage channels originating from Site, that may or may not have arisen because of erosion, should be directed to a check dam structure before discharging to off-site areas.
    - The ESC Plan will be developed in coordination between the design engineers and Cambium to ensure it also addresses the wildlife mitigation goals (e.g. wildlife exclusion fencing).

  - Construction activities that require earthworks (e.g., grading, excavation, etc.) should be scheduled to avoid dates of heavy rainfall events and times of high runoff volumes.

- Measures to increase infiltration of surface run-off from new surfaces (i.e., LID features) should be encouraged and, where possible, including on the Site Plans.
- To prevent negative impacts on migratory birds and SAR bats, vegetation removal should be completed from October 1 to March 31. If construction activities are underway during the bird nesting season or active period for SAR bats (April 1 to September 30), the construction area should be investigated regularly for the presence of breeding birds and nests containing eggs and/or young, or suitable roost trees for bats. Nests discovered on Site should be left undisturbed until young have fledged or the nest is determined to be inactive.
- Machinery and building materials should be stored within the construction area throughout the construction period.
- Though not identified in the field inventories, any subsequently identified SAR discovered on the property will be left undisturbed as dictated by the *Endangered Species Act*, 2007. If any SAR individuals are encountered, they should be photographed and allowed time to move out of harm's way. SAR observations should be reported to the Natural Heritage Information Centre.

8.0 Closing

In closing, potential negative impacts associated with the proposed development and site alteration can be appropriately minimized, provided that the recommendations outlined in Section 7.0 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.

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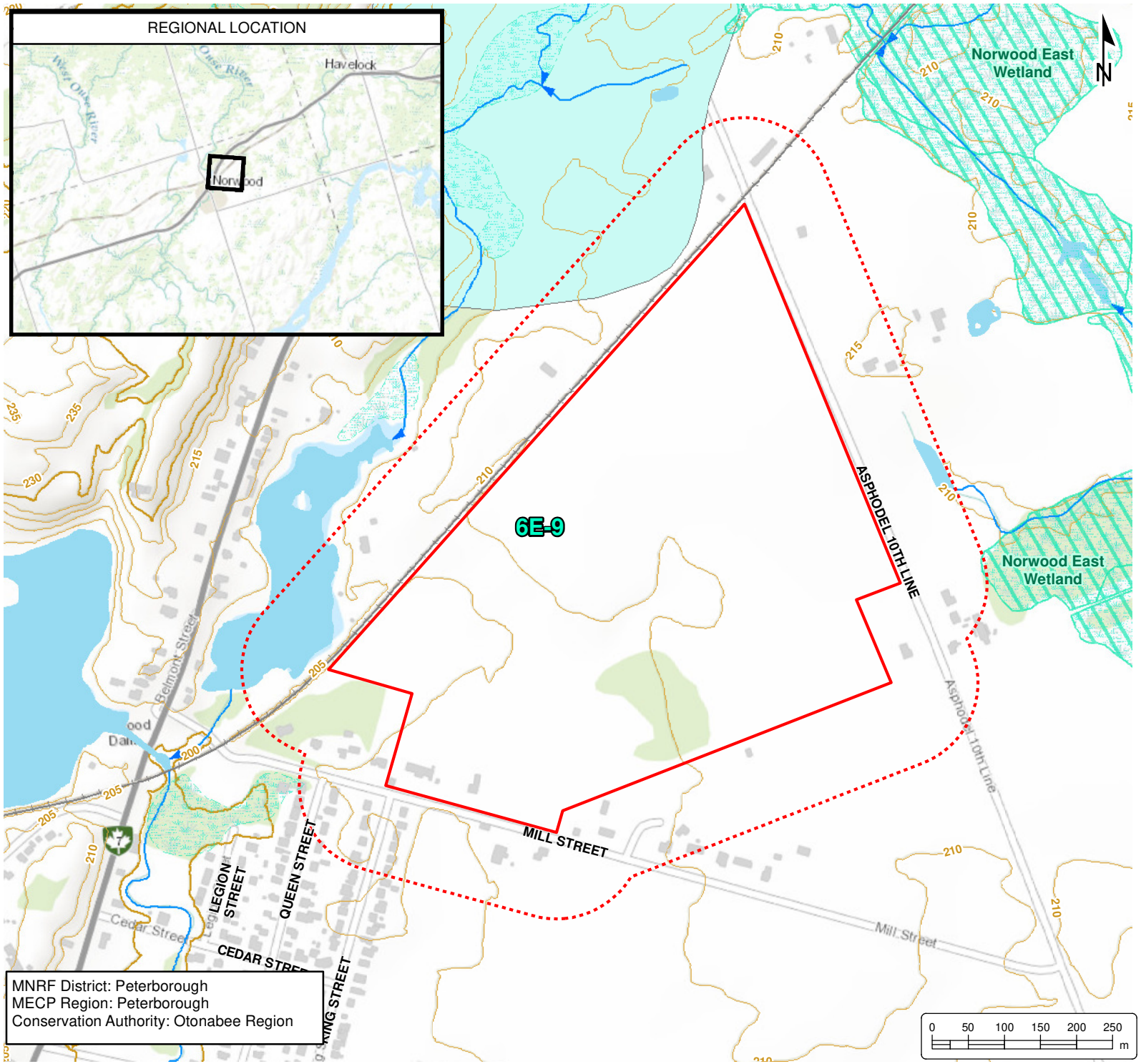
Glossary of Terms

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
F&W: Fish and Wildlife
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
SWH: Significant Wildlife Habitat

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
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

ANGELO PUGLISI
52 Mill Street,
Norwood, Ontario

LEGEND

- Railroad
- Watercourse, Permanent
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Unevaluated Wetlands
- Locally Significant Wetlands
- Water Area
- ANSI, Earth Science
- Ecodistrict
- Site (approximately 35.9 ha)
- 120 m Adjacent Lands

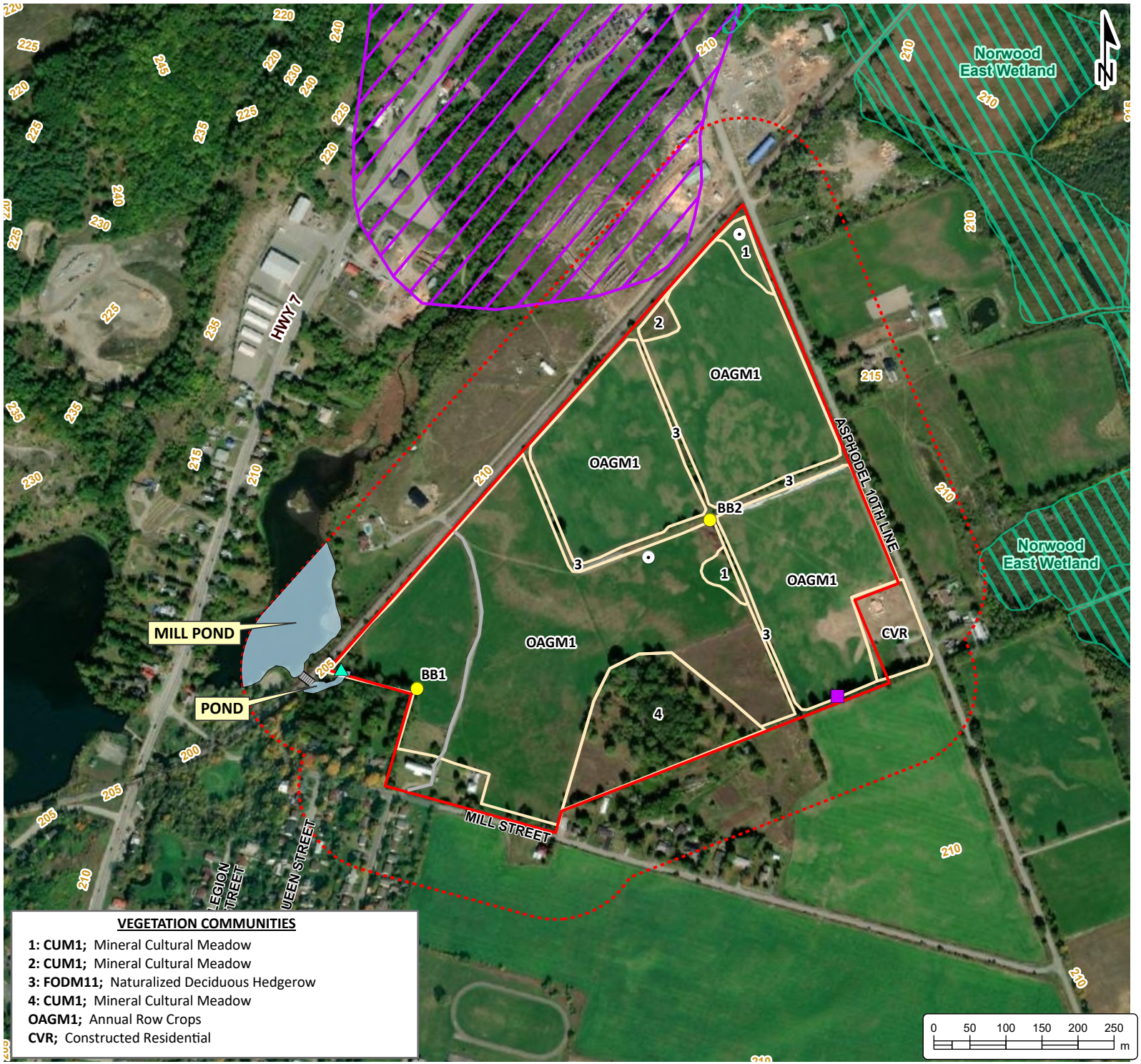
Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes 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

LANDSCAPE SETTING AND POLICY AREAS

Project No.: 14288-002		Date: September 2022	Rev.:
Scale: 1:7,500		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: MW	Figure: 1	

O:\GIS\MXDs\14200-14299\14288-002 CAP Norwood Dev - EIS - 52 Mill St, Norwood\2022-09-27 FIG1 - Landscape Setting and Policy Areas.mxd



VEGETATION COMMUNITIES

1: CUM1; Mineral Cultural Meadow
2: CUM1; Mineral Cultural Meadow
3: FODM11; Naturalized Deciduous Hedgerow
4: CUM1; Mineral Cultural Meadow
OAGM1; Annual Row Crops
CVR; Constructed Residential

ENVIRONMENTAL IMPACT STUDY

ANGELO PUGLISI
52 Mill Street,
Norwood, Ontario

LEGEND

- Breeding Bird Survey Station (BB)
- Reptile Survey Station
- Soil Assessment Station
- Wildlife Tree
- Laneway
- Culvert
- Railroad
- Watercourse, Permanent
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Unevaluated Wetlands
- Locally Significant Wetlands
- ANSI, Earth Science
- Waterbodies
- Vegetation Communities
- Site (approximately 35.9 ha)
- 120 m Adjacent Lands

Notes:
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NATURAL HERITAGE FEATURES AND ECOLOGICAL SURVEY STATIONS

Project No.: 14288-002		Date: September 2022 Rev.: December 2024	
Scale: 1:7,500		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: MW	Figure:	2

O:\GIS\MXDs\14200-14299\14288-002 CAP Norwood Dev - EIS - 52 Mill St, Norwood\2024-12-02 EIS.aprx

ENVIRONMENTAL IMPACT STUDY

ANGELO PUGLISI
52 Mill Street,
Norwood, Ontario

LEGEND

- Laneway
- Culvert
- Railroad
- Watercourse, Permanent
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Unevaluated Wetlands
- Locally Significant Wetlands
- 30 m Waterbody Setback
- Waterbodies
- Turtle Overwintering Significant Wildlife Habitat - Confirmed
- Amphibian Breeding Significant Wildlife Habitat - Candidate
- Developable Area (approximately 35.7 ha)
- Site (approximately 35.9 ha)
- 120 m Adjacent Lands

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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NATURAL HERITAGE CONSTRAINTS

Project No.: 14288-002		Date: September 2022 Rev.:	
Scale: 1:7,500		Projection: NAD 1983 UTM Zone 17N	
Created by: DJL	Checked by: MW	Figure:	3

O:\GIS\MXDs\14200-14299\14288-002 CAP Norwood Dev - EIS - 52 Mill St, Norwood\2024-12-02 EIS.aprx

Appendix A
Correspondence

Record of Pre-Consultation

Prepared by the Peterborough County Planning Department

Name: Parkgate Developments Inc. **Agent:** Jewell Engineering

Lot: 18,19 **Concession:** 9 **Municipality:** Asphodel Ward
Township of Asphodel-Norwood

Municipal Address: 42 and 52 Mill St. Roll No.(s) 1501-020-002-08500, 1501-010-003-15300

Phone: 282-925-6096 **Email:** apug@cogeco.ca **Office Phone:** same

Communication Sent To: **Owner:** ☒ **Agent:** ☐

Meeting Date: 2022-05-17 *(yyyy-mm-dd)*
Meeting Location: Online Teams meeting

Attendees:

Angelo Puglisi – developer

Amanda Redden – Jewell Engineering, agent

Ruth Aulthouse, Carolyn Ross – RFA Planning Consultant Inc.

Andrea Coppins, Matthew Wheeler – Cambium Inc.

Sheeba Paul – HG Engineering

Swan Im – Tranplan

Nick Gromoff – Ground Truth Archaeological

Ed Whitmore, Candice White – AN Township

Prabin Sharma - MTO

Matt Wilkinson, Terri Cox – ORCA

Sean Davison – Hiawatha First Nation

Malini Menon – County Planning

Regrets: Iain Mudd, Dan Ilkiewicz - County Planning and Public Works

A copy of the complete Record of Pre-Consultation will be sent to all attendees ☒

Existing Parcel Description	
County O.P. Description	Settlement Area
Municipal O.P. Designation	Hamlet Area, Rural (52), Residential (42)
Municipal Zoning	(RU), (R2-H)
Area/Lot Dimensions	approx. 35 ha/87 acres
Existing Use/Buildings	Dwelling, barn/shed

Pre-consultation completed for:

☒ Plan of Subdivision (*Application submitted to County*)
☒ Plan of Condominium **(***Application submitted to County)*
☐ Official Plan Amendment for
  ☐ County Official Plan *(Application submitted to County*)
  ☒ Local Component of County Official Plan *(Application submitted to County*)
  ☐ Municipal Official Plan (*Application submitted to Township*)
☒ Zoning By-law Amendment (*Application submitted to Township*)

Proposal Summary/Description: Further to the preliminary pre-consultation meeting held in January 2021 where the concept of a residential subdivision was discussed, the purpose of today's formal pre-consultation meeting was to review and discuss a Concept Plan for a new subdivision. The plan proposes a total of 802 units, at an overall residential density of 32 units per hectare, and includes:
415 Low density residential (detached dwgs, semis, townhouses) - 25 uph
387 Medium density residential units (condominium townhouses, low rise apts) – 45 uph
Potential Commercial at grade of one multi-unit block
Central Park 1.7 ha, Storm water pond/facility 1.5 ha

Comments:

County Planning Department – Malini noted the initial January 2022 meeting was conceptual in nature, and that today's meeting is the 'official' pre-consultation as per the Planning Act, given that the applicant has prepared a draft plan of subdivision proposal.

Applicant - Angelo gave a brief overview of the status of studies in progress: noise/vibration study report being drafted (will require a 5.5 m berm and noise fencing at the rail line); EIS (spring field review done); Hydrogeological study (received test bore hole data); Archaeological study (ground is plowed so work is occurring). TIS is awaiting data to begin. The cell tower has 12 years lease remaining with Rogers, and applicant's lawyers are talking to Rogers re non-extension of the lease.

Ruth provided an overview of the concept plan noting further details will be added as they finalize it prior to submission. Access is proposed from 2 locations on Mill Street, one opposite King Street. They have eliminated cul-de-sacs and provided a continuous loop road pattern, with 20 metre road allowances for the outer roads (dark grey) and 18 metres for inner roads (light grey). A 30 m noise setback, and a 70 metre setback from the Lutes sawmill (based on MECP "D"series guidelines) have been identified.
The central park block (1.7 ha) represents 5% of the total land area and has frontage on 3 roads. Due to the cell tower presence and 3 anchors (to be fenced), the proposed interim park area is .85 ha. Of the 3 medium density blocks, the one fronting on Mill Street could contain ground floor commercial uses (retail or office). All development would adhere to the Township's 3 storey height limit.

Amanda described the proposed storm water management facility in the northwest corner of the site. A new outlet to the pond may need to be installed; this will be clarified upon further review. Sanitary servicing has been discussed with the Township. Applicant is proposing a new servicing route to connect to the existing sanitary service line further west. Water access to be provided in two locations.

MTO – no additional comments beyond what was said in January meeting. MTO will review TIS and SWM when prepared.

Candice – got many comments re the Crowley subdivision (located southwest) and the Mill St/Hwy 7 intersection. In summer, they get 30,000 vehicles passing through that intersection. Township would like to consider alternate arrangements, such as a one way in/out. Also would appreciate if the TIS can be easily read by the public so they can understand it. (At the applicant's request, the Township will provide them with the public comments regarding the intersection issues.)

Prabin – to make one way at Mill St would require a further level of discussion. MTO's priority is to move traffic, so a one-way solution there may not be easy to achieve.

Swan – their proposal would not be to touch the Hwy7/Mill St intersection, but rather the section between the underpass and King Street would be made one-way, so people wouldn't use Mill Street to get out to Highway 7.

County Public Works – Dan couldn't attend the meeting but provided his notes afterward as follows:
As per the previous meetings my comments have not changed much since.
E&D will require a traffic study along with a SWM report to be submitted for my review. The traffic study is required to analyse the intersections of County Road 42 at Asphodel 10th Line and CR42 at CR45. The report should also analyse the impacts to County Road 45 within the Norwood as well. As always, any required improvements to County infrastructure that are triggered by the development shall be borne by the proponent. Please have the developers traffic consultant contact me to obtain traffic counts and any other pertinent information.

Conservation Authority – re Source Water protection, none of the proposed activities appear to raise concerns re drinking water threats. As the applicant moves forward in the process, they will need to apply for a Restricted Land Use Notice through ORCA. An identified consideration noted in their previous comments was in regard to Transport Pathways, which are human-made sources which impact the flow at the surface above the aquifer. Much of the property is within a highly vulnerable aquifer. ORCA will determine how it applies here as this is not a prescribed drinking water threat under the Clean Water Act, nor regulated through ORCA, but rather through MMAH. As noted previously, ORCA will review the SWM plan when received. In response to the applicant's request, ORCA will provide them with info regarding the highly vulnerable aquifer.

Hiawatha First Nation – As noted previously, they would like to see the EIS and the Archaeological Report when submitted.

Issue of Parkland – Applicant's intention is to convey the proposed parkland to the Township. Their lease with Rogers is for 4.5 acres along with access off of 10th Line which must be preserved during the remainder of the lease (12 years). Township questioned the possibility of terminating the lease earlier. They recognize it is not ideal to have the cell tower there but it has the advantage of providing connectivity to the area. Suggested the idea of transferring it outside of the development boundary but within the service area. Applicant indicated they will try to terminate early and will keep Township informed. Township asked they be kept in communication on this issue, and asked for their Rogers contact details so Township can also have discussions with Rogers.

Asphodel-Norwood Township (Public Works, Kyle Beacock) – the water main at King and Mill Street is 6" from there to the site. Township would want to see an 8" main into the site. They may be looking for some redundancy, such as another crossing onto Cedar St to give another access to the watermains. Once PW reviews the FSR, they will be able to provide more comments. Sanitary looks okay.
Ed – re proposed 18m roads: Township prefer 20m roads at a minimum. Also, the building with at grade commercial will be subject to site plan approval. It was clarified that the triangular block is accessed via 10th Line. Regarding zoning, Township would want to know specifically which blocks are for which types of dwellings, for zoning purposes (Ruth indicated latter will be specified when submitted). Are they leaving a private block of land for Lutes driveway access? Applicant noted they have agreed to provide the Lutes property access through the future plan, and want to discuss this further with the Township. Re parkland, can parking spaces be provided?
Applicant noted the 18m was provided for aesthetic reasons; keeps the neighbourhood feel, whereas 20m doesn't have this effect. They envision this as a neighbourhood park that the local area could walk to, rather than a park for all residents who might then drive in. They can look at this further.
Township – can relate to the 'neighbourhood feel' idea re the 18m roads, but also need to balance placement of services, 1.8m sidewalks etc. They will relook at 18m idea with their Roads Manager. Suggested the applicant meet with Township to discuss these details separately.

County Planning– County generally supports the mixed use and higher density nature of the proposal. This is also in line with the 'complete community' concept in the Growth Plan, for greenfield development and growth targets. There appear to be no major issues raised within the group that can't be worked out through the application process. Clarified that applicant will be requesting 4 types of applications: plan of subdivision, official plan amendment, zoning amendment and plan of condominium. Thanks to everyone for their participation. * Previously noted study requirements are attached.

***Record Completed By*: Malini Menon**

☒ **Please Note**: *Personal information contained on this form is collected under the authority of Section 29(2) of the Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c.M.56 as amended and will be used to assist in the correct processing of the application. If you have any questions about the collection, use or disclosure of this information by the County of Peterborough, please contact the CAO or Clerk, County of Peterborough, 470 Water Street, Peterborough, Ontario K9H 3M3 (705-743-0380).*

Study Requirements for Official Plan Amendments & Subdivision/Condominium Developments

Please note that any technical study submitted to the County (e.g. EIS, traffic impact study, hydrogeological study etc.) will be peer reviewed at the County's request. Both the cost of the study and the peer review(s) will be at the applicant's expense.

- ☒ Servicing Options Report (for developments > 5 units; letter or paragraph describing how developer arrived at servicing choice (i.e. private, communal, municipal) and why))
- ☒ Hydrogeological Studies to determine water quality and quantity and sewage servicing capabilities (in accordance with MOE guidelines and regulations) (if private individual systems are accepted, proponent should prepare a detailed hydro-g prior to planning approval. 95% of hydro-g's rec'd by MOEE are unacceptable)
- ☒ Functional Servicing Report
- ☒ Geotechnical Study
- ☒ Storm Water Management Plan
- ☒ Source Water Protection - (if in Vulnerable Area, requires RMO review and a Clean Water Act notice issued by RMO – Terri Cox or Mark Majchrowski as per S. 5.7.3.1 of the County Official Plan)
- ☐ Market Analysis/Justification Study
- ☒ Environmental Impact Analysis (when on a lake or river to determine impact on water quality, any shoreland development ≥25 lots or units or 50 or more tourist accommodation beds, wetlands, fish habitat (any development within 30 metres of thehigh water mark of all watercourses), wildlife, Species At Risk, ANSI's etc.)
- ☒ Archaeological Study (known site; 3 or more new lots; on a water course, zbla/opa for golf course)
- ☒ Planning Study/Analysis
- ☐ Natural Resource Analysis (aggregates, mineral non-aggregates, forests, etc.)
- ☒ Noise Impact Study
- ☒ Traffic Study
- ☐ Agricultural Land Usage Justification
- ☐ Review of Impact on Municipal/Other Services – fire, waste disposal, school busing, road conditions, etc. (if the Township requests) (Include in Planning Study/Analysis)
- ☐ Phase 1 Environmental Site Assessment (generally for lands previously used for commercial and industrial uses)
- ☐ Record of Site Condition (converting from a commercial/industrial use to a sensitive (agricultural, residential, parkland or institutional) use)
- ☒ Minimum Distance Separation Calculation (where barns exist within 1 km) Include in Planning Study/Analysis)
- ☒ Peer Review and Planning Reimbursement Agreement

Recommended key agencies to contact:

☒ Township	☐ Trent Severn Waterway	☒ MTO
☒ Conservation Authority	☐ Health Unit	☒ Other: CPRail
☐ Peterborough County Public Works Dept.		☒ First Nation

From: Jasmine Gibson <jgibson@otonabeeconservation.com>
Sent: March 18, 2022 1:19 PM
To: Andrea Coppins <andrea.coppins@cambium-inc.com>
Cc: Matt Wilkinson <mwilkinson@otonabeeconservation.com>
Subject: RE: Terms of Reference - 52 Mill St. Norwood (14288-002)

Hi Andrea,

In general, I want to offer the following comments regarding the final EIS submission with respect to:

Hydrologic Features and the Regulated Area:

1. Please include soil sampling as per the ELC protocol. Without soil sampling presence/absence of hydric soils and/or the accuracy of the ELC codes cannot be verified by technical staff during the review process (I see some areas with seasonal ponding on 2018 aerials – just want to rule out it's not a regulated feature)

2. Please provide veg lists and soil descriptions per ELC ecosite for review, i.e., field sheets.

3. If your team comes across wetlands/hydric soils, please let us know and we can always review site conditions with you in the field re: regulation requirements that may alter the scope of the EIS.

4. For hydrologic/regulated features, we recommend at a minimum 3-season visits to document functionality (see TRCA/CVC Headwater Drainage Feature Guidance document as reference for timing).

5. EIS ToR may change based on site conditions and project objectives.

Species at Risk:

Have you consulted with MECP re: the proposed turtle surveys? I see iNaturalist have a few occurrences for Blanding's Turtle within proximity of the site however Ontario's Make a Natural Heritage Map does not – have these observations been validated with MECP? If so, it would be good to know now if compensation is required, etc., for this species and others impacted by tree removal and grading in support of draft plan approvals.

FYI: Large scale projects like this one may require ESA project registration or permits if the work will contravene the regulation. Given the ESA is a development-driven legislation, please note that additional field work may also be required in future (on top of current field work proposed) prior to commencement of work (clearing, grading, etc.). Therefore, I would make sure to follow MECP guidelines and consult with them directly in support of finalizing your EIS terms of reference/data collection with respect to species at risk/PPS 2.1.7 and the ESA regulations.

Let me know if you need to chat, thanks.

Regards,
Jasmine

From: Andrea Coppins <andrea.coppins@cambium-inc.com>
Sent: Thursday, March 10, 2022 4:02 PM
To: Jasmine Gibson <jgibson@otonabeeconservation.com>
Cc: Matt Wilkinson <mwilkinson@otonabeeconservation.com>; Tessa Radimer <Tessa.Radimer@cambium-inc.com>; Cambium Admin <file@cambium-inc.com>
Subject: Terms of Reference - 52 Mill St. Norwood (14288-002)

Good afternoon Jasmine and Matt,

Cambium was retained by Angelo Puglisi from Parkgate Developments Inc. to conduct an Environmental Impact Study (EIS) at 52 Mill St., Norwood (the Site). The proposed development includes a residential development which would consist of approximately 700 units, and would proceed under a Plan of Subdivision. The Site adjacent to wetlands, watercourses, potential fish habitat, an Area of Natural or Scientific Interest (ANSI - Earth Science), and potential habitat for endangered and threatened species. The majority of the Site is occupied by an active agricultural operation (corn), with a farmstead (house, barn, laneways). A small sugar bush is present on the Site, as well as an intersect of hedgerows through the agricultural fields. The Site is within the Norwood Settlement Area.

We propose the following Terms of reference for the EIS:

- Two field visits (May/June and August/September), in order to classify existing vegetation communities according to the Ecological Land Classification System for Southern Ontario, and evaluate them for sensitivity, rarity, and botanical quality. Observations of wildlife occurrences, including any evidence of breeding, forage, shelter, nesting, or travel corridors, will also be noted during these field visits.
- Two field visits in June to conduct Breeding Bird surveys, according to Ontario Breeding Bird Atlas and Forest Bird Monitoring protocols.
- One field visit (March/April) to conduct a Bat Maternity Roost Survey according to MNRF protocol.
- One field visit (March/April) to survey the barn on-site for evidence of nesting by Barn Swallows (Threatened). If present, the number of nests will be documented. Additional field studies may be required during the breeding bird season or in the year prior to removal of the structure (pending project timeline).
- Five field visits between April and June to conduct Turtle Basking Surveys according to the MNRF protocol for Blanding's Turtles.
- Five field visits (May/June) to conduct Turtle Nesting Surveys according to the MNRF protocol for Blanding's Turtles.

An EIS report that meets the requirements of the Provincial Policy Statement (PPS) and local Official Plan policies will be provided based on information collected through the background review and field studies. The report will include detailed mapping of the natural features present on the Site. Recommendations included in the report will illustrate how the proposed development can be carried out such that the protection of these features and their hydrologic functions is ensured. Should any endangered or threatened SAR or their habitat be identified, environmental constraint areas will be developed to protect the habitat of these species, as required under the Endangered Species Act, 2007.

Please let me know if you have any questions or input regarding the proposed TOR.

Thank you kindly,
Andrea Coppins

Andrea Coppins, B.A. Hon., Dipl.
Project Manager/Senior Ecologist

Cambium - Peterborough

705.768.1324
866.217.7900
cambium-inc.com

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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

Appendix B
Conceptual Site Plans

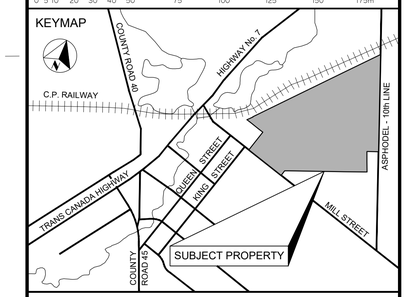
DEVELOPMENT CONCEPT FOR DRAFT PLAN OF SUBDIVISION
UPPER MILL POND

PART OF BLOCK H, REGISTERED PLAN 6
FORMERLY VILLAGE OF NORWOOD
AND PART OF LOTS 17, 18 AND 19
CONCESSION 9
GEOGRAPHIC TOWNSHIP OF ASPHODEL
TOWNSHIP OF ASPHODEL-NORWOOD
COUNTY OF PETERBOROUGH

SCALE = 1:1500

0 5 10 20 30 40 50 75 100 125 150 175m

KEYMAP



LAND USE SUMMARY

LAND USE	AREA(ha)	AREA%	UNITS	UNITS
12.2m - SINGLE DETACHED LOTS	3.27	9.2	71	
13.7m - SINGLE DETACHED LOTS	3.04	8.6	52	
15.0m - SINGLE DETACHED LOTS	4.41	12.4	73	
6.1m - 2 STOREY TOWNHOUSES (INCLUDING LANES)	4.26	12.0	134	
7.4m - BUNGALOW TOWNHOUSES	2.07	5.8	70	
LOW DENSITY TOTAL - 17.05ha				400
2 - 12 UNIT, 3 STOREY, STACKED TOWNHOUSE BUILDINGS	0.55	1.5	24	
5 - 12 UNIT, 3 STOREY, BUILDINGS	1.21	3.4	60	
3 STOREY APARTMENT BUILDING WITH COMMERCIAL AT GRADE (SOUTH WEST SIDE) 1842sq.m GFA	1.08	3.0	40	
MEDIUM DENSITY CONDOMINIUM BLOCK 29 - 4 PLEX BUNGALOW UNITS	4.03	11.4	116	
MEDIUM DENSITY TOTAL - 6.87ha				240
PARKLAND, WALKWAYS & SERVICE EASEMENTS	1.84	5.2		
STORM WATER POND	1.75	4.9		
SAFETY BERM & ACOUSTIC FENCE	0.92	2.6		
20.0m MUNICIPAL ROAD ALLOWANCE = 3607.0m (STREETS A, B, C, D, E, F, G & H)	7.07	20.0		
TOTAL	35.50ha	100.0%		640

LOW DENSITY RESIDENTIAL
400 UNITS/17.05ha. = 24 UNITS/ha (NET)

MEDIUM DENSITY RESIDENTIAL
240 UNITS/6.87ha. = 35 UNITS/ha (NET)

OVERALL NET DENSITY
640 UNITS/23.92ha. = 27 UNITS/ha (NET)

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

STEVE GIFFORD — DATE
ONTARIO LAND SURVEYOR,

GIFFORD, HARRIS SURVEYING LTD.
ONTARIO LAND SURVEYORS
255 GLEN MILLER ROAD, UNIT 1, TRENTON ONTARIO
613-392-2177

No.	REVISION	DATE	APPR'D

DRAWN BY: L.B. | CHECKED BY: R.F.A. | DATE: NOV. 10, 2023 | SCALE: 1:1500

METRIC NOTE:
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO IMPERIAL BY DIVIDING BY 0.3048.

CONTOURS NOTE:
CONTOURS PROVIDED BY CANADIAN LIDAR DATA AND DRAWING AT X.Xm INTERVALS.

NOVEMBER 10, 2023

JOB No. 852

RFA PLANNING CONSULTANT INC
211 Dundas Street East, Suite 202,
Belleville, Ontario, K8N 1E2

Appendix C
Vegetation Species List

VEGETATION COMMUNITY CLASSIFICATION: CUM1 COMMUNITY #: 1 LOCATION: 52 Mill St, Norwood, Ontario COORDINATES: 44.3913597, -77.9646352

PROJECT NUMBER: 14288-001 DATE: August 12, 2022 PROJECT MANAGER: Matthew Wheeler FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Common Milkweed	Asclepias syriaca	Apocynaceae	5	0			S5
Common Timothy	Phleum pratense ssp. pratense	Poaceae	3				SNA
Kentucky Bluegrass	Poa pratensis ssp. pratensis	Poaceae	3				SNA
Orchard Grass	Dactylis glomerata	Poaceae	3				SNA
Reed Canarygrass	Phalaris arundinacea var. arundinacea	Poaceae	-3	0			S5
Smooth Brome	Bromus inermis	Poaceae	5				SNA
Tall Goldenrod	Solidago altissima	Asteraceae	3	1			S5
Tufted Vetch	Vicia cracca	Fabaceae	5				SNA

NOTES: Small patch of cultural meadow in field. Orchard grass dominates.

VEGETATION COMMUNITY CLASSIFICATION: CUM1

COMMUNITY #: 1

LOCATION: 52 Mill St, Norwood, Ontario

COORDINATES: 44.3913597, -77.9646352

PROJECT NUMBER: 14288-001

DATE: August 12, 2022

PROJECT MANAGER: Matthew Wheeler

FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

VEGETATION COMMUNITY PHOTOS:

VEGETATION COMMUNITY CLASSIFICATION: CUM1 COMMUNITY #: 2 LOCATION: 52 Mill St, Norwood, Ontario COORDINATES: 44.3934404, -77.9649319

PROJECT NUMBER: 14288-001 DATE: August 12, 2022 PROJECT MANAGER: Matthew Wheeler FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Butter-and-eggs	Linaria vulgaris	Scrophulariaceae	5				SNA
Common Goatsbeard	Aruncus dioicus var. vulgaris	Rosaceae	3				SNA
Common Milkweed	Asclepias syriaca	Apocynaceae	5	0			S5
Manitoba Maple	Acer negundo	Aceraceae	0	0			S5
New England Aster	Symphyotrichum novae-angliae	Asteraceae	-3	2			S5
Riverbank Grape	Vitis riparia	Vitaceae	0	0			S5
Smooth Brome	Bromus inermis	Poaceae	5				SNA
Tall Goldenrod	Solidago altissima	Asteraceae	3	1			S5
Tufted Vetch	Vicia cracca	Fabaceae	5				SNA
Virginia Creeper	Parthenocissus quinquefolia	Vitaceae	3	6			S4?
White Heath Aster	Symphyotrichum ericoides var. ericoides	Asteraceae	3	4			S5

NOTES: Contains stone pile. No wetland veg

VEGETATION COMMUNITY CLASSIFICATION:	CUM1	COMMUNITY #:	2	LOCATION:	52 Mill St, Norwood, Ontario	COORDINATES:	44.3934404, -77.9649319
PROJECT NUMBER:	14288-001	DATE:	August 12, 2022	PROJECT MANAGER:	Matthew Wheeler	FIELD STAFF:	Tyler Jamieson

FIELD SHEET – Vegetation Species List

VEGETATION COMMUNITY PHOTOS:

VEGETATION COMMUNITY CLASSIFICATION: FODM11 COMMUNITY #: 3 LOCATION: 52 Mill St, Norwood, Ontario COORDINATES: 44.390742, -77.9697903

PROJECT NUMBER: 14288-001 DATE: August 12, 2022 PROJECT MANAGER: Matthew Wheeler FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

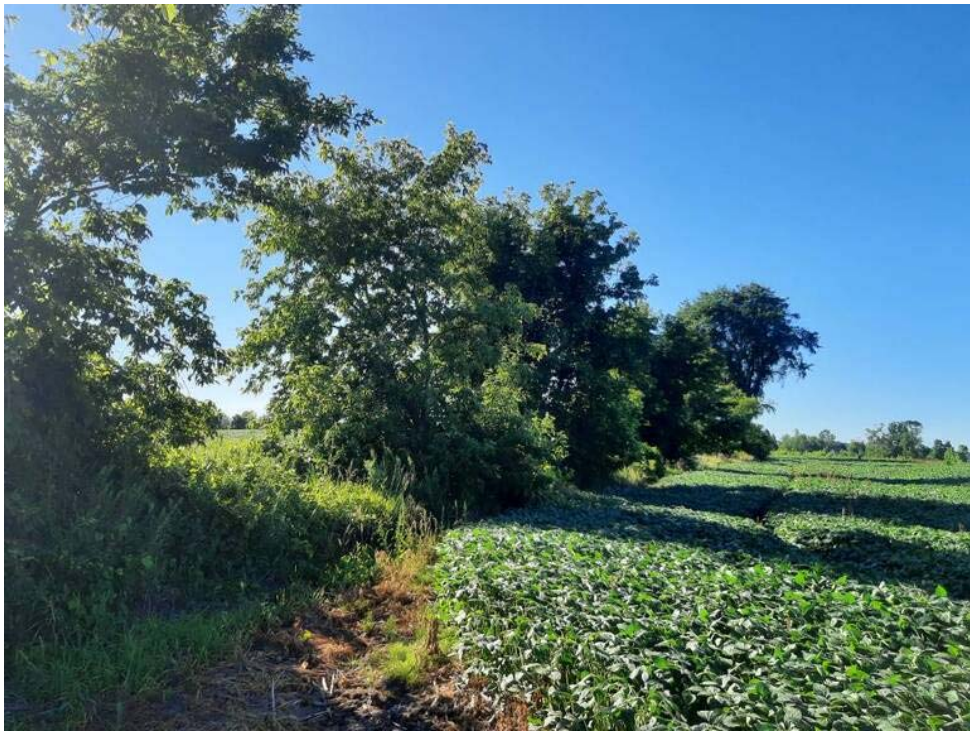
Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Basswood	Tilia americana	Tiliaceae	3	4			S5
Black Cherry	Prunus serotina var. serotina	Rosaceae	3	3			S5
Bur Oak	Quercus macrocarpa	Fagaceae	3	5			S5
Canada Horseweed	Erigeron canadensis	Asteraceae	3	0			S5
Common Dandelion	*Taraxacum officinale*	Asteraceae	3				SNA
Common Milkweed	Asclepias syriaca	Apocynaceae	5	0			S5
Common Mullein	Verbascum thapsus ssp. thapsus	Scrophulariaceae	5				SNA
Common Prickly-ash	*Zanthoxylum americanum*	Rutaceae	3	3			S5
Field Mustard	Brassica rapa	Brassicaceae	5				SNA
Manitoba Maple	*Acer negundo*	Aceraceae	0	0			S5
Nannyberry	*Viburnum lentago*	Caprifoliaceae	0	4			S5
Red Elderberry	*Sambucus racemosa ssp. pubens var. pubens*	Caprifoliaceae	3	5			S5
Red Raspberry	*Rubus idaeus*	Rosaceae	3	2			S5
Riverbank Grape	*Vitis riparia*	Vitaceae	0	0			S5
Smooth Brome	*Bromus inermis*	Poaceae	5				SNA
Staghorn Sumac	*Rhus typhina*	Anacardiaceae	3	1			S5
Sugar Maple	*Acer saccharum*	Aceraceae	3	4			S5
Tall Goldenrod	Solidago altissima	Asteraceae	3	1			S5
Tatarian Honeysuckle	*Lonicera tatarica*	Caprifoliaceae	3				SNA
Virginia Creeper	Parthenocissus quinquefolia	Vitaceae	3	6			S4?
White Elm	*Ulmus americana*	Ulmaceae	-3	3			S5
Wild Carrot	Daucus carota	Apiaceae	5				SNA

NOTES: Hedgerow. Trees patchy in some locations

VEGETATION COMMUNITY CLASSIFICATION:	FODM11	COMMUNITY #:	3	LOCATION:	52 Mill St, Norwood, Ontario	COORDINATES:	44.390742, -77.9697903
PROJECT NUMBER:	14288-001	DATE:	August 12, 2022	PROJECT MANAGER:	Matthew Wheeler	FIELD STAFF:	Tyler Jamieson

FIELD SHEET – Vegetation Species List

VEGETATION COMMUNITY PHOTOS:



VEGETATION COMMUNITY CLASSIFICATION: CUM1 COMMUNITY #: 4 LOCATION: 52 Mill St, Norwood, Ontario COORDINATES: 44.3913842, -77.9744194

PROJECT NUMBER: 14288-001 DATE: August 12, 2022 PROJECT MANAGER: Matthew Wheeler FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Bittersweet Nightshade	Solanum dulcamara	Solanaceae	0				SNA
Black Nightshade	Solanum nigrum	Solanaceae	0				SNA
Broad-leaved Enchanter's Nightshade	Circaea canadensis	Onagraceae	3	2			S5
Bull Thistle	Cirsium vulgare	Asteraceae	3				SNA
Bur Oak	Quercus macrocarpa	Fagaceae	3	5			S5
Butter-and-eggs	Linaria vulgaris	Scrophulariaceae	5				SNA
Canada Horseweed	Erigeron canadensis	Asteraceae	3	0			S5
Chokecherry	Prunus virginiana var. virginiana	Rosaceae	3	2			S5
Common Lamb's-quarters	Chenopodium album	Chenopodiaceae	3				SNA
Common Motherwort	Leonurus cardiaca ssp. cardiaca	Lamiaceae	5				SNA
Common Mullein	Verbascum thapsus ssp. thapsus	Scrophulariaceae	5				SNA
Common Prickly-ash	Zanthoxylum americanum	Rutaceae	3	3			S5
Common Sunflower	Helianthus annuus	Asteraceae	3				SNA
Eastern Prickly Gooseberry	Ribes cynosbati	Grossulariaceae	3	4			S5
Green Foxtail	Setaria viridis	Poaceae	5				SNA
Highbush Cranberry	Viburnum opulus ssp. trilobum var. americanum	Caprifoliaceae	-3	5			S5
Poison Ivy	Toxicodendron radicans	Anacardiaceae	0	2			S5
Prickly Sow-thistle	Sonchus asper	Asteraceae	3				SNA
Red Elderberry	Sambucus racemosa ssp. pubens var. pubens	Caprifoliaceae	3	5			S5
Red Raspberry	Rubus idaeus	Rosaceae	3	2			S5
Riverbank Grape	Vitis riparia	Vitaceae	0	0			S5
Smooth Brome	Bromus inermis	Poaceae	5				SNA
Sugar Maple	Acer saccharum	Aceraceae	3	4			S5
Tall Goldenrod	Solidago altissima	Asteraceae	3	1			S5
Virginia Creeper	Parthenocissus quinquefolia	Vitaceae	3	6			S4?

VEGETATION COMMUNITY CLASSIFICATION: CUM1

COMMUNITY #: 4

LOCATION: 52 Mill St, Norwood, Ontario

COORDINATES: 44.3913842, -77.9744194

PROJECT NUMBER: 14288-001

DATE: August 12, 2022

PROJECT MANAGER: Matthew Wheeler

FIELD STAFF: Tyler Jamieson

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Virginia Waterleaf	Hydrophyllum virginianum var. virginianum	Hydrophyllaceae	0	6			S5
White Ash	Fraxinus americana	Oleaceae	3	4			S4
White Elm	Ulmus americana	Ulmaceae	-3	3			S5
Wild Chicory	Cichorium intybus	Asteraceae	5				SNA
Wild Cucumber	Echinocystis lobata	Cucurbitaceae	-3	3			S5

NOTES: Recently cleared

VEGETATION COMMUNITY PHOTOS:

Appendix D
Breeding Bird Survey Data

VEGETATION COMMUNITY CLASSIFICATION: OAGM1 & CUW

LOCATION: 52 Mill St., Norwood

POINT COUNT #: 1

PROJECT NUMBER: 14288-002

DATES: June 08, 2022 June 17, 2022

PROJECT MANAGER: Matthew Wheeler

FIELD STAFF: Rachael Doyle

FIELD SHEET – Bird Species List

June 08, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Robin	*Turdus migratorius*	Turdidae			S5B	S
Common Grackle	*Quiscalus quiscula*	Icteridae			S5B	H
Common Yellowthroat	*Geothlypis trichas*	Parulidae			S5B	H
Eastern Kingbird	*Tyrannus tyrannus*	Tyrannidae			S4B	H
Killdeer	*Charadrius vociferus*	Charadriidae			S5B,S5N	S
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	S
Ring-billed Gull	*Larus delawarensis*	Laridae			S5B,S4N	X
Song Sparrow	*Melospiza melodia*	Passerellidae			S5B	S

June 17, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Robin	*Turdus migratorius*	Turdidae			S5B	T
Black-capped Chickadee	*Poecile atricapillus*	Paridae			S5	S
Downy Woodpecker	*Picoides pubescens*	Picidae			S5	S
Eastern Phoebe	*Sayornis phoebe*	Tyrannidae			S5B	S
Mourning Dove	*Zenaida macroura*	Columbidae			S5	S
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	T
Song Sparrow	*Melospiza melodia*	Passerellidae			S5B	T
Yellow Warbler	*Setophaga petechia*	Parulidae			S5B	S

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: Agricultural row crop and cultural woodland.

VEGETATION COMMUNITY CLASSIFICATION: OAGM1 LOCATION: 52 Mill St, Norwood POINT COUNT #: 2

PROJECT NUMBER: 14288-002 DATES: June 08, 2022 June 17, 2022 PROJECT MANAGER: Matthew Wheeler FIELD STAFF: Rachael Doyle

FIELD SHEET – Bird Species List

June 08, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Crow	*Corvus brachyrhynchos*	Corvidae			S5B	S
American Robin	*Turdus migratorius*	Turdidae			S5B	S
Brown Thrasher	*Toxostoma rufum*	Mimidae			S4B	S
Canada Goose	*Branta canadensis*	Anatidae			S5	X
Common Raven	*Corvus corax*	Corvidae			S5	X
Indigo Bunting	*Passerina cyanea*	Cardinalidae			S4B	S
Killdeer	*Charadrius vociferus*	Charadriidae			S5B,S5N	S
Song Sparrow	*Melospiza melodia*	Passerellidae			S5B	S

June 17, 2022

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Robin	*Turdus migratorius*	Turdidae			S5B	T
Brown Thrasher	*Toxostoma rufum*	Mimidae			S4B	T
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	S

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: Agricultural row crop.
June 08: 16, cloud cover: 25%, wind: 2, noise: 1.
June 17: 19, cloud cover: 0%, wind: 4, noise: 2.

Appendix E

Species Of Conservation Concern Screening

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
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: on-site	Confirmed absent through targeted surveys	No further consideration required
Black Tern	*Chlidonias niger*	No Status	SC	S3B	The Black Tern is a small waterbird with a forked tail, straight pointed bill, slender shape, and black head during breeding season. It builds floating nests in loose colonies in shallow marshes, with a preference for cattails. They breed primarily in the marshes along the edges of the Great Lakes, but may also use wetlands further north if suitable (1).	No	Known to occur in the general area	No further consideration required
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	The Bobolink is a mid-sized songbird of tan colour with black stripes, except for males during summer breeding season who are black with a white back and yellow collar. It prefers tall, grassy meadows, hayfields and some croplands, and feeds (largely on insects) on the ground in dense grasses (1). It tends to nest in forage crops: hayfields and pastures dominated by species including clover, bluegrass, and broadleaf plants (2).	No	Known to occur in the general area	No further consideration required
Canada Warbler	*Cardellina canadensis*	THR	SC	S4B	The Canada Warbler is a small songbird with bright yellow underparts and bluish-grey back and tail (1). It can be found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. Nests are usually located on or near the ground on mossy logs, and along stream banks (3).	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 - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
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 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	Incidental observation on adjacent lands	No further consideration required
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	The Evening Grosbeak is a large songbird with a thick greenish bill. It is a social bird that is often found in flocks, particularly during the winter months. Their preferred habitat is thick coniferous forest. During their breeding season, they are generally found in open, mature mixed forests dominated by Firs, White Spruce, or Trembling Aspen (1).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
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
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	Confirmed absent through targeted surveys	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
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	S4B	The Red-headed Woodpecker is a mid-sized bird, at around 20 cm long, with a vivid red head, neck and breast as well a strong bill. The species can be found in open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. These areas must contain a large number of dead trees for perching and nesting (1).	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 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).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
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
Fish								
American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	No	Known to occur in the general area	No further consideration required
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
Northern Sunfish (Great Lakes - Upper St. Lawrence population)	*Lepomis peltastes*	SC	SC	S3	The Northern Sunfish is a small (about 130 mm long), typical looking member of the sunfish family (Centrarchidae). It has a deep, laterally compressed and olive coloured body with bright blue and red markings. In Ontario, the Northern Sunfish lives in shallow vegetated areas of quiet, slow flowing rivers and streams, as well as warm lakes and ponds, with sandy banks or rocky bottoms. Northern Sunfish prefer to be near aquatic vegetation where they can avoid strong currents. The Great Lakes - Upper St. Lawrence Populations are found throughout southern Ontario including waters flowing into Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario, as well as rivers and small lakes in eastern Ontario (1).	No	Known to occur in the general area	No further consideration required
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	END	THR	S3	Blanding's Turtles are identifiable by their bright yellow throat and chin and domed shell. They spend the majority of their life cycle in the aquatic environment, usually in large wetlands or shallow lakes with high densities of water plants (1). These turtles prefer shallow, nutrient rich water with organic sediment and dense vegetation. They use terrestrial sites for travel between habitat patches and to lay clutches of eggs, often going hundreds of meters from their nearest water body. Blanding's Turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (2). From late October until the end of April, they hibernate in the mud at the bottom of permanent water bodies (1).	No	Confirmed absent through targeted surveys	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

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

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Western Chorus Frog	*Pseudacris triseriata*	THR	-	S3	The Western Chorus Frog is small with a dark stripe running through its eye and a light stripe underneath (5). It is primarily a lowland terrestrial species that requires access to terrestrial and aquatic habitats in close proximity to one another. Relying on marshes and wooded wetlands adjacent to forested habitats, this species also requires isolated, predator free pools for breeding. Temporary pools, such as vernal pools in wooded areas, are preferred. This species hibernates terrestrially in a variety of environments, including leaf litter, wood debris, and vacant animal burrows (2).	No	Known to occur in the general area	No further consideration required
Invertebrates								
Monarch Butterfly	*Danaus plexippus*	SC	SC	S2N,S4B	The Monarch is an orange and black butterfly with small white spots and a wingspan of around 10 cm. It relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers (1).	Yes: on-site and adjacent lands	Known to occur in the general area	No further consideration required
Mottled Duskywing	*Erynnis martialis*	No Status	END	S2	The Mottled Duskywing is a medium-sized butterfly in the skipper family with a wingspan of 25-42 mm. It is dark grey with yellow-brown spots on its hind wings that give the species its mottled appearance and its name. The wings of freshly emerged adults have a purplish iridescence that fades with age. The mottled duskywing tends to live in dry habitats with sparse vegetation. These include open barrens, sandy patches among woodlands, and alvars. In Ontario, the mottled duskywing will only deposit their eggs on two closely-related plants: New Jersey tea and prairie redroot (1).	No	Known to occur in the general area	No further consideration required
West Virginia White	*Pieris virginiensis*	No Status	SC	S3	The West Virginia White is a small, dingy white butterfly. This species is found in moist deciduous woods, and requires a supply of toothwort, a small, spring-blooming plant, which provides the only source of food for its larvae. The West Virginia White is found mostly in the central and southern parts of Ontario, but its range extends north to Manitoulin and St. Joseph islands (1).	No	Known to occur in the general area	No further consideration required
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	The Yellow-banded Bumble Bee is a medium-sized bumble bee with a distinct yellow and black abdominal band pattern found on its queens, males, and workers. This species is a forage and habitat generalist, able to use a variety of nectaring plants and environmental conditions. It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. The Yellow-banded Bumble Bee ranges from the Mixedwood Plains of southern Ontario to the Hudson Bay Lowlands in the north (1).	Yes: on-site and adjacent lands	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).	Yes: adjacent lands only	Potential habitat on adjacent lands through targeted surveys	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Eastern Small-footed Myotis	*Myotis leibii*	No Status	END	S2S3	The Eastern Small-footed Myotis has fur with black roots and shiny brown tips as well as very small feet. In the spring and summer, the Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects. They hibernate in winter, often in caves and abandoned mines choosing colder and drier sites than other similar bats (1).	Yes: adjacent lands only	Potential habitat on adjacent lands through targeted surveys	No further consideration required
Little Brown Myotis	*Myotis lucifugus*	END	END	S4	The Little Brown Myotis has glossy brown fur and a fleshy projection covering the entrance to its ears. This species roosts in trees and buildings, often selecting attics, abandoned buildings and barns for summer colonies where they can raise their young. Little Brown Bats hibernate from October/November to March/April, most often in caves or abandoned mines that are humid and remain above freezing (1).	Yes: adjacent lands only	Potential habitat on adjacent lands through targeted surveys	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
Black Ash	*Fraxinus nigra*	No status	END	S4	The Black Ash is a smaller-sized tree with a narrow crown, light grey and scaly bark, and green, oval leaflets on a central stalk. It grows everywhere in Ontario except for the far north, preferring moist climates and soils such as swampy woodlands or bogs (1).	Yes: adjacent lands only	Potential habitat on adjacent lands through targeted surveys	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	Confirmed absent through targeted surveys	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Pale-bellied Frost Lichen	*Physconia subpallida*	END	END	S3	The Pale-bellied Frost Lichen resembles a light dusting of frost on a dark tree trunk. This species is found throughout eastern North America, growing in wooded areas rich in hardwood species, such as White Ash, Hop Hornbeam (Ironwood), Black Walnut, and American Elm. It is also common to find this species growing on fenceposts or boulders within or near these wooded areas. In Ontario, this species has been found in the following counties: Frontenac, Haliburton, Hastings, Peterborough, Lanark and Renfrew (1).	No	Known to occur in the general area	No further consideration required

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Appendix F

Significant Wildlife Habitat Assessment

APPENDIX : Significant Wildlife Habitat Screening - 6E

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Ducks	Cultural Ecosites: CUM1, CUT1	Fields that flood during spring (mid-March to May).	N	Habitat not suitable
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Marshes, Swamps, Shallow Water Ecosites: MAS1,MAS2, MAS3, SAS1 SAM1, SAF1, SWD1 to SWD7,	Ponds, marshes, lakes, bays, coastal inlets, and watercourses.Sewage treatment ponds and storm water ponds **not** SWH Reservoir managed as a large wetland or pond/lake qualifies.	N	Ecosite not present
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes: BBO1, BBO2, BBS1, BBS2 BBT1, BBT2, SDO1, SDS2, SDT1, MAM1 to MAM5	Shorelines of lakes, rivers and wetlands. Sewage treatment ponds and storm water ponds **not** SWH.	N	Ecosite not present
Raptor Wintering Area	Eagles, Hawks, Owls	Hawks/Owls - Combination of Forest and Cultural Ecosites: FOD, FOM, FOC, CUM, CUT, CUS, CUW Bald Eagle: Forest or swamp close to open water (hunting ground): FOD, FOM, FOC, SWD, SWM, SWC	Raptor wintering sites: >20ha, with a combo of forest and upland. Meadow (>15ha) with adjacent woodlands. Eagle sites: open water, large trees and snags for roosting.	N	Habitat not suitable
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices: CCR1, CCR2, CCA1, CCA2	Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Buildings and active mine sites **not** SWH.	N	Ecosite not present
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps: FOD, FOM, SWD, SWM	Mature deciduous and mixed forest stands with >10/ha cavity trees >25 cm DBH with cavities.	N	Habitat not suitable
Turtle Wintering Area	Turtles	SW, MA, OA, SA, FEO, BOO	Free water beneath ice. Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO. Man-made ponds (sewage lagoons or SWMP) not considered SWH.	Y	Five Midland Painted Turtles and one Snapping Turtle were observed in the Pond located on adjacent lands west of the Site.
Reptile Hibernaculum	Snakes	Habitat may be found in any ecosite other than very wet ones. Five-lined Skink: FOD and FOM, FOC1, FOC3	Below frost line in burrows, rock crevices, rock piles or slopes, stone fences, stone foundations. Conifer or shrub swamps/swales, poor fens, depressions in bedrock with accumulations of sphagnum moss or sedge hummock ground cover.	N	Habitat not suitable
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, Northern Rough-winged Swallow	Banks, sandy hills/piles, pits, slopes, cliff faces, bridge abutments, silos, barns. CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1	Exposed soil banks, undisturbed or naturally eroding, that is **not** a licensed/permitted aggregate area.	N	Habitat not suitable
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned NightHeron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 to 15 m from ground, near top of the tree.	N	Ecosite not present
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	Rocky island or peninsula in lake or river. Close to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). MAM1-6; MAS1-3; CUM, CUT CUS	Gulls and terns are on islands or peninsulas with open water or marshy areas. Brewers Blackbird colonies are foundon the ground in low bushes close to streams and irrigation ditches.	N	Habitat not suitable
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, **Special Concern:** Monarch	Combination of open and forested ecosites (need one from each). Field: CUM, CUT, CUS Forest: FOC, FOC, FOM, CUP	Minimum of 10ha, located within 5 km of Lake Ontario. Undisturbed sites, with flowering species.	N	Habitat not suitable
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest and Swamp ecosites: FOC, FOM, FOD, SWC, SWM, SWD	Woodlots need to be >5 ha in size and within 5 km of Lake Ontario. If multiple woodlands are located along the shoreline, those Woodlands <2km from Lake Ontario are more significant.	N	Habitat not suitable

APPENDIX : Significant Wildlife Habitat Screening - 6E

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes
Deer Yarding Areas	White-tailed Deer	FOM, FOC, SWM, SWC, CUP2, CUP3, FOD3, CUT	Stratum I: core deer yard - coniferous forest; 60% canopy cover with pine, hemlock, cedar, spruce. Stratum II: mixed or deciduous forest with plenty of browse available, may include agricultural areas.	N	Ecosite not present
Deer Winter Congregation Areas	White-tailed Deer	FOC, FOM, FOD, SWC, SWM, SWD Conifer Plantations smaller than 50 ha may also be used.	Woodlots >100 ha in size	N	Habitat not suitable
Rare Vegetation Communities					
Cliffs and Talus Slopes		TAO, TAS, CLO, CLS, TAT, CLT	Cliff: near vertical bedrock >3m Talus Slope: coarse rock rubble at the base of a cliff	N	Ecosite not present
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to tree covered, but less than 60%. Less than 50% vegetation cover are exotic species.	N	Ecosite not present
Alvar	*Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum,* Loggerhead Shrike	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. Vegetation cover varies from patchy to barren with <60% tree cover.	N	Ecosite not present
Old Growth Forest		FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas >0.5 ha .	N	Ecosite not present
Savannah		TPS1, TPS2, TPW1, TPW2, CUS2	Tallgrass prairie habitat that has tree cover between 25-60%. No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not SWH.	N	Ecosite not present
Tallgrass Prairie		TPO1, TPO2	An open Tallgrass Prairie habitat has < 25% tree cover. No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not SWH.	N	Ecosite not present
Other Rare Vegetation Communities		Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	N	Ecosite not present
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40cm dbh).	N	Ecosite not present
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas - rivers, lakes, ponds and wetlands	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water.	N	Habitat not suitable
Woodland Raptor Nesting Habitat	Northern Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk	Forests, swamps, and conifer plantations: FOD, FOM, FOC, SWD, SWM, SWC and CUP3	All natural or conifer plantation woodland/forest stands >30 ha with > 4 ha interior habitat.	N	Habitat not suitable
Turtle Nesting Areas	Midland Painted Turtle, Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1, FEO1	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches. Nesting areas on sides of municipal or provincial road embankments and shoulders are not SWH.	N	Ecosite not present
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream/river system.	N	Ecosite not present

APPENDIX : Significant Wildlife Habitat Screening - 6E					
SWH Type	**Associated Species**	**Associated ELC Ecosites**	**Habitat Criteria**	**Presence (Y/N)**	**Additional Notes**
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders	FOC, FOM, FOD, SWC, SWM, SWD	Wetland, pond or woodland pool of >500 m^2 within or adjacent (within 120m) to wooded areas (no minimum size). Permanent ponds or those containing water until mid-July are preferred.	N	Habitat not suitable
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Wetland ecosites >500m^2 isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	Y	Candidate Habitat present in pond and Mill Pond on Adjacent Lands
Woodland Area-Sensitive Bird Breeding Habitat	Birds	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands or woodlots > 30 ha. Interior forest habitat of >200 m from forest edge.	N	Habitat not suitable
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	Wetland Birds	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 For Green Heron: SW, MA and CUM1 sites.	Wetlands with shallow water and emergent vegetation.	N	Ecosite not present
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	N	Habitat not suitable
Shrub/Early Successional Bird Breeding Habitat	Brown Thrasher, Clay-coloured Sparrow, Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	N	Ecosite not present
Terrestrial Crayfish	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM, and CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish	N	Ecosite not present
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species (S1 - S3, SH)	Any ELC code.	Presence of species of concern or rare wildlife species.	N	Confirmed absent through targetted surveys
Habitat of Species of Conservation Concern					
Amphibian Movement Corridors	Frogs, salamanders, toads	Corridors may be found in all ecosites with water.	Movement corridors between breeding habitat and summer habitat.	N	Habitat not suitable
Deer Movement Corridor		FOD, FOM, FOC Sites within Stratum II Deer Wintering Area has potential to contain corridors	Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges)	N	Habitat not suitable