# Environmental Impact Study

## South Simpson Road Natural Channel Design

### Simpson Road Landowners Group Inc.

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## Revision Record

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| | | | | |

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# Acronyms and Abbreviations

| | |
|---|---|
| ANSI | Area of Natural and Scientific Interest |
| DFO | Department of Fisheries and Oceans |
| EIS | Environmental Impact Study |
| ELC | Ecological Land Classification |
| ESA | Endangered Species Act |
| ESC | Erosion and Sediment Control |
| HADD | Harmful alternation, disruption or destruction |
| Masl | Metres above sea level |
| MBCA | Migratory Birds Convention Act |
| MBR | Migratory Bird Regulations |
| MECP | Ministry of Environment, Conservation and Parks |
| MESP | Master Environmental Servicing Plan |
| MNRF | Ministry of Natural Resources and Forestry |
| NHIC | Natural Heritage Information Centre |
| O. Reg. | Ontario Regulation |
| OBBA | Ontario Breeding Bird Atlas |
| OP | Official Plan |
| PPS | Provincial Planning Statement |
| OPSD | Ontario Provincially Standard Drawing |
| ROP | Regional Official Plan |
| SAR | Species at Risk |
| SARA | Species at Risk Act |
| SCP | Scientific Collector's Permit |
| SoCC | Species of Conservation Concern |
| SWH | Significant Wildlife Habitat |
| TRCA | Toronto and Region Conservation Authority |

# 1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by the Simpson Road Landowners Group Inc. (the client) to undertake a Scoped Environmental Impact Study (EIS) as part of a collaborative development for a natural channel design for the proposed realignment and reconstruction of a tributary segment of Rainbow Creek. SLR is working in collaboration with Greck and Associates Ltd. (Greck) to complete the channel realignment and naturalization design. Greck is completing the water resources engineering tasks. GEI Consultants (GEI) is completing the Simpson Road Master Environmental Servicing Plan (MESP) update and Weston Consulting is the planner for the project.

The natural channel design is necessary to allow for the future alignment of Simpson Road (the Study Area), in the Town of Caledon, Ontario. The realignment of this section of watercourse is necessary to satisfy the natural heritage requirements of the Town of Caledon (the Town) and provide for the management of risks associated with flooding and erosion, as regulated by the Toronto and Region Conservation Authority (TRCA).

## 1.1 Goals and Objectives

The purpose of this Scoped EIS is to demonstrate that the proposed natural channel design conforms to applicable federal, provincial and local natural heritage policies and regulations, including the implementation of proper mitigations to address short-term and long-term project impacts.

Overall, the objectives of this Scoped EIS study are to:

- Characterize existing natural heritage conditions within and adjacent to the Study Area;
- Identify any significant natural heritage features, functions, and sensitivities;
- Assess potential impacts associated with the proposed development;
- Recommend mitigation strategies and techniques to minimize potential impacts and demonstrate consistency with the natural heritage policy and legislative framework that applies to the Study Area lands.

## 1.2 Study Area Location and Description

The Study Area is approximately 1.2 ha, generally located north of Mayfield Road, between Coleraine Drive and Pillsworth Road (**Figure 1**). As identified through aerial imagery and onsite investigations, the proposed natural channel alignment extends southwards from an existing stormwater management pond and overlays the eastern boundary of several commercial transportation properties. In its current state, the Study Area is heavily influenced by past disturbance and ongoing commercial activity. A small, altered drainage channel, referred to as ‘Tributary D’ in MESP reporting, currently exists within the Study Area, conveying water from the stormwater management pond southwards to a culvert along Mayfield Road.

The Tributary D forms a portion of the Rainbow Creek drainage network, which eventually outlets to the Humber River, several kilometres downstream. Outside of the immediate Study Area, the surrounding landscape is comprised of various commercial and industrial land uses, which eventually give way to agricultural land uses on the south side of Mayfield Road.

# 2.0 Policy Context

Development within the Study Area is subject to federal, provincial and local environmental Acts, regulations and policies. These documents provide direction and guidance regarding proposed changes in land use and the protection of natural heritage features and functions.

The applicable natural heritage regulatory and policy framework that applies to the site includes:

- *Provincial Planning Statement, 2024 (PPS)*
- *Federal Fisheries Act, 1985*
- *Migratory Birds Convention Act, 1994*
- *Endangered Species Act, 2007 (ESA)*
- *Ontario Regulation 41/24 – Prohibited Activities, Exemptions and Permits*
- *Town of Caledon (2024) Official Plan*
- *Region of Peel (2022) Official Plan*
- *Municipal By-Laws*

The following subsections provide a detailed summary of each of the natural heritage planning documents outlined above, and the applicable policies and procedures that relate to the proposed development within the Study Area.

## 2.1 Provincial Planning Statement (PPS, 2024)

The 2024 Provincial Planning Statement (PPS) is a province-wide land use planning framework that replaces the previous Provincial Policy Statement (2020) and the Growth Plan for the Greater Golden Horseshoe (2019). Policy 4.1 of the PPS issued under Section 3 of the *Planning Act* provides direction to regional and local municipalities regarding planning policies, related to the protection and management of natural heritage features and resources. Section 3 of the *Planning Act* requires that decisions affecting planning matters 'shall be consistent with' policy statements under the Act. In general, Section 4.1 of the PPS requires that:

Development and site alteration shall not be permitted in:

- Significant wetlands in Ecoregions 5E, 6E and 7E
- Significant coastal wetlands
- Fish Habitat, except in accordance with provincial and federal requirements; or
- Habitat of species designated as *Endangered* and *Threatened*, except in accordance with provincial and federal requirements.

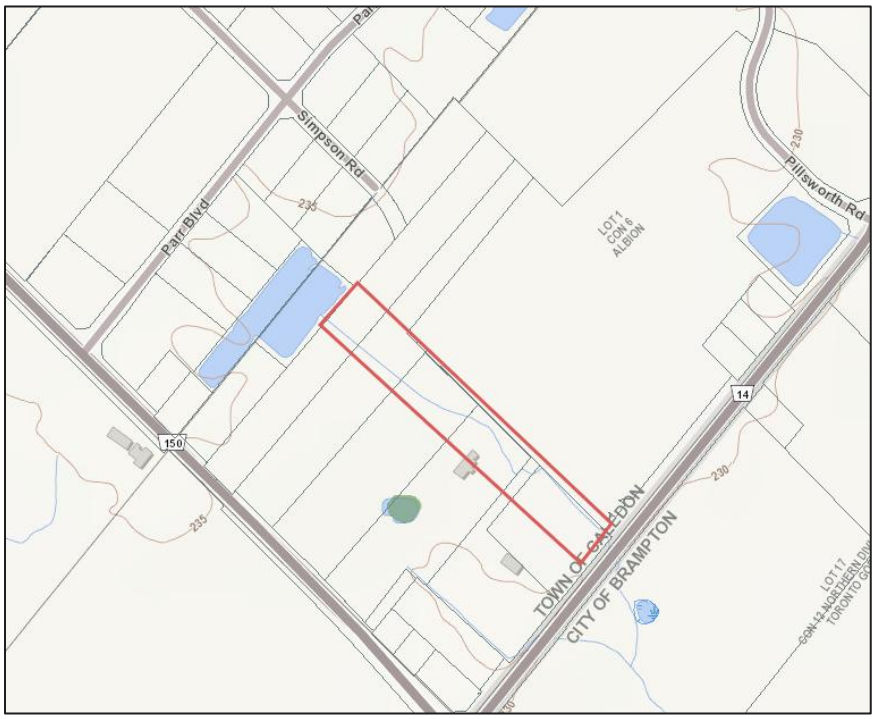
Unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall also not be permitted in:

- Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E
- Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)
- Significant valleylands in Ecoregion 6E and 7E (excluding islands in Lake Huron and the St. Marys River)

- Significant wildlife habitat
- Significant areas of natural and scientific interest
- Coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 4.1.4(b)
- Lands defined as *Adjacent Lands* to all the above natural heritage features.

Each of these natural heritage features is afforded varying levels of protection subject to guidelines, and in some cases, regulations.

The Natural Heritage Information Center (NHIC) Make-a-map application shows the Tributary D watercourse and the stormwater retention pond in and adjacent to the Study Area, and a small unevaluated wetland south of Mayfield Road (**Map 1**); no other designated features are within or adjacent to the Study Area (Ministry of Natural Resources. 2025b).




**Map 1. Natural Heritage Information Center (NHIC) mapping showing watercourse and open water (blue) on the Study Area, woodland (green layer) and unevaluated wetland (hatched blue) on the adjacent area of the Study Area.**

## 2.2 Federal Fisheries Act (1985)

The *Fisheries Act* is a federal legislation that aims to manage and protect Canada's fisheries resources. In 2019, provisions of the new *Fisheries Act* were implemented by the Department of Fisheries and Oceans Canada (DFO). This included new protections for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects near water. The Act prohibits the death of fish or the harmful alternation, disruption or destruction (HADD) of fish habitat (HADD), unless the work, undertaking or activity is authorized by the Minister.

In cases where a project cannot avoid working in or near water or does not meet the conditions of a code of practice, a request for project review should be submitted to the DFO. If the DFO reviews the project and determines that the work is not likely to result in a HADD, they will issue a letter of advice and mitigation terms. If the DFO determine that the project is likely to result in death to fish and/or a HADD, an application for an Authorization will need to be completed. An Authorization must include terms and conditions to avoid, mitigate, offset, and monitor impacts to fish and fish habitat because of the project.

## 2.3 Migratory Birds Convention Act (1994)

The Migratory Birds Convention Act (MBCA) (S.C. 1994, c.22) is administered by Environment and Climate Change Canada. The MBCA was established to protect and conserve migratory bird populations by prohibiting the harming, killing, disturbance, or destruction of migratory birds, nests, and eggs (Section 6) as defined in Article 1 of the MBCA.

In 2022, changes to the MBCA through the 'Migratory Bird Regulations' (MBR) were implemented. The changes add new provisions for certain migratory bird species and clarify when their nests are protected. For most birds regulated under the MBCA, nests are protected when they contain a bird or viable egg. However, the 2022 MBR update provides year-round protection to the nests of 18 species now listed under Schedule 1 because they are re-used annually. For these nests, a designated waiting period is now required. This means the nest must be protected year-round until it has remained unoccupied throughout designated waiting period and can be deemed abandoned. For example, a Pileated Woodpecker (*Dryocopus pileatus*) cavity nest has a designated waiting period of 36 months even when unoccupied.

Note that a species that is not afforded protection under the MBCA or MBR Schedule 1 may be protected under other federal or provincial legislation such as the Species at Risk Act, 2022 (SARA) and the Fish and Wildlife Conservation Act., 1997 (Schedules 3, 7 and 8).

## 2.4 Endangered Species Act (2007)

Species designated as *Endangered* or *Threatened* by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk in Ontario (SARO). These species at risk (SAR) and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation and migration) are afforded legal protection under the *Endangered Species Act* (ESA) (Government of Ontario, 2007).

The protection provisions for species and their habitat within the ESA apply only to those species listed as *Endangered* or *Threatened* on the SARO list, being Ontario Regulation 230/08 of the ESA. Species listed as *Special Concern* may be afforded protection through policy instruments respecting significant wildlife habitat (e.g., the PPS) as defined by the Province or other relevant authority, or other protections contained in Official Plan policies.

It should be noted that with the recent passing of Bill 5 that amendments to the current ESA are in effect and have been incorporated into the assessment of this report. Moving forward, it is

expected that the ESA will be replaced by an entirely new piece of legislation, currently titled the *Species Conservation Act*. Subsequent natural heritage reporting, related to this project, will have regard for these new and updated policies, once in effect.

## 2.5 Conservation Authorities Act: Ontario Regulation 41/24

The TRCA is responsible for regulating development activities within areas described in Section 28 of the Conservation Authorities Act and Ontario Regulation 41/24, commonly referred to as Regulated Areas. These include watercourses, floodplains, meander belt widths, hazardous lands, wetlands and adjacent lands (up to 30 m), river or stream valleys, and areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawerence River system or to an inland lake and that make be affected by flooding, erosion or dynamic beach hazards.

TRCA online regulation mapping shows a portion of the Study Area is regulated (**Map 2**), therefore a permit is required before development can occur. It should be noted that on-site consultation with the TRCA identified that the north-central wetland feature associated with the drainage feature did not meet their criteria for a wetland and is therefore not a feature regulated by the conservation authority. Despite the wetland assessment, Tributary D is considered a regulated feature by the TRCA.


**Map 2. TRCA regulation online mapping tool showing regulated area (green layer) within the Study Area.**

## 2.6 Living City Policies (2014)

The TRCA's Living City Policies (LCP) outlines guidance for development in relation to natural hazards, aiming to ensure that no new hazards are created and existing ones are not

aggravated by construction or site alteration. Development in regulated areas, such as watercourses, floodplains, wetland, and steep slopes, is controlled to prevent flooding and erosion.

Under Section 8.4 of the LCP, development may be permitted where it can be demonstrated, through technical studies and supporting documentation, that flooding is managed, public safety is not compromised, no new hazards are introduced, and there are no adverse impacts to natural features.

Under Section 8.8 of the LCP, proposals that seek to straighten, change, divert or interfere with a watercourse will not be permitted, except in accordance with policies in Section 8 of the LCP, in particular Section 8.4, and Section 8.8. Under Policy 8.8.3, *alterations to watercourses through such activities as realignment, channelization, filling and enclosure shall not be permitted to create additional area to accommodate or facilitate new development and intensification, other than in the following circumstances:*

a) *where such works would result in permanent remediation and reduction of risk and serve to improve public safety and alternative protection measures are not viable; or*

b) *where such works would significantly improve existing hydrological or ecological conditions; or*

c) *where acceptable justification has been provided through a subwatershed plan, a corridor plan, an environmental assessment or comprehensive environmental study which has been undertaken by, or under the direction of, a public agency and harmonized as part of the planning process.*

## 2.7 Region of Peel (2022) Official Plan

On July 1, 2024, several upper-tier municipalities, including Peel Region, were relieved from their planning policy and approval responsibilities through Bill 185 (*Cutting Red Tape to Build More Homes Act, 2024*). Although now not overseen through the Region, conformity of the Regional Official Plan (ROP) is still the responsibility of lower-tier municipalities. In the case of the Study Area, this falls to the Town of Caledon. Overall, the ROP provides long-term guidance for community management, land use change, and physical development within the Region.

Natural heritage features in Peel Region are protected by its Greenlands System, which consists of Core Areas, Natural Areas and Corridors (NACs), and Potential Natural Areas and Corridors (PNACs). Core Areas are designated on Schedule C-2 (Core Areas of the Greenlands System of Peel) of the Official Plan and are intended to represent the most important natural features in Peel, providing the best uninterrupted natural systems and highest biodiversity as identified through the OP. NACs and PNACs are to be identified and protected in lower tier municipal official plans in accordance with the policies outlined in the Peel Official Plan.

Core Areas include significant wetlands, Core Area woodlands (criteria provided), Environmentally Sensitive Areas, Areas of Natural and Scientific Interest, significant habitats of Threatened and Endangered species, and core valley and stream corridors (criteria provided). Development is generally prohibited within Core Areas.

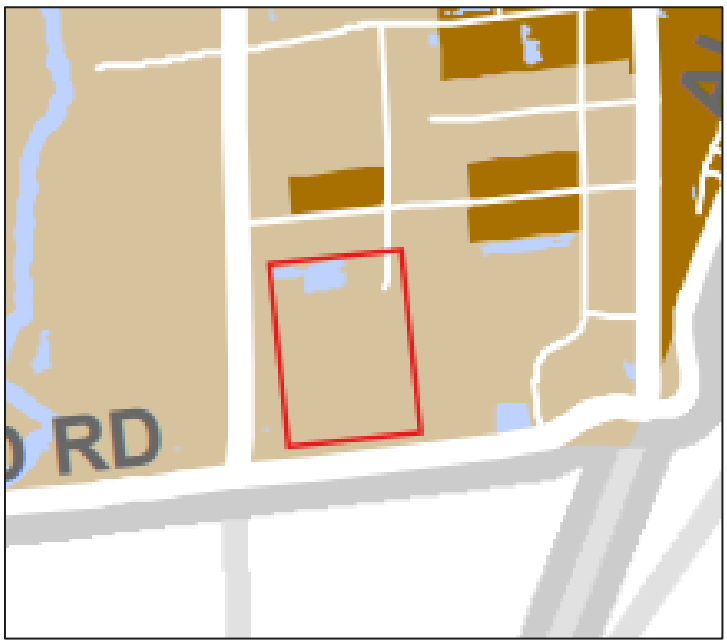
The Study Area does not fall into any of the protected areas described above. On Schedule B5 – Greenbelt Plan Area Land Use Designation, the Region of Peel OP maps the Study Area as within a “Settlement Area Outside the Greenbelt” (**Map 3**).


**Map 3. The Region's OP Schedule B-5 depicts the Study Area (approximate boundaries in red) within a Settlement Area outside the Greenbelt (grey layer)**

## 2.8 Town of Caledon (2024) Official Plan

The Official Plan of Caledon (Town OP) is a statement of principles, goals, objectives and policies intended to guide future land use, physical development and change, and the effects on the social, economic, and natural environment within the Town of Caledon. The Official Plan depicts the Study Area as being within the Rural Service Centre under Schedule A1 Town of Caledon Town Structure, Prestige Industrial under Schedule C5 South Simpson Industrial Secondary Plan, and Designated Greenfield Area under Figure 1 Growth Plan Policy Areas in Caledon.

Section 5.10.4 of the OP indicates that Rural Service Centres are designated as the primary growth areas for the planning period, and the Rural Service Centres will be the focus for the majority of new residential and employment growth as well as the focus for the provision of a wide range of goods and services for residents of the Town.




**Map 4. The Town's OP Figure 1 depicts the Study Area (approximate boundaries in red) within a Designated Greenfield Area (beige)**

Section 2.16.10.1 of the Town's OP addresses requirements for development proposals that involve ravines, valleys, stream corridors, and erosion hazards. Policy 2.16.10.2 seeks to *support, as appropriate, the policies and programs of the conservation authorities related to ravine, valley and stream corridor management and protection.* While policy 2.16.10.4 *directs local municipalities, in consultation with the conservation authorities, to prohibit development and site alteration within the erosion hazard limit, unless all of the following have been met:*

*a) the erosion and/or slope instability hazards can safely be addressed;*
*b) new or existing hazards are not created or aggravated;*
*c) no adverse environmental effects will result;*
*d) vehicles and people have a way of safely entering and exiting the area during times of flooding hazards and erosion hazards; and*
*e) development and site alteration are carried out in accordance with established standards and procedures.*

# 3.0 Methodology

This Scoped EIS includes a summary of the existing natural heritage conditions of the Study Area based on a review of secondary source material and detailed field inventories. These inventories include vegetation community delineation, aquatic resource investigations and targeted wildlife surveys.

Recent aerial photographs of the Study Area were obtained and used to assist in field verification. Data collected during field investigations were used to identify natural features and functions, as well as environmental constraints applicable to the natural channel design and extent.

## 3.1 Agency Correspondence

As part of the larger project discussion, consultation between the TRCA and Greck occurred in January 2022, where TRCA staff outlined certain requirements and recommendations following their review of the conceptual channel design. As part of these recommendations, it was identified that, in order for TRCA to be supportive of the design proposal, significant improvement to the overall hydrological and ecological condition of the channel were necessary. Record of this correspondence is included in **Appendix A1**.

## 3.2 Desktop Analysis

A desktop analysis of secondary source information was performed to provide initial characterization of the natural heritage features and functions within and adjacent to the Study Area. The information presented in **Table 1** was reviewed and used to inform the need for additional field studies and avoid duplication of effort.

Background information collection is guided by the Natural Heritage Information Request Guide (Ministry of Natural Resources and Forestry, 2018). Current direction from the Ministry of Natural Resources (MNR) and Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the NHIC Make Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2025a, 2025b). Information gathered is recommended to be balanced and supplemented by professional ecological review of potential habitats and characteristics of a project site.

**Table 1. Information Source Summary and Description**

| Information Source | Data Description |
|---|---|
| Aerial Imagery | Ministry of Natural Resources imagery from 1954 to 2025 |
| Geospatial Ontario (GEO) database | Ministry of Natural Resources imagery from 1954 to 2025 |
| Ontario Geological Survey Mapping (OGSEarth; Ministry of Mines, 2025) | Physiography, topography and soil characteristics of the site |
| TRCA (2025) Regulated Area Search Map | Policies in accordance with Ontario *Conservation Authorities Act, R.SO. 1990, c. C27* and regulation limits |
| MNR (2025b) Natural Heritage Information Centre (NHIC) | Evaluated and unevaluated wetlands, watercourses, woodlands, greenlands, Areas of Natural and Scientific Interest (ANSI), rare species occurrences, plant communities, wetlands, and natural areas information |
| Bird Studies Canada et al. (2025) Ontario Breeding Bird Atlas (OBBA) | General Avian species and potential Species at Risk (SAR) |
| Ontario Nature (2025) Ontario Reptiles & Amphibian Atlas (ORAA) | General Reptiles & Amphibian species and potential SAR |
| Fisheries and Oceans Canada (2025) Aquatic Species at Risk Interactive Map | Online mapping resource to identify potential species at risk occurrences and critical habitat |

| Information Source | Data Description |
|---|---|
| Government of Ontario (2025) Ontario Species at Risk List (O. Reg. 230/08) | SAR list and status ratings |
| Town of Caledon (2024) Official Plan | Environmental protection areas, Greenbelt, natural heritage system and schedules |
| Region of Peel (2022) Official Plan | Environmental protection areas, Greenbelt, natural heritage system and schedules |
| GEI Consultants (GEI, 2023) | Sampled Fish Community Data completed as part of Master Environmental Servicing Plan (MESP) studies for the Simpson Road Alignment |

## 3.3 Field Investigations

Site-specific natural heritage information was obtained through 2025 field surveys. This information was used to develop the description of the natural environment and to identify potential impacts related to proposed land use changes. **Table 2** provides a summary of site visits and field tasks completed to date.

**Table 2. Summary of SLR 2025 Field Surveys**

| Date | Task | Weather |
|---|---|---|
| June 24, 2025 (morning) | Breeding Bird Survey No. 1, Ecological Land Classification, Botanical Inventory | Sky: clear; Beaufort[1] wind: 3; Temperature: 26°C |
| June 24, 2025 (evening) | Amphibian Survey | Sky: partly cloudy; Beaufort wind: 1; Temperature: 23°C |
| July 8, 2025 | Breeding Bird Survey No. 2 | Sky: partly cloudy; Beaufort wind: 3; Temperature: 19°C |
| 1The Beaufort Wind Scale is a tool used to estimate wind conditions. [0] Air calm, smoke rises vertically [1] Light air movement, smoke drifts, [2] Wind felt on face, leaves rustle [3] Leaves and small twigs in continual motion, wind extends light flags [4] Wind raises dust, loose paper, moves small branches [5] Small trees begin to sway, white crested wavelets form on inland waters [6] Large branches in motion | | |

### 3.3.1 Vegetation Communities

Aerial photography and Geospatial Ontario data were used to initially delineate vegetation communities according to principles of the *Ecological Land Classification (ELC) for Southern Ontario: First Approximation and its Application* (Lee et. al., 1998). As outlined in **Table 2**, site-specific field investigations were undertaken in June 2025 to collect vegetation data at the community level and refine vegetation community limits.

### 3.3.2 Breeding Bird Surveys

The OBBA (Bird Studies Canada, 2020) was reviewed to compile a master list of potential birds breeding at the site, which was subsequently analyzed against known available suitable supporting habitat to tailor findings specifically to the existing site conditions.

Breeding bird surveys were undertaken within the recognized surveying window in Ontario for breeding birds on June 24 and July 8, 2025. Surveys followed standard methodologies and

conditions established by the OBBA (Bird Studies Canada, 2025) (i.e., between 05:30 and 10:00, low winds, no precipitation, and suitable temperatures). Breeding evidence was recorded and classified as possible, probable, or confirmed (e.g., singing male, pair observed or adult carrying food) in accordance with the standard protocols. Where SAR birds were observed, information including sex, behaviour and interaction with other SAR and non-SAR birds were also recorded.

### 3.3.3 Amphibian Survey

Secondary source literature was reviewed to identify known records of reptiles, amphibians, or both, potentially found within the site, including the NHIC database. An amphibian survey was undertaken to understand the potential presence of breeding amphibians and presence of SAR (e.g., Western Chorus Frog (*Pseudacris triseriata*)). Targeted surveys for reptiles were not undertaken by SLR as no preliminary triggers were identified.

Calling surveys followed the general methodology of the Bird Studies Canada (2009) Marsh Monitoring Program (MMP) (adapted to site conditions), during appropriate seasons and weather conditions.

As climate change has the potential to shift the incidence of calling amphibians, it is increasingly important to coordinate surveys based on weather conditions and seasonal trends. The Beaufort Wind Scale was used to determine whether wind levels were too strong to hear an accurate representation of amphibians occupying the site. A reference site was used to ensure calling was conducted during appropriate weather conditions and served as a benchmark for amphibian activity (i.e. increase confidence in negative results if calls are not detected at test sites). Calling evidence was recorded on a scale of L0-L3 and interpreted as follows:

- L0 – No calling
- L1 – Individuals can be accurately counted; calls do not overlap
- L2 – Some calls simultaneous, number of individuals can be estimated
- L3 – Full chorus, calls overlap, individuals cannot be estimated

### 3.3.4 Aquatic Habitat

An aquatic habitat assessment of Tributary D was completed utilizing several sets of field data, including previously collected information from SLR staff in May 2023 as part of the fluvial geomorphologic reconnaissance visit (SLR, 2025), field information from Aqualogic (Aqualogic, 2019) and GEI Consultants (GEI, 2023), and habitat information collected during SLR 2025 ecological field investigations.

Overall, the field information collected, reviewed and described as part of the aquatic assessment provides detail on the following stream characteristics:

- Channel structure and morphology;
- Bank condition and signs of erosion;
- Substrate type and composition;
- Riparian vegetation;
- Canopy cover;
- Visual water quality; and,

- Presence of in-stream barriers.

### 3.3.5 Incidental Wildlife

Incidental wildlife observations were recorded during the 2025 field investigations. Evidence of presence was recorded during various field investigations from direct sightings and indirectly from such indicators as calls, nests, tracks, scats, browse and burrows.

### 3.3.6 Species of Conservation Concern

A review of available reports and information, including the following open-source databases and species atlases, was completed to determine SAR and Species of Conservation Concern (SoCC) with the potential to occur within the Study Area:

- Natural Heritage Information Centre (NHIC) Make-a-Map Application (MNR, 2025; accessed July 2025) grid squares 17PJ0354, 17PJ0454, 17PJ0455 (target), 17PJ0456, 17PJ0554, 17PJ0555 and 17PJ0556;
- Ontario Breeding Bird Atlas (Birds Canada, 2025) grid square 17PJ05;
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019) grid square 17PJ05;
- Ontario Butterfly Atlas (Toronto Entomologists' Association – Macnaughton et al., 2025) grid square 17PJ05;
- Atlas of the Mammals of Ontario (Dobbyn, 1994)
- iNaturalist Herps of Ontario and (NHIC) Rare Species of Ontario projects (iNaturalist, 2025)
- eBird (The Cornell Lab of Ornithology, 2025)
- Professional experience, specifically in relation to potential bat habitats

Species that are designated federally and identified on Schedule 1 of the SARA, provincially designated by the Committee on the Status of Species at Risk in Ontario and included in the SARO list regulation (O. Reg. 230/08) under the ESA, and/or species of regional or local interest (e.g., locally or regionally rare) are collectively identified as SoCC. The review was undertaken at a broad scale through reliance on open-source data including but not limited to the Geospatial Ontario GeoHub database (MNR, 2025a) and NHIC Make a Map application (MNRF, 2025b). At a finer scale, more relevant output was achieved using a habitat suitability evaluation for SoCC with known ranges extending into the Site including birds, mammals, and reptiles using data interpretation and mapping. Any SoCC incidentally observed during field investigations were documented.

### 3.3.7 Significant Wildlife Habitat

Using the criteria outlined in the Significant Wildlife Habitat (SWH) Technical Guide (Ministry of Natural Resources, 2000) and Ecoregion Criteria Schedules 7E (Ministry of Natural Resources and Forestry, 2015), SWH was evaluated as part of the field investigations to determine the potential to occur on or adjacent to the site. Under the SWH Criteria, constructed habitats are generally not to be considered as SWH.

# 4.0 Existing Conditions

The Study Area is located within an urbanized area, predominantly surrounded by commercial and industrial development and active road networks (**Figure 2**). The eastern portion of the Study Area is bounded by a vacant, elongated and vegetated strip of land. This vegetated strip generally marks location of the future Simpson Road alignment. Currently, a small drainage ditch traverses the Study Area, conveying flow from the northern stormwater management pond to lands to the south of Mayfield Road. The following sections describe the general geological, aquatic and terrestrial site characteristics of the Study Area.

## 4.1 Terrain and Surficial Geology

The Study Area is situated within the Bevelled Till Plains physiographic region of southern Ontario (Chapman and Putnam, 1984), specifically within the South Slope. This area is characterized as a sloping plain that extends across the lower headwater regions, ranging from approximately 245 metres at surface level (masl) at the Oak Ridges boundary to about 220 masl at the southern edge adjoining the Peel Plain. A second band of this region extends along the southern boundary of the Peel Plain at elevations between 180 and 190 masl.

The topography of the Study Area is relatively uniform (i.e., not hummocky), resulting in high surface runoff and limited infiltration capacity.

## 4.2 Aquatic Habitat Conditions

Tributary D arises from a stormwater management facility situated immediately north of the Study Area and forms a constituent portion of the Rainbow Creek drainage network (**Photos 1 to 3**). At a watershed level, the Rainbow Creek subwatershed drains an area of approximately 48 $km^2$, and is generally divided into two sub-catchments, Rainbow Creek and Robinson Creek. These two sub-catchments converge to form Plunkett's Creek, which eventually empties into the main branch of the Humber River north of Steeles Avenue (Cole Engineering Group Ltd., 2014).

From background, general aquatic habitat conditions were originally described in the baseline environmental characterization data from the previously completed 2000 MESP for the Bolton South Industrial Lands (Burnside, 2000). The historical significance and sensitivity of the aquatic habitat in Tributary D indicated that the subject watercourse, along with many other watercourses in the area, were highly intermittent and generally did not support direct fish habitat. Within the Study Area, Tributary D is considered a "small riverine warmwater system". Small riverine warmwater systems, as described in the Humber River Fisheries Management Plan (MNR and TRCA, 2005), are first- and second-order tributaries draining from the Peel Plain. Due to the dominance of clay soils and high runoff potential, these tributaries experience significant fluctuations in temperature and stream flow, drying up or attaining high temperatures during summer months.


**Photo 1. Concrete, fill and truck parking along the top of the west bank (photo taken facing upstream, north).**

**Photo 2. Fill and garbage along west bank, dense vegetation in the channel along east bank (photo taken facing upstream, north).**

**Photo 3. Typical channel cross-section with instream vegetation and evidence of channel maintenance.**

As depicted in **Photos 2 and 3** above, the current aquatic habitat along the Rainbow Creek tributary appears limited, and no direct fish habitat was identified in 2019 reporting (Aqualogic, 2019). Conversely, more recent fish community sampling completed by GEI Consultants in June 2023 found that limited numbers of several fish species were utilizing portions of the Tributary D channel including Creek Chub (*Semotilus atromaculatus*), Fathead Minnow (*Pimephales promelas*), Brook Stickleback (*Culaea inconstans*), and Pumpkinseed (*Lepomis gibbosus*). These species are all considered intermediately tolerant to tolerant of environmental perturbations including changes to temperature and pollution levels (Eakins, 2025).

In its current state, most of the channel area is straight and lacks defined habitat features such as pools or riffle areas that would help to support a diverse warmwater fish community. Additionally, potential fish habitat barriers also exist in the form of dense in-stream vegetation (i.e., Phragmites) (**Photo 3**), intermittent debris jams, and legacy culvert structures that are undersized or improperly installed. These fish barriers likely minimize the ability for fish to utilize the entirety of the channel area, which is consistent with GEI's documentation of fish in only two segments of the tributary. During the 2025 field investigations, Tributary D was found to be mostly dry along its length, with several elongated pools of standing water noted at various intervals. No flow was noted along the ditch's extent within the Study Area. The instream channel of Tributary D is heavily vegetated, mostly dominated by cattails (*Typha* sp.), with abundant invasive Common Reed (*Phragmites australis*) noted adjacent to Mayfield Road. Channel substrates are heavily influenced by the surrounding land use and deposition of tableland soils resulting in a mixture of silts, sands and organic material. Bank erosion and elongated undercut banks are common in areas of exposed soil and limited riparian vegetation.

In terms of water quality, the 2000 MESP highlighted that water quality degradation was already apparent throughout the general area, including the subject watercourse (Burnside, 2000). This

historical decline in water quality was primarily due to land clearing and other agricultural activities resulting in increased overland runoff and diminished base flows, exposed to agricultural inputs such as fertilizers, pesticides, and manure (AMEC, 2012). During the 2023 and 2025 SLR investigations, visual water clarity was cloudy, especially within pool features.

Today, due to current adjacent lands uses (i.e., industrial), allochthonous material supply to downstream reaches of Rainbow Creek is negated by poor water quality and potential contamination inputs from localized vehicle parking, maintenance, erosion around obstructions, and parking lot runoff. As previously referenced earlier in this subsection, the Tributary D catchment is underlain predominantly by clay-rich soils, which lead to high runoff and significant fluctuations in temperature and stream flow, resulting in prolonged dry conditions and high temperatures during summer months

### 4.2.1 Fish Community

Through project related discussions with GEI Consultants (GEI), it is understood that fish community sampling was undertaken by GEI ecologists along Tributary D within the Study Area (GEI, 2023). It is understood that the fish community sampling was completed as part of the updated Master Environmental Servicing Plan MESP studies being completed for the larger surrounding area. From GEI's surveys, the following fish species were captured along Tributary D, at the SWM pond outlet, the downstream channel, and the downstream road allowance, respectively:

- (1) Creek Chub (*Semotilus atromaculatus*)
- (1) Fathead Minnow (*Pimephales promelas*); (6) Brook Stickleback (*Culaea inconstans*)
- (15) Fathead Minnow; (2) Pumpkinseed (*Lepomis gibbosus*)

## 4.3 Vegetation

The Study Area consists mainly of industrial lands (i.e., truck and trailer parking), and open meadow, with some shallow and meadow marsh present in association with the channelized watercourse (**Figure 2**). A stormwater management block is situated immediately to the north, and agricultural lands to south, on the south side of Mayfield Road. The open meadow can be classified as a Dry-Moist Old Field Madow (CUM1-1), dominated by forbs and grasses including Reed Canary Grass (*Phalaris arundinacea*), Canada Thistle (*Cirsium arvense*), Wild Carrot (*Daucus carota*), Tall Goldenrod (*Solidago altissima*), Field Horsetail (*Equisetum arvense*), Garden Bird's-foot Trefoil (*Lotus corniculantus*) and Common Milkweed (*Asclepias syriaca*).

Three Shallow Marsh communities complexed with Meadow Marsh (MAS2-2/MAM2-2) occur within the Study Area with one of them adjacent to the redesign area. These communities are dominated by Reed Canary Grass, Narrow-leaved Cattail (*Typha angustifolia*) and Broad-leaved Cattailed (*Typha latifolia*), with pockets of Common Reed (*Phragmites Australis*). These communities are found with a very sparse cover of trees such as Manitoba Maple (*Acer negundo*), White Poplar (*Populus alba*), White Willow (*Salix alba*), *and* European Mountain-ash (*Sorbus aucuparia*).

A Cultural Thicket (CUT) community is present adjacent to the stormwater pond at the northern west section of the Study Area, which includes Red-osier Dogwood (*Cornus rugosa*), Sweet Cherry (*Prunus avium*), Staghorn Sumac (*Rhus typhina*), Reed Canary Grass, and Tall Goldenrod.

A botanical inventory with S-Ranks and local statuses is provided in **Table A1.** No SAR or provincially rare species were observed. One species, Eastern Ninebark (*Physocarpus*

*opulifolius*), is considered rare in Peel Region where the Study Area occurs, although the specimens observed may have been planted as they were present along the banks of a SWM pond (Varga et al., 2000). Several species observed are invasive, including Manitoba Maple, Reed Canary Grass, White Poplar, Common Reed, Coltsfoot (*Tussilago farfara*), Narrow-leaved Cattail, Smooth Brome (*Bromus inermis*) and Canada Thistle. Most of the invasive plant species present are widespread in the cultural meadow communities, with Reed Canary Grass, Narrow-leaved Cattail and Common Reed prevalent in the marsh communities.

## 4.4 Wildlife

Wildlife habitat within and adjacent to the Study Area is highly influenced and modified by the surrounding commercial and industrial land uses and is limited in suitability to species tolerant of urban environments and human disturbance.

### 4.4.1 Breeding Bird Surveys

A total of 12 bird species were observed during two breeding bird surveys on June 24, and July 8, 2025. Of the species observed, two were recorded as possibly breeding within the Study Area, nine were recorded as probably breeding, and one American Robin (*Turdus migratorius*) was confirmed as breeding based on observation of fledged young. A complete list of bird species observed is provided in **Table A2**.

### 4.4.2 Amphibian Call Survey

No amphibian species were recorded during the amphibian call survey completed on June 24, 2025. No daytime surveys completed for Western Chorus Frog in the Study Area as there are no suitable habitats present.

### 4.4.3 Incidental Wildlife Observations

Incidental wildlife observations included birds not observed during breeding bird surveys and any other wildlife observations during any field investigations. Species detected in the Study Area included one Mollusc: Brown lipped snail (*Cepaea nemoralis*), and the following insects: Green Frog (*Lithobates clamitans*), Eastern forktail (*Ischnura verticalis*), Shadow Darner (*Ashna umbrosa*), Widow Skimmer *(Libellula luctuosa*), Virginia Ctenucha (*Ctenucha virginica*), Cabbage White (*Pieris rapae*), Monarch (*Danaus plexippus*), Northern Crescent (*Phyciodes cocyta*), Essex skipper (*Thymelicus lineola*), Familiar Bluet (*Enallagma civile*) and Eastern Tailed Blue (*Cupido comyntas*).

### 4.4.4 Significant Wildlife Habitat

The full results of the SWH screening for the Study Area are presented in **Table A3** Within the Study Area, the following candidate SWH is considered to be present according to the results of field investigations:

- **Amphibian Breeding Habitat (Wetlands):** Due to the timing of the 2025 field investigations only a late-season amphibian breeding call survey was completed. From review of onsite conditions, there is potential for early or mid season breeding amphibians species to utilize the existing linear wetland area within the Study Area. As a result, the central wetland may be considered ‘potential’ SWH for amphibian breeding at this stage of the project, subject to additional surveys during seasonally appropriate timing windows.

## 4.5 Species at Risk and Species of Conservation Concern Screening

The Study Area was screened for potential SAR and SoCC habitat opportunities using background review and assessment of the Study Area. Habitat opportunities for SAR and SoCC were assessed by comparing habitat preferences of species deemed to have potential to occur with current site conditions (**Table A4**)

SAR and SoCC identified during the desktop review were screened for the potential to use habitats within the Site or within 120 m of the Study Area for general life processes including breeding, hibernation, overwintering, locomotion, migration, and foraging. All SAR identified during the desktop analysis are provided along with federal, provincial, and local status rankings. Special Concern and provincially rare (S1-S3) species are also included[1].

Potential habitat for Monarch Butterfly has been identified. However, as a Species of Special Concern, there are no protections under the ESA. The area has not been identified as SWH for Monarchs (Section 4.4).

# 5.0 Assessment of Significance

For the Study Area, the on-site potential for Wetlands, Fish Habitat, Habitat for *Endangered* and *Threatened* species (Species at Risk), and Significant Wildlife Habitat (SWH), are all evaluated in relation to the project in the following sections. The Study Area does not support or have the potential to support other NHF types (e.g., Areas of Natural and Scientific Interest or Coastal Wetlands) and these are not assessed in this report.

## 5.1 Wetlands

There are no Provincially Significant Wetlands (PSW) on or adjacent to the Study Area. The wetlands occurring within the Study Area are considered unevaluated and therefore fall under PNAC of the Greenlands System in the Region of Peel Official Plan. According to the Regional policies, these features are to be "*interpreted, protected, restored, and enhanced and shown, as appropriate, in the local municipal official plans.*" The Regional policies (2.24.40) support appropriate use of ecosystem compensation provided the development or site alteration does not result in negative impacts to the natural features or ecological functions of the Greenlands System; should compensation be an acceptable form of mitigation, there should be no net loss and if possible, a net gain, in natural heritage feature area or function.

Under the Town of Caledon OP, the wetlands in the Study Area are identified as Other Wetlands and fall under Supportive Natural Systems and Natural Linkages under the ecosystem framework. Town policies (3.2.5) prohibit development in Other Wetlands unless it can be demonstrated that the development will not result in the degradation of ecological integrity.

[1] *Species at Risk Information is accurate and up to date as of this report (July 2025). New species designations under Ontario Regulation 230/08 (Species at Risk in Ontario List) occur periodically. The owner is responsible to ensure that species and habitats regulated under Endangered Species Act (2007) or those described under other policies (i.e. the Migratory Bird Convention Act, Fish and Wildlife Conservation Act) are protected.*

Town policy 3.2.4.13 states that the Town will encourage initiatives to restore degraded ecosystems within the municipality and may require restoration/enhancement works through the development approvals process.

## 5.2 Fish and Fish Habitat

Tributary D provides limited warmwater habitat for several fish species that are considered intermediately tolerant of environmental perturbations. As observed through onsite review, the current Tributary D channel is highly altered, intermittently disconnected, and subject to a series of anthropogenic inputs including untreated runoff from adjacent truck yards, and deposition of trash and other debris.

In line with GEI's 2023 fish sampling, the watercourse is identified as fish habitat, and thus, is designated as a NAC of the Greenlands System. Under the Town of Caledon's OP the Tributary D is identified as an *Other Fishery Resource Area*. Similar to development considerations for wetlands, development is not permitted within Other Fishery Resource Areas unless it can be demonstrated that the development will not harmfully alter, disrupt, or destroy fish habitat, or that there will be no net loss of productive capacity of fish habitat, and a net gain of capacity where possible.

## 5.3 Significant Wildlife Habitat

Through the current background review and onsite investigations, the Study Area is not identified as candidate SWH; however, it is recommended that additional breeding amphibian surveys be completed, during the appropriate seasons, to verify if early and mid season breeding species may utilize the existing linear wetland.

## 5.4 Habitat for Threatened and Endangered Species

Through the background review and onsite investigations, no habitat for Threatened or Endangered Species is identified within the Study Area (see **Table A4**). The Study Area, in its current state, does not provide unique habitat qualities required for certain SAR, and rather provides a low-quality, low floristic habitat which has been historically subjected to significant amounts of degradation, and ongoing anthropogenic inputs, further reducing the likelihood of the Study Area to be utilized by SAR.

Despite SLR's initial observations, there are certain habitat components that should be reviewed during the seasonally appropriate survey windows, specifically for SAR bats. In Ontario, bats may utilize trees with certain characteristics (e.g., knot holes, peeling bark, cracks and crevices) for maternity roosting. It is recommended that the Study Area be reviewed during appropriate seasonal windows (i.e., leaf off conditions from late fall to early spring) to ensure bats are not utilizing treed areas within the Study Area.

# 6.0 Proposed Development

The proposed development involves decommissioning of the existing drainage Tributary D, and removal of existing riparian vegetation to facilitate the construction of a realigned, naturalized meandering low-flow channel and its encompassing floodplain. This work supports the design of a sinuous, bankfull channel within a broader floodway, incorporating natural features such as pools, riffles, and riparian plantings to accommodate fish passage and long-term lateral adjustments. The detailed channel alignment plan, as prepared by Greckon behalf of the Landowners Group and dated February 24, 2025, is overlaid on **Figure 3**.

As part of the proposed design, an extension of the existing SWM pond outlet will be constructed to help facilitate future access to the industrial land parcels on the west side of the future Simpson Road alignment (**Figure 3**). The extension of the existing outlet is to be achieved through installation of a piped structure, connecting the existing stormwater pond to the new realigned natural channel.

To facilitate the decommissioning of the current Tributary D channel and construction of the new channel, a flow bypass system will need to be installed in order to maintain flows from upstream to downstream, while construction is undertaken.

# 7.0 Impact Assessment

The overarching impact of the proposed channel realignment will be one of a positive nature, as the current, historically degraded system and areas of current truck parking will be replaced by a channel with dedicated aquatic and terrestrial habitat components that also addresses flooding and erosional concerns (**Figure 3**). As outlined in the 2025 draft *Geomorphological Assessment and Channel Realignment Guidance* document, prepared by SLR, the following opportunities are to be implemented as part of the proposed design (SLR, 2025):

- Establish a planform, profile, and cross-section that adhere to the principles of natural channel design.
- Remove in-channel debris and garbage accumulation that can be a barrier to fish passage and exacerbate erosion.
- Establish a low-flow channel for fish refuge and passage given the prolonged periods of low flow.
- Improve the channel's access to its floodplain during flood events to moderate bed and bank erosion and decrease velocities (i.e., improve fish passage) during high flows.
- Incorporate unique geomorphic habitat features along the channel to provide more heterogeneity.
- Establish a riparian area that will improve the ecological, geomorphological, and hydraulic function of West Rainbow Creek.

Besides the general positive impacts of the proposed channel works, other temporary impacts, of a potentially adverse nature, are also considered, and are outlined in subsections 7.1.1 to 7.1.5. (direct) and subsection 7.2 (Indirect). Direct impacts include those that have an immediate effect on natural heritage features and are generally associated with site preparation and construction activities, such as vegetation clearing and grubbing, grading, excavation, paving and building of structures, indirect impacts are not caused by immediate project actions but result from the implementation of the project, typically after project completion or outside of the project footprint.

## 7.1 Direct Impacts

### 7.1.1 Temporary Vegetation Removal and Disturbance

The construction phase of the proposed development will result in the temporary loss of riparian vegetation, in this case early successional meadow and wetland vegetation, along the existing Tributary D channel. During this time, there is greater potential for soil mobilization and

migration downstream as the riparian area is exposed, lacking stabilization due to the temporary loss of vegetation.

### 7.1.2 Temporary Fish Passage

Due to the nature of the proposed works, temporary isolation of the Tributary D channel area will be required to complete decommissioning of the existing channel area and construction of the new realigned natural channel. For any bypass design (passive vs. pumped system), cofferdams will be installed at the upstream and downstream extents of the proposed work area. The installation of these measures will allow for the construction of the realigned channel to occur in dry conditions.

### 7.1.3 Water Quality

As a result of the proposed works and operation of machinery within the general channel area during the construction stage of the project, there is potential for spills or releases of deleterious substances that could adversely affect immediate or downstream water quality.

### 7.1.4 Invasive Species

Construction activities have the potential to unintentionally facilitate the spread of invasive plant species through the moving of equipment, soils, and plant materials within and outside of the Site. The establishment and spread of invasive plant species can have substantial negative impacts on ecosystem function and can incur significant costs to eradicate or control. Vehicles and machinery should be properly cleaned following the procedures outlined in the *Clean Equipment Protocol for Industry* (Halloran et al., 2013) prior to entering and leaving the Study Area. Species such as Common Reed can be spread through seed dispersal resulting from construction disturbance, and also through rhizomatic propagation (i.e., the horizontal growth of underground root systems).

### 7.1.5 Temporary Wildlife Habitat Impacts

As a result of the proposed removal of existing vegetation along the drainage ditch, there will be a temporary loss of potential habitat for resident wildlife along the Tributary D corridor.

With the implementation of mitigation measures including vegetation clearing outside of the bat active season and breeding bird season, impacts to SAR bats and other SAR and SoCC bird species identified in **Table A4** are not anticipated.

## 7.2 Indirect Impacts

As mentioned, indirect impacts are not caused by immediate project actions but result from the implementation of the project, typically after project completion or outside of the project footprint. Examples of indirect impacts include increased edge effects on woodland habitat following clearing for construction or pollution in stormwater runoff following the construction of a road.

As part of the proposed decommissioning of the existing drainage ditch and construction of the natural channel there is potential for impacts to downstream water quality, outside of the Study Area. Adverse water quality conditions, downstream of the work area, could be caused by a release of deleterious substances, or as a result of ineffective or damaged erosion and sediment control (ESC) measures leading to the migration of sediments.

# 8.0 Mitigation Measures and Enhancement Opportunities

Mitigation measures and enhancement opportunities (including site restoration) are recommended in the following sections to minimize impacts within the Study Area and on surrounding natural features.

## 8.1 Fish and Aquatic Habitat Protection

As part of the proposed isolation and flow bypass works, there is potential for fish to become stranded within the proposed work area. To avoid direct impacts to fish, removal and relocation of fish and other wildlife will be necessary following channel isolation.

To facilitate the removal and relocation of fish and other wildlife, a Scientific Collector's Permit (SCP) is to be obtained from the Ministry of Natural Resources (MNR). The SCP will provide detailed instruction and approval on capture methods, recommended timing and mitigations, and management of captured fish and other wildlife.

In terms of protecting aquatic habitat, it is recommended that short-term stabilization measures be implemented immediately following construction, followed by application of appropriate native seed mixtures for long-term stabilization and proper generation of allochthonous material and aquatic food supply. Recommended short-term stabilization measures include installation of erosion control blankets (i.e., coir matting).

Alongside the application of a native seed mixture, revegetation of the new natural channel should also include native plantings to further improve the localized natural and aquatic habitat and provide additional ecological benefits such as insect production and thermal mitigation. Native plantings could include live stakes, grasses and forbs, and native shrubs and trees.

In addition to MNR permitting, consultation and permitting is to be sought with the DFO through submission of a formal request for review (RFR) application. As part of this submission document, project details will be summarized and integration of applicable DFO development guidelines (i.e., Codes of Practice) are to be considered. Through professional experience, a DFO RFR is typically accepted by DFO at the 60% design phase of the project.

As alluded to in Section 7.0, the completion of the natural channel realignment will also help to provide aquatic habitat heterogeneity and connectivity throughout the Tributary D feature (SLR, 2025). Through completion of the natural channel realignment, fish will find new refuge opportunities across riffle-pool sequences which feature coarse substrates (SLR, 2025), ideal for spawning activity (e.g., Creek Chub's preference for riffle habitats with coarse substrates) (Eakins, 2025). Incorporation of brush material and large woody debris (SLR, 2025) within the channel will promote spawning suitability for other noted fish species such as Fathead Minnow and Brook Stickleback which utilize instream vegetation for spawning purposes (Eakins, 2025).

## 8.2 Invasive Species

The proposed realignment project presents an opportunity to remove invasive species such as Common Reed and Narrow-leaved Cattail from the existing Tributary D channel corridor. Where construction activities are to occur, the species can be physically removed and transported to an approved landfill for disposal. Where they remain post-construction, physical removal or application of herbicide can be used to control their spread.

## 8.3 Erosion and Sediment Control

It is recommended that a comprehensive ESC plan be developed and implemented to prevent migration of sediment laden runoff (or other contaminants) from the construction zone to the immediate surrounding area or downstream reaches of Rainbow Creek. This plan should include inspection and maintenance of the measures until final channel stabilization is established. It is SLR's understanding that these recommended ESC measures will be implemented as part of individual site plan applications. Specific aspects may include:

- Perimeter silt fence installed between the work areas and along the existing naturalized areas within the area of construction. Alternatively, where practical, installation of fibre roll logs (ex. filtrexx or coir or equivalent) can be installed to properly isolate the work area.
- Installation of a cofferdam and flow bypass system to allow channel works to occur in dry conditions. Installation of the cofferdam and flow bypass system should generally follow installation and materials criteria outlined in the TRCA's 2019 *Guidelines for Urban Construction* (TRCA, 2019) or OPSD standards. As briefly discussed in Section 8.1, the flow bypass system, amongst other project details, should generally follow DFO Codes of Practice guidance.
- Silt fence and/or fibre roll logs are properly installed and regularly inspected and maintained. Sediment control will be left in place and maintained until all surfaces contributing drainage to these features are fully stabilized.
- All exposed and newly constructed surfaces will be stabilized using appropriate means in accordance with the characteristics of the soil material. These surfaces will be fully stabilized and re-vegetated as quickly as possible following completion of the proposed works.
- An emergency response plan including contingency procedures, materials, and notification procedures will be available for use in the event of a silt release and for general application in regular maintenance and repair.
- Any and all construction dewatering will be focused through appropriate filtration mediums (i.e., filter bags) placed in well-vegetated lands at least 30 m from the receiving surface water feature.

## 8.4 Construction Access, Site Controls and Operational Constraints

- The construction access and work areas should be confined to the extent required for the construction activities, and these areas are to be defined in the field using appropriately installed protective fencing or other suitable barriers.
- Any temporarily stockpiled material will be properly contained (e.g., within silt fencing) in areas separated a minimum of 30 m from any waterbody.
- All construction materials and debris will be removed and appropriately disposed of following construction.
- Every effort will be made to retain as much of the natural vegetation as reasonably possible to help ensure bank stability, control erosion, and expedite the re-colonization of vegetative cover.



- A comprehensive Spill Control Plan is to be developed and implemented as part of future site plan processes. All activity will be controlled to prevent entry of any petroleum products, debris, or other potential deleterious substances, in addition to sediment as outlined above, to any waterbody. No storage, maintenance, or refuelling of equipment will be conducted near any waterbody.

## 8.5 Recommendations for Construction

The following operational constraints and mitigation strategies are recommended for use during construction for the protection of natural heritage features and functions on and adjacent to the Site.

- Development and implementation of an Invasive Species Management Plan for vegetation removals and landscaping, specifically to address abundant species such as Common Reed, Black Locust, Reed Canary Grass, and Common Buckthorn.
- Permanent post and page wire or chain-link fence is recommended along the limits of the blocks/lots which provide adequate protection for adjacent features. The existing fence will act as a barrier to discourage people, machinery, or other activities such as stockpiling of materials, dumping and encroachment into off-site features. Temporary sediment control fencing can be attached to the fencing and must be maintained and remain in place until final grading and landscaping has been completed.
- Vegetation removals associated with construction-related activities are to be minimized. Additional tree fencing may be required in consultation with the City and/or TRCA to prevent intrusion and stockpiling of materials into adjacent communities. If fill should need to be placed, it should not be placed or stored within 30 m of a wetland or watercourse.
- Exposed soils should be re-vegetated as soon as possible with native seed mixes to reduce erosion potential. Planting of milkweed is encouraged given SLR's incidental observation Monarch Butterfly in the Study Area. If stabilization is not possible by plantings, then other appropriate erosion controls (e.g., coir mats) should be applied in the interim. Appropriate seed mixes should be utilized according to the site conditions and follow *TRCA Seed Mix Guideline* (January 2022).
- It is the proponent's responsibility to ensure that the works conform to the MBCA and ESA in that no migratory bird(s) or SAR species will be harmed, killed nor will nests or habitats be destroyed by the proposed work. The recommended avoidance window which includes migratory bird(s) and SAR bats is from April 1$^{st}$ to October 30$^{th}$. No avoidance window absolves the proponent or their contractors from contravening the MBCA or ESA. Contravention can occur if vegetation removal and construction activities take place during sensitive timing periods for wildlife. Vegetation removal in preparation for Site grading and construction should take place outside of sensitive timing windows for wildlife species:
    - Breeding bird season per Environment Canada's nesting periods for migratory birds: April 1 to August 31
    - Bat maternity season: April 1 to October 30
- Avoidance windows simply highlight the most likely season when encounters are likely. If a nest egg, fledging or SAR species is encountered work must stop and the appropriate agency (e.g., Environment Canada (MBCA) or, MECP (SAR) consulted for advice.

- To protect wildlife in general, no animals are to be knowingly harmed. If wildlife is encountered during construction, work must stop, and animals allowed to disperse on their own. If necessary, the MNRF/MECP or HCA should be contacted for advice.
- The restoration plan should include native plant species and seed mixes to provide habitat for SAR insects (e.g., milkweed) and to prevent the further spread of non-native and/or invasive species.
- Construction monitoring by an ecologist/arborist and certified inspector of sediment and erosion control is recommended as a part of a monitoring program to be developed with TRCA. This may include (but is not limited to): photographic records, periodic ESC inspection reports, inspection of protected limits to ensure no encroachment, and inspection of other mitigation measures.

# 9.0 Closure and Next Steps

In addition to the recommended mitigation measures outlined in Section 8.0, there are a number of recommended next steps for the project, including completion of additional investigations during seasonally appropriate windows to gather all ecological conditions. Additionally, there are additional reporting efforts recommended to provide appropriate direction to subsequent project design stages. Moving forward, it is recommended, in consultation with appropriate agencies, that the following be considered:

- Completion of one additional breeding bird survey. Standard protocols dictate that, for most development sites, that a breeding bird survey in early June be completed to capture potential early spring breeding bird species.
- Two additional amphibian breeding surveys. Standard protocols dictate that, for most development sites, that three amphibian breeding surveys be completed to capture a range of species that breed at different times in the spring.
- A Tree Inventory and Protection Plan. It is recommended that the tree within and adjacent to the proposed area of disturbance should be inventoried and outcomes assigned to each individual or grouping. Outcomes can be trees to be retained, removed or disturbed. The findings of the TIPP and mitigation requirements should be summarized in a comprehensive arborist report.
- Alongside the Tree Protection Plan, all Study Area trees should be surveyed for potential bat habitat characteristics (i.e., snag tree assessment).
- As part of the detailed design phase of the project, a detailed restoration plan should be developed to provide direction on re-vegetating the realigned channel area. Restoration opportunities are to generally align with TRCA and the Town's guidelines. As part of the restoration plan, opportunities to remove and manage and replace invasive species, as detailed in Section 8.2, should also be developed.
- Due to the presence of fish habitat within the Tributary D channel, a formal Request for Review (RFR), detailing all pertinent project details relating to fish and fish habitat, should be prepared and submitted to the DFO for review and comment.

The findings of this Scoped EIS are the result of a background review, field investigations and an assessment of ecological data, as well as the current natural heritage policy requirements. We have identified the natural environmental sensitivities, potential impacts and mitigative opportunities to be implemented as part of the proposed development plan. Based on the findings and recommendations of this study, it is our professional opinion that with the implementation of the mitigation measures provided in this report, the proposed natural channel design development plan is environmentally feasible, resulting in positive outcomes for natural heritage in the Study Area.

Regards,

**SLR Consulting (Canada) Ltd.**

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# Tables

## Environmental Impact Study

South Simpson Road Natural Channel Design

**Simpson Road Landowners Group Inc.**

SLR Project No.: 233.V24250.00001

August 7, 2025

## Table A1: Botanical Inventory

| CUM 1-1 | CUT1 | MAS2-2/MAM2-2 | Overall | Scientific Name | Common Name | S Rank | COSEWIC Status | SAR Schedule 1 Status | SARO Status | G Rank | N Rank | Exotic Status | Coefficient of Conservatism | Coefficient of Wetness | Weediness Index | Peel | TRCA RANKS 2023 | CVC/PEEL STATUS (CVC 2002) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | | x | x | *Acer negundo* | Manitoba Maple | S5 | | | | G5 | N5 | | 0 | 0 | | | L+? | |
| x | | | x | *Arctium minus* | Common Burdock | SNA | | | | GNR | NNA | SE5 | | 3 | -2 | | L+ | |
| x | | | x | *Asclepias syriaca* | Common Milkweed | S5 | | | | G5 | N5 | | 0 | 5 | | | L5 | |
| x | | | x | *Bromus inermis* | Smooth Brome | SNA | | | | G5 | NNA | SE5 | | 5 | -3 | | L+ | |
| x | | x | x | *Carex vulpinoidea* | Fox Sedge | S5 | | | | G5 | N5 | | 3 | -5 | | | L5 | |
| x | | | x | *Cirsium arvense* | Canada Thistle | SNA | | | | G5 | NNA | SE5 | | 3 | -1 | | L+ | |
| x | | | x | *Convolvulus arvensis* | Field Bindweed | SNA | | | | GNR | NNA | SE5 | | 5 | -1 | | L+ | |
| x | x | | x | *Cornus sericea* | Red-osier Dogwood | S5 | | | | G5 | N5 | | 2 | -3 | | | L5 | |
| x | | | x | *Daucus carota* | Wild Carrot | SNA | | | | GNR | NNA | SE5 | | 5 | -2 | | L+ | |
| x | | | x | *Dipsacus fullonum* | Common Teasel | SNA | | | | GNR | NNA | SE5 | | 3 | -1 | | L+ | |
| x | | | x | *Elymus repens* | Quackgrass | SNA | | | | GNR | NNA | SE5 | | 3 | -3 | | L+ | |
| x | | | x | *Equisetum arvense* | Field Horsetail | S5 | | | | G5 | N5 | | 0 | 0 | | | L5 | |
| x | | | x | *Erigeron annuus* | Annual Fleabane | S5 | | | | G5 | N5 | | 0 | 3 | | | L5 | |
| x | | | x | *Lotus corniculatus* | Garden Bird's-foot Trefoil | SNA | | | | GNR | NNA | SE5 | | 3 | -2 | | L+ | |
| x | | | x | *Medicago sativa* | Alfalfa | SNA | | | | GNR | NNA | SE5 | | 5 | | | | |
| x | | | x | *Melilotus albus* | White Sweet-clover | SNA | | | | G5 | NNA | SE5 | | 3 | -3 | | L+ | |
| x | | | x | *Melilotus officinalis* | Yellow Sweet-clover | SNA | | | | GNR | NNA | SE5 | | 3 | -1 | | L+ | |
| x | x | | x | *Phalaris arundinacea* | Reed Canarygrass | S5 | | | | G5 | N5 | | 0 | -3 | | | L+? | |
| x | | | x | *Phleum pratense* | Common Timothy | SNA | | | | GNR | NNA | SE5 | | 3 | -1 | | | |
| x | | | x | *Phragmites australis ssp. australis* | European Reed | SNA | | | | G5T5 | NNA | SE5 | | -3 | | | L+ | |

| CUM 1-1 | CUT1 | MAS2-2/MAM2-2 | Overall | Scientific Name | Common Name | S Rank | COSEWIC Status | SAR Schedule 1 Status | SARO Status | G Rank | N Rank | Exotic Status | Coefficient of Conservatism | Coefficient of Wetness | Weediness Index | Peel | TRCA RANKS 2023 | CVC/PEEL STATUS (CVC 2002) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | x | | x | *Physocarpus opulifolius* | Eastern Ninebark | S5 | | | | G5 | N5 | | 5 | -3 | | R1 | L3 | rare |
| x | | | x | *Pilosella caespitosa* | Meadow Hawkweed | SNA | | | | GNR | NNA | SE5 | | 5 | -2 | | L+ | |
| x | | | x | *Plantago major* | Common Plantain | SNA | | | | G5 | NNA | SE5 | | 3 | -1 | | L+ | |
| x | | x | x | *Populus alba* | White Poplar | SNA | | | | G5 | NNA | SE5 | | 5 | -3 | | L+ | |
| x | | | x | *Populus deltoides* | Eastern Cottonwood | S5 | | | | G5 | N5 | | 4 | 0 | | | | |
| | x | | x | *Prunus avium* | Sweet Cherry | SNA | | | | GNR | NNA | SE4 | | 5 | -2 | | L+ | |
| | x | | x | *Rhus typhina* | Staghorn Sumac | S5 | | | | G5 | N5 | | 1 | 3 | | | L5 | |
| x | | | x | *Rumex crispus* | Curled Dock | SNA | | | | GNR | NNA | SE5 | | 0 | -2 | | L+ | |
| | | x | x | *Salix alba* | White Willow | SNA | | | | G5 | NNA | SE4 | | -3 | -2 | | L+ | |
| | x | | x | *Salix interior* | Sandbar Willow | S5 | | | | G5 | N5 | | 1 | -3 | | | L5 | |
| x | x | | x | *Solidago altissima* | Tall Goldenrod | S5 | | | | G5 | N5 | | 1 | 3 | | | | |
| | | x | x | *Sorbus aucuparia* | European Mountain-ash | SNA | | | | G5 | NNA | SE4 | | 5 | -2 | | L+ | |
| | | x | x | *Symphyotrichum laeve* | Smooth Aster | S5 | | | | G5 | N5 | | 7 | 3 | | | | |
| | | x | x | *Symphyotrichum lanceolatum* | Panicled Aster | S5 | | | | G5 | N5 | | 3 | -3 | | | | |
| x | | | x | *Trifolium pratense* | Red Clover | SNA | | | | GNR | NNA | SE5 | | 3 | -2 | | L+ | |
| x | | | x | *Tripleurospermum inodorum* | Scentless Chamomile | SNA | | | | GNR | NNA | SE | | 0 | | | L+ | |
| x | | | x | *Tussilago farfara* | Coltsfoot | SNA | | | | GNR | NNA | SE5 | | 3 | -2 | | L+ | |
| | | x | x | *Typha angustifolia* | Narrow-leaved Cattail | SNA | | | | G5 | N5 | SE5 | | -5 | | | L+ | |
| | | x | x | *Typha latifolia* | Broad-leaved Cattail | S5 | | | | G5 | N5 | | 1 | -5 | | | L4 | |
| x | | | x | *Vicia cracca* | Tufted Vetch | SNA | | | | GNR | NNA | SE5 | | 5 | -1 | | L+ | |

| LEGEND | |
|---|---|
| **SRANK** | 2018 |
| S1 Critically Imperiled | Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. |
| S2 Imperiled | Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. |
| S3 Vulnerable | Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. |
| S4 Apparently Secure | Uncommon but not rare; some cause for long-term concern due to declines or other factors. |
| S5 Secure | Common, widespread, and abundant in the nation or state/province. |
| SU Unrankable | Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. |
| SNA Unranked | A conservation status rank is not applicable because the species is not a suitable target for conservation activities. |
| SX Presumed Extirpated | Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered. |
| SH Possibly Extirpated (Historical) | Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. |
| SE# Exotic Status | |
| S#? Rank Uncertain | |
| **COSSARO** | 2018 |
| END Endangered | A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA. |
| THR Threatened | A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed. |
| SC Special Concern | A species with characteristics that make it sensitive to human activities or natural events. |
| DD Data Deficient | |
| EXP Extirpated | A species that no longer exists in the wild in Ontario but still occurs elsewhere. |
| **COSEWIC** | 2018 |
| END Endangered | A wildlife species facing imminent extirpation or extinction. |
| THR Threatened | A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction. |
| SC Special Concern | A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats. |
| VUL Vulenerable | |
| NAR Not at Risk | A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances. |
| DD Data Deficient | A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction. |
| NA Non-active | |
| XT Extirpated | A wildlife species that no longer exists in the wild in Canada, but exists elsewhere. |
| **SARA Schedule** | |
| Schedule 1 Officially Protected under SARA | |
| Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1 | |
| Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1 | see point 8 here: http://www.dfo-mpo.gc.ca/species-especes/faq/faq-eng.htm |
| **Grank (global)** | |
| G1 | **Extremely rare** Usually 5 or fewer occurrences |
| G2 | **Very rare** Usually between 5 and 20 occurrences |
| G3 | **Rare to uncommon** Usually between 20 and 100 occurrences |

| | |
|---|---|
| G4 | **Common** Usually more than 100 occurrences |
| G5 | **Very common** |
| GH | **Historic** No records in the past 20 years. |
| GU | **Status uncertain** |
| GX | **Globally extinct** |
| G A "G" (or "T") | conservation data centre has not yet obtained the Global Rank from The Nature Conservancy |
| G? | **Unranked** |
| Q | Denotes that the taxonomic status of the species, subspecies, or variety is questionable. |
| T | Denotes that the rank applies to a subspecies or variety. |
| ? | Denotes inexact numeric rank (i.e. G4?). |

***TERMINOLOGY*** *(See the following pages for addition detailed information on terms.)*

**Weediness Index**: This value, ranging from -1 (low) to -3 (high) quantifies the potential invasiveness of non-native plants. In combination with the percentage of non-native plants, it can be used as an indicator of disturbance.

**Provincial Status:** Provincial ranks are used by the NHIC to set protection priorities for rare species and natural communities. These ranks are not legal designations. S4 and S5 species are generally uncommon to common in the province. Species ranked S1-S3 are considered to be rare in Ontario.

**Local Status:**

**X:** native species present (collection-based) and all exotic species

**R:** native species locally rare (number of stations): Durham (<10 stations), GTA (<40 stations), Site District 6E7 (<20 stations)

**U:** native species locally uncommon Durham (11-20 stations), GTA (41-80 stations), Site District 6E7 (21-40 stations)

Note: study area in Site District 6E13

**A:** abundant: occurring almost everywhere in great numbers

**C:** common: occurring almost everywhere

**F:** frequent: widespread occurrence but not in large numbers

**Record Type**

SR - sight record

SRP - sight record with photograph

**Abundance**

*Dominant:* A plant with the greatest cover and/or biomass within a plant community and represented throughout the community by large numbers of individuals. Visually more abundant than other species in the same stratum and forming >10% ground cover, and >35% of the vegetation cover in any one stratum.

*Abundant:* Referring to a plant which is represented throughout the polygon or community by large numbers of individuals or clumps. Likely to be encountered anywhere in the polygon. Usually forming >10% ground cover.

*Occasional:* Referring to plants which are present as scattered individuals throughout a community, or represented by one or more large clumps of many individuals. Most species will fall into this category.

*Rare:* Cover or abundance of a plant species that is represented in the area of interest by only one to a few individuals.

***EXPLANATION OF TERMS***

**Weediness Index**

The sensitivity of natural areas can be assessed through application of the Weediness Index. The Weediness Index quantifies the potential invasiveness of non-native plants, and, in combination with the percentage of non-native plants can be used as an indicator of disturbance. Values (ranging from 1- to -3) have been assigned to most non-native species based on the potential impact each species can have in natural areas:

-1: little or no impact on natural areas (most non-native plants are in this category)

-2: occasional impacts on natural areas, generally infrequent or localized

-3: major potential impacts on natural areas

**Provincial Status**

Provincial ranks are used by the NHIC to set protection priorities for rare species and natural communities. These rankings are based on the total number of extant Ontario populations and the degree to which they are potentially or actively threatened with destruction. The ranks are:

**S1: Critically Imperiled** in Ontario; 5 or fewer occurrences; especially vulnerable to extirpation

**S2: Imperiled** in Ontario; usually between 5-20 occurrences or with many individuals in fewer occurrences; often susceptible to extirpation.

**S3: Vulnerable** in Ontario due to a restricted range; relatively few populations ,usually between 20-80 occurrences;recent and widespread declines, or other factors making it vulnerable to extirpation

**S4: Apparantly Secure**; uncommon but not rare; some cause for long-term concern due to decline or other factors; usually more than 100 occurrences.

**S5: Secure** in Ontario; common, widespread and abundant in the province

**SNR: Unranked** in Ontario; conservation status not yet assessed

**SU: Unrankable**; currently unrankable due to lack of information or due to substantially conflicting information about staus or trends

**SNA: Not Applicable -** a conservation status rank is not applicable because the species is not a suitable target for conservation activities

**SX: Presumed Extirpated** from Ontario, with little likelihood of rediscovery; typically not seen in the province for many decades despite searches at known historic sites.

**SU: Unrankable; currently unrankable due to lack of information or due to substantially conflicting information about staus or trends**

**SH: Possibly Extirpated (Historically)** known to occur in Ontario, but not verified recently (typically not recorded for the last 20 to 40 years); suitable habitat is still present and there is a reasonable expectation that it may be rediscovered.

**Additional older Sranks being replaced in 2006**

**C: Captive/Cultivated** existing in Ontario only in a cultivated state; not yet fully established and self-sustaining

**S?: Not Ranked Yet**

**SA: Accidental;** of accidental or casual occurrence in the province, far outside normal range

**SAB: Breeding accidental**

**SAN: Non-breeding accidental**

**SE: Exotic**; not believed to be a native component of Ontario's flora. Numerical rankings after SE follow designations described above for native species.

**SR: Reported** in Ontario, but without persuasive documentation.

**SRF: Reported falsely from Ontario**

**SX: Apparantly extirpated from Ontario**

**SZ: Not of practical conservation concern**

Rank ranges, e.g. S2S3, indicate that the rank is either S2 or S3, but that current information is insufficient to differentiate.

**"?"** following a rank indicates uncertainty about the assigned rank.

# Table A2: Breeding Bird Survey Results

| Common Name | Scientific Name | Highest Breeding Code | Breeding Evidence | S-RANK |
|---|---|---|---|---|
| American Goldfinch | *Spinus tristis* | S | Possible | S5B |
| American Robin | *Turdus migratorius* | FY | Probable | S5B |
| Common Grackle | *Quiscalus quiscula* | H | Possible | S5B |
| Swamp Sparrow | *Melospiza georgiana* | S | Possible | S5B, S4N |
| Willow Flycatcher | *Empidonax traillii* | S | Probable | S4B |
| Gray Catbird | *Dumetella carolinensis* | S | Possible | S4B |
| House Finch | *Haemorhous mexicanus* | S | Possible | SNA |
| European Starling | *Sturnus vulgaris* | S | Possible | SNA |
| Mourning Dove | *Zenaida macroura* | S | Possible | S5 |
| Common Raven | *Corvus corax* | H | Possible | S5 |
| Red-winged Blackbird | *Agelaius phoeniceus* | A | Probable | S4 |
| Song Sparrow | *Melospiza melodia* | A | Probable | S5B |

**Provincial S-rank:**
S4: Apparently Secure (uncommon, but not rare in the nation and/or province)
S5: Secure (common, widespread and abundant in the nation and/or province)
SNA: Not Applicable (species is not a suitable target for conservation activities)
B: Breeding migrants/vagrants
N: Non-breeding migrants/vagrants

**Breeding evidence:**
X: Species observed during its breeding season, but not in suitable nesting habitat (no breeding evidence found).
H: Species observed in suitable nesting habitat during its breeding season.
S: Singing male or adult producing other sounds associated with breeding (e.g., calls or drumming) in suitable nesting habitat during the species' breeding season.
T: Presumed territory based on the presence of an adult bird in the same suitable nesting habitat patch on at least two visits, one week or more apart, during the species' breeding season.
A: Agitated behaviour or alarm calls of an adult in suitable nesting habitat during the species' breeding season.
FY: Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight.

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Waterfowl Stopover and Staging Areas**<br><br>**(Terrestrial)**<br><br>**Rationale**: Habitat important to migrating waterfowl. | American Black Duck<br>Wood Duck<br>Green-winged Teal<br>Blue-winged Teal<br>Mallard Northern Pintail<br>Northern Shoveler<br>American Wigeon<br>Gadwall | CUMI CUTI<br>- Plus evidence of annual spring flooding from melt water or run-off within these Ecosites. | Fields with sheet water during Spring (mid-March to May).<br>• Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.<br>• Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available [cxlviii]<br>**<u>Information Sources</u>**<br>• Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence.<br>• Reports and other information available from Conservation Authorities<br>• Sites documented through waterfowl planning processes (eg. EHJV implementation plan)<br>• Field Naturalist Clubs<br>• Ducks Unlimited Canada<br>• Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area | Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"ccxi<br>• Any mixed species aggregations of I00 or more individuals required.<br>• The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat [cxlviii]<br>• Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).<br>• SWHMiST[cxlix] Index #7 provides development effects and mitigation measures. | N | No species or habitat observed; insufficient flooding of fields to provide sutiable habitat |
| **Waterfowl Stopover and Staging Areas**<br><br>**(Aquatic)**<br><br>**Rationale**: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district. | Canada Goose<br>Cackling Goose<br>Snow Goose<br>American Black Duck<br>Northern Pintail<br>Northern Shoveler<br>American Wigeon<br>Gadwall<br>Green-winged Teal<br>Blue-winged Teal<br>Hooded Merganser<br>Common Merganser<br>Lesser Scaup<br>Greater Scaup<br>Long-tailed Duck<br>Surf Scoter<br>White-winged Scoter<br>Black Scoter | MASI<br>MAS2<br>MAS3<br>SASI<br>SAMI<br>SAFI<br>SWDI<br>SWD2<br>SWD3<br>SWD4<br>SWD5<br>SWD6<br>SWD7 | • Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water)<br>**<u>Information Sources</u>**<br>• Environment Canada.<br>• Naturalist clubs often are aware of staging/stopover areas.<br>• OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging.<br>• Sites documented through waterfowl planning processes (eg. EHJV implementation plan)<br>• Ducks Unlimited projects<br>• Element occurrence specification by Nature Serve: | Studies carried out and verified presence of:<br>• Aggregations of I 00® or more of listed species for 7 days®, results in> 700 waterfowl use days.<br>• Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH [cxtix]<br>• The combined area of the ELC ecosites and a 100m radius area is the SWH [cxlviii]<br>• Wetland area and shorelines associated with sites identified within the SWHTG cxlviii Appendix K [cxtix] are significant wildlife habitat.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]<br>• Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with | N | No species observed; insufficient aquatic habitat |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| | Ring-necked duck<br>Common Goldeneye<br>Bufflehead<br>Redhead<br>Ruddy Duck<br>Red-breasted Merganser<br>Brant<br>Canvasback<br>Ruddy Duck | | http://www.natureserve.org<br>• Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area | species numbers and dates recorded).<br>• SWHMiST[cxtix] Index #7 provides development effects and mitigation measures. | | |
| **Shorebird Migratory Stopover Area**<br><br>**Rationale:**<br>High quality shorebird stopover habitat is extremely rare and typically has a long history of use. | Greater Yellowlegs<br>Lesser Yellowlegs<br>Marbled Godwit<br>Hudsonian Godwit<br>Black-bellied Plover<br>American Golden-Plover<br>Semipalmated Plover<br>Solitary Sandpiper<br>Spotted Sandpiper<br>Semipalmated Sandpiper<br>Pectoral Sandpiper<br>White-rumped Sandpiper<br>Baird's Sandpiper<br>Least Sandpiper<br>Purple Sandpiper<br>Stilt Sandpiper<br>Short-billed Dowitcher<br>Red-necked Phalarope<br>Whimbrel<br>Ruddy Turnstone<br>Sanderling<br>Dunlin | BBOI<br>BBO2<br>BBSI<br>BBS2<br>BBTI<br>BBT2<br>SDOI<br>SDS2<br>SDTI<br>MAMI<br>MAM2<br>MAM3<br>MAM4<br>MAM5 | • Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.<br>• Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.<br>• Sewage treatment ponds and storm water ponds do not qualify as a SWH. **Information Sources**<br>• Western hemisphere shorebird reserve network.<br>• Canadian Wildlife Service (CWS) Ontario Shorebird Survey.<br>• Bird Studies Canada<br>• Ontario Nature<br>• Local birders and naturalist clubs<br>• Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area | Studies confirming:<br>• Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period)<br>• Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant.<br>• The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area [cxtviii]<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]<br>• SWHMiST cxtix Index #8 provides development effects and mitigation measures. | N | Suitable shoreline habitat not present in study area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Raptor Wintering Area**<br><br>**Rationale**: Sites used by multiple species, a high number of individuals and used annually are most significant. | Rough-legged Hawk<br><br>Red-tailed Hawk<br>Northern Harrier<br>American Kestrel<br>Snowy Owl<br><br>**Special Concern:**<br>Short-eared Owl<br>Bald Eagle | **Hawks/Owls:**<br><br>Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC.<br><br>**Upland:**<br>CUM; CUT; CUS;<br>CUW.<br>-<br>**Bald Eagle:**<br>Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area). | • The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.<br>• Raptor wintering sites (hawk/owl) need to be> 20 ha [cxlviii, cxlix] with a combination of forest and upland. [xvi, xvii, xviii, xix, xx, xxi]<br>• Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands [cxlix]<br>• Field area of the habitat is to be wind swept with limited snow depth or accumulation.<br>• Eagle sites have open water, large trees and snags available for roosting [cxlix]<br>**Information Sources:**<br>• OMNRF Ecologist or Biologist<br>• Field Naturalist Clubs<br>• Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area<br>• Data from Bird Studies Canada<br>• Results of Christmas Bird Counts<br>• Reports and other information available from Conservation Authorities. | Studies confirm the use of these habitats by:<br>• One or more Short-eared Owls or; One or more Bald Eagles or;<br>At least 10 individuals and two of the listed hawk/owl species ®.<br>• To be significant a site must be used regularly (3 in 5 years) [cxtix]<br>for a minimum of 20 days by the above number of birds®.<br>• The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area®<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]<br>• SWHMiST[cxlix] Index #10 and #11 provides development effects and mitigation measures. | N | Insufficient area of idle/fallow or lightly grazed field/meadow habitat in association with wooded areas |
| **Bat Hibernacula**<br><br>**Rationale;** Bat hibemacula are rare habitats in all Ontario landscapes. | Big Brown Bat<br>Tri-coloured Bat | Bat Hibemacula may be found in these ecosites: CCRI, CCR2, CCAI, CCA2 (Note: buildings are not considered to be SWH) | • Hibemacula may be found in caves, mine shafts, underground foundations and Karsts.<br>• Active mine sites should not be considered as SWH<br>• The locations of bat hibemacula are relatively poorly known.<br>**Information Sources**<br>• OMNRF for possible locations and contact for local experts<br>• Natural Heritage Information Center (NHIC) Bat Hibemaculum<br>• Ministry of Northern Development and Mines for location of mine shafts. | • All sites with confirmed hibernating bats are SWH ®·<br>• The habitat area includes a 200m radius around the entrance of the hibemaculurn [cxlviii],ccvii for most development types and 1000m for wind farms ccv.<br>• Studies are to be conducted during the peak swarming period (Aug. - Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects"[ccv]_SWHMiST[cxlix] Index #1 provides development effects and mitigation measures. | N | No available hibernacula present in the Study Area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| | | | • Clubs that explore caves (eg. Sierra Club)<br>• University Biology Departments with bat experts. | | | |
| **Bat Maternity Colonies**<br><br>**Rationale:** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes. | Big Brown Bat<br><br>Silver-haired Bat | Maternity colonies considered SWH are found in forested Ecosites.<br>All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM | • Maternity colonies can be found in tree cavities, vegetation and often in buildlings[xxii, xxv, xxvi, xxvii, xxxi] (buildings are not considered to be SWH).<br>• Maternity roosts are not found in caves and mines in Ontarioxxii.<br>• Maternity colonies located in Mature deciduous or mixed forest stands[ccix,ccx,ccv] with >10/ha large diameter (>25cm dbh) wildlife trees[ccvii]<br>• Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 [ccxiv] or class 1 or 2 [ccxii].<br>• Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred[ccx,lxiv]<br>**Information Sources**<br>• OMNRF for possible locations and contact for local experts<br>• University Biology Departments with bat experts. | • Maternity Colonies with confirmed use by;<br>• >10 Big Brown Bats®<br>• >5 Adult Female Silver- haired Bats®<br>• The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies®.<br>• Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects"[ccv].<br>• SWHMiST[cxlix] Index #12 provides development effects and mitigation measures. | N | No suitable habitat (forested ecosites) present onsite. |
| **Turtle Wintering Areas**<br><br>**Rationale:**<br>Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | Midland Painted Turtle<br><br>**Special Concern:**<br>Northern Map Turtle<br>Snapping Turtle | Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEOandBOO<br><br>Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as | • For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates.<br>• Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen [cix, ex, cxi, cxii]<br>• Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.<br>**Information Sources**<br>• EIS studies carried out by Conservation Authorities.<br>• Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites.<br>• OMNRF Ecologist or Biologist | • Presence of 5 over-wintering Midland Painted Turtles is significant®.<br>• One or more Northern Map Turtle or Snapping Turtle overwintering within a wetland is significant®.<br>• The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.<br>• Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. - Oct.) or spring (Mar. -May)[cvii].<br>• Congregation of turtles is more common where wintering areas are limited and therefore significant [cix, ex,cxi, cxii.]<br>• SWHMiST[cxlix] Index #28 provides development effects and mitigation | N | No suitable aquatic habitat present on site |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| | | over-wintering habitat. | • Field Naturalist clubs<br>• Natural Heritage Information Center (NHIC) | measures for<br>turtle wintering habitat. | | |
| **Reptile Hibernaculum**<br><br>**Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant. | **Snakes:**<br>Eastern Gartersnake<br>Northern Watersnake<br>Northern Red-bellied<br>Snake<br>Northern Brownsnake<br>Smooth Green Snake<br>Northern Ring-necked Snake<br><br>**Special Concern:**<br>Milksnake<br>Eastern Ribbonsnake<br><br>**Lizard Special Concern:**<br>(Southern Shield population):<br>Five-lined Skink | For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC FOC3 | • For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.<br>• Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line[iv, l, li, lii,cxii] .<br>• Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.<br>• Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures [cciii].<br>**<u>Information Sources</u>**<br>• In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g.old dug wells).<br>• Reports and other information available from Conservation Authorities.<br>• Field Naturalists clubs<br>• University herpetologists<br>• Natural Heritage Information Center (NHIC)<br>• OMNRF ecologist or biologist may be aware of locations of wintering skinks | Studies confirming:<br>• Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp.<br>• Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope)<br>on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)®<br>• <u>Note:</u> If there are Special Concern Species present, then site is SWH<br>• <u>Note:</u> Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH®<br>• SWHMiST[cxlix] Index #13 provides development effects and mitigation measures for snake hibernacula.<br>• Presence of any active hibernaculum for skink is significant.<br>• SWHMiST[cxlix] Index #37 provides development effects and mitigation measures for five lined skink wintering habitat. | N | Species not observed and suitable habitat features not present |
| **Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)** | Cliff Swallow | Eroding banks, sandy hills, borrow pits, steep slopes, | • Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. | Studies confirming:<br>• Presence of 1 or more nesting sites with 8[cxlix] or more cliff swallow pairs and/or rough- winged swallow pairs during the breeding season. | N | Suitable habitat features not present |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Rationale:**<br>Historical use and number of nests in a colony make this habitat significant. An identified colony<br>can be very important to local populations. All swallow population are declining in Ontario. | Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies) | and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites:<br>CUMI<br>CUTI<br>CUSI<br>BLOI<br>BLSI<br>BLTI<br>CLOI<br>CLSI<br>CLTI | • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.<br>• Does not include a licensed/permitted Mineral Aggregate Operation.<br>**Information Sources**<br>• Reports and other information available from Conservation Authorities.<br>• Ontario Breeding Bird Atlas<br>• Bird Studies Canada; NatureCounts http://www. birdscanada.org/birdmon/<br>• Field Naturalist Clubs. | • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests[ccvii]<br>• Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]<br>• SWHMiST[cxlix] Index #4 provides development effects and mitigation measures | | |
| **Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)**<br><br>**Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually. | Great Blue Heron<br>Black-crowned Night-Heron<br>Great Egret<br>Green Heron | SWM2 SWM3<br>SWM5 SWM6<br>SWDI SWD2<br>SWD3 SWD4<br>SWD5 SWD6<br>SWD7 FETI | • Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.<br>• Most nests in trees are 11 to 15 m from ground, near the top of the tree.<br>**Information Sources**<br>• Ontario Breeding Bird Atlas, colonial nest records.<br>• Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF).<br>• Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony<br>• Aerial photographs can help identify large heronries.<br>• Reports and other information available from CAs.<br>• MNRF District Offices.<br>• Local naturalist clubs. | Studies confirming:<br>• Presence of 5® or more active nests of Great Blue Heron or other listed species.<br>• The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH [cc,ccvii]<br>• Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells<br>• SWHMiST[cxlix] Index #5 provides development effects and mitigation measures. | N | Suitable wetland habitat unavailable to support SWH |
| **Colonially - Nesting Bird Breeding Habitat (Ground)** | Herring Gull<br><br>Great Black-backed Gull<br>Little Gull<br>Ring-billed Gull | Any rocky island or peninsula (natural or artificial) within a lake or large river | • Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas.<br>• Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to | Studies confirming:<br>• Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern®.<br>• Presence of 5 or more pairs for Brewer's Blackbird®. | N | Rocky islands or peninsulas not present; although meadow and marsh habitat present in proximity to watercourses, not suitable for Brewer's Blackbird |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Rationale;**<br>Colonies are important to local bird population, typically sites are only known colony in area and<br>are used annually. | Common Tern<br>Caspian Tern<br>Brewer's Blackbird | (two-lined on a 1;50,000 NTS map).<br><br>Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird)<br>MAMI-6; MASI -3; CUM CUT CUS | streams and irrigation ditches within farmlands.<br>**Information Sources**<br>• Ontario Breeding Bird Atlas , rare/colonial species records.<br>• Canadian Wildlife Service<br>• Reports and other information available from CAs.<br>• Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area<br>• MNRF District Offices.<br>• Field Naturalist clubs | • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant®.<br>• The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony<br>or any island <3.0ha with a colony is the SWH [cc,ccvii]<br>• Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats:<br>Guidelines for Wind Power Projects"ccxi<br>• SWHMiST[cxtix] Index #6 provides development effects and mitigation measures. | | |
| **Migratory Butterfly Stopover Areas**<br><br>**Rationale:** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter. | Painted Lady<br>Red Admiral<br><br>**Special Concern:**<br>Monarch | Combination of ELC Community Series; need to have present one Community Series from each land class:<br>Field:<br>CUM<br>CUT<br>CUS<br>Forest:<br>FOC<br>FOD<br>FOM<br>CUP<br>Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed. | A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Ontario [cxlix.]<br>• The habitat is typically a combination of field and forest and provides the butterflies with a location to rest prior to their long migration south [xxxii, xxxiii, xxxiv, xxxv, xxxvi.]<br>• The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat cxlviii, cxlix<br>• Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes [xxxvii, xxxviii, xxxix, xl, xli_]<br>**Information Sources**<br>• OMNRF (NHIC)<br>• Agriculture Canada in Ottawa may have list of butterfly experts.<br>• Field Naturalist Clubs<br>• Toronto Entomologists Association<br>• Conservation Authorities | Studies confirm:<br>• The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct)[xliii]. MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day[xxxvii,] significant variation can occur between years and multiple years of sampling should occur [xl, xlii].<br>• Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD.<br>• MUD of>5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.®<br>• SWHMiST [cxlix] Index #16 provides development effects and mitigation measures. | N | Site is more than 5km from Lake Ontario Shoreline |
| **Landbird Migratory Stopover Areas** | All migratory songbirds.<br><br>Canadian Wildlife Service Ontario website: | All Ecosites associated with | Woodlots need to be >10 ha® in size and within 5 km [iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv] of Lake Ontario. | Studies confirm:<br>• Use of the habitat by >200 birds/day and with >35 spp with | N | Site is more than 5km from Lake Ontario Shoreline |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Rationale:** Sites with a high diversity of species as well as high numbers are most significant. | http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1<br><br>All migrant raptors species:<br>Ontario Ministry of<br>Natural Resources:<br>Fish and Wildlife<br>Conservation Act, 1997.<br>Schedule 7: Specially<br>Protected Birds (Raptors) | these ELC Community Series;<br>FOC FOM FOD<br>SWC SWM<br>SWD | • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant cxlix<br>• Sites have a variety of habitats; forest, grassland and wetland complexes [cxlix].<br>• The largest sites are more significant [cxlix]<br>• Woodlots and forest fragments are important habitats to migrating birds[ccxviii], these features located along the shore and located within 5km of Lake Ontario are Candidate SWH [cxlviii]<br>**Information Sources**<br>• Bird Studies Canada<br>• Ontario Nature<br>• Local birders and naturalist club<br>• Ontario Important Bird Areas (IBA) Program | at least 10 bird spp. recorded on at least 5 different survey dates®. This abundance and diversity of migrant bird species is considered above average and significant.<br>• Studies should be completed during spring (Apr./May) and<br>fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]<br>• SWHMiST [cxtix] Index #9 provides development effects<br>and mitigation measures. | | |
| **Deer Winter Congregation Areas**<br><br>**Rationale:** Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions cxlviii | White-tailed Deer | All Forested Ecosites with these ELC Community Series;<br>FOC<br>FOM<br>FOD<br>swc<br>SWM<br>SWD<br><br>Conifer plantations • much smaller than<br>50 ha may also be<br>used. | • Woodlots will typically be >100 ha in size®. Woodlots <100ha may be considered as significant based on MNRF studies or assessment.<br>• Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands [cxlviii].<br>If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule.<br>• Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha [ccxxiv].<br>• Woodlots with high densities of deer due to artificial feeding are not significant®.<br>**Information Sources**<br>• MNRF District Offices.<br>• LIO/NRVIS | Studies confirm:<br>• Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF [cxlviii].<br>• Use of the woodlot by white tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF ®<br>• Studies should be completed during winter (Jan/Feb) when<br>>20cm of snow is on the ground using aerial survey techniques[ccxxiv] , ground or road<br>surveys. or a pellet count deer density survey[ccxxv].<br>• If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.<br>• SWHMiST cxlix Index #2<br>provides development effects and mitigation measures. | N | Habitat not mapped/identified by MNRF; large woodlots not present in study area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Rare Vegetation Communities** | | | | | | |
| **Cliffs and Talus Slopes**<br>**Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario. | | Any ELC Ecosite within Community Series:<br>TAO<br>TAS<br>TAT<br>CLO<br>CLS<br>CLT | A Cliff is vertical to near vertical bedrock >3 m in height.<br><br>A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.<br><br>•Most cliff and talus slopes occur along the Niagara Escarpment<br><br>Information Sources<br>•The Niagara Escarpment Commission has detailed information on location of these habitats<br>•OMNRF Districts<br>•Natural Heritage Information Centre (NHIC) has location information available on their website<br>•Field Naturalist Clubs<br>•Conservation Authorities | •Confirm any ELC Vegetation Type for Cliffs or Talus Slopes<br>•SWH MIST Index #21 provides development effects and mitigation measures | N | Habitat not present within study area |
| **Sand Barren Rationale:** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry. | | ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always <60% | Sand barrens typically are exposed sand, generally sparsely vegetated and caused by a lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.•A sand barren area >0.5 ha in size Information Sources •OMNRF Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities | •Confirm any ELC Vegetation Type for Sand Barrens •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.)•SWH MIST Index #20 provides development effects and mitigation measures | N | Habitat not present within study area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Alvar**<br><br>**Rationale**: Alvars are extremely rare habitats in Ecoregion 7E. | | ALO1<br>ALS1<br>ALT1<br>FOC1<br>FOC2<br>CUM2<br>CUS2<br>CUT2-1<br>CUW2<br><br>Five Alvar Indicator Species:<br>Carex crawei<br>Panicum philadelphicum<br>Eleocharis compressa<br>Scutellaria parvula<br>Trichostema brachiatum<br>These indicator species are very specific to Alvars within Ecoregion 7E | An Alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover<br><br>•An Alvar site >0.5 ha in size<br><br>Information Sources<br>•Alvars of Ontario (Federation of Ontario Naturalists, 2000)<br>•Conserving Great Lakes Alvars (Ontario Nature)<br>•OMNRF Districts<br>•Natural Heritage Information Centre (NHIC) has location information available on their website<br>•Field Naturalist Clubs<br>•Conservation Authorities | •Field studies identify that four of the five Alvar Indicator Species at a Candidate Alvar Site is significant<br>•Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.)<br>•The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses<br>•SWH MIST Index #17 provides development effects and mitigation measures | N | Habitat not present within study area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Old Growth Forest**<br><br>**Rationale:**<br>Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species. | | Forest Community Series: FOD<br>FOC<br>FOM<br>SWD<br>SWC<br>SWM | Old Growth Forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multilayered canopy and an abundance of snags and downed woody debris.<br><br>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest<br><br>Information Sources<br>•OMNRF Forest Resource Inventory mapping<br>•OMNRF Districts<br>•Field Naturalist Clubs<br>•Conservation Authorities<br>•Sustainable Forestry License (SFL) companies will possibly know locations through field operations<br>•Municipal forestry departments | Field studies will determine:<br>•If dominant tree species of the forest are >140 years old, then the area containing these trees is SWH<br>•The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present)<br>•The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH<br>•Determine ELC vegetation types for the forest area containing the old growth characteristics<br>•SWH MIST Index #23 provides development effects and mitigation measures | N | Habitat not present within study area |
| **Savannah**<br><br>**Rationale:** Savannahs are extremely rare habitats in Ontario. | | TPS1<br>TPS2<br>TPW1<br>TPW2<br>CUS2 | A Savannah is a tallgrass prairie habitat that has tree cover between 25-60%.<br><br>•No minimum size to site<br>•Site must be restored or a natural site. Remnant sites such as railway right-of ways are not considered SWH<br><br>Information Sources<br>•Natural Heritage Information Centre (NHIC) has location information available on their website<br>•Field Naturalist Clubs<br>•Conservation Authorities | Field studies confirm:<br>•One or more of the Savannah indicator species listed in Appendix N should be present. Note: savannah plant spp. List from Ecoregion 7E should be used.<br>•Area of the ELC Ecosite is the SWH<br>•Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.)<br>•SWH MIST Index #18 provides development effects and mitigation measures | N | Habitat not present within study area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Tallgrass Prairie**<br><br>**Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario. | | TPO1<br>TPO2 | A tallgrass prairie has ground cover dominated by prairie grasses. An open tallgrass prairie habitat has <25% tree cover.<br><br>•No minimum size to site<br>•Site must be restored or a natural site. Remnant sites such as railway right-of ways are not considered SWH<br><br>Information Sources<br>•Natural Heritage Information Centre (NHIC) has location information available on their website<br>•OMNRF Districts<br>•Field Naturalist Clubs<br>•Conservation Authorities | Field studies confirm:<br>•One or more of the Prairie indicator species listed in Appendix N should be present. Note: savannah plant spp. List from Ecoregion 7E should be used.<br>•Area of the ELC Ecosite is the SWH<br>•Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.)<br>•SWH MIST Index #19 provides development effects and mitigation measures | N | Habitat not present within study area |
| **Other Rare Vegetation Communities**<br><br>**Rationale:** Plant communities that often contain rare species which depend on the habitat for survival. | | Provincially rare (S1, S2, S3) vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide (MNRF, 2000). Any ELC Ecosite Code that has a possible ELC Vegetation Type that is provincially rare is candidate SWH. | Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.<br><br>•ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M of the Significant Wildlife Habitat Technical Guide (MNRF, 2000).<br>•OMNRF/NHIC will have up to date listing for rare vegetation communities.<br><br>Information Sources<br>•Natural Heritage Information Centre (NHIC) has location information available on their website<br>•OMNRF Districts<br>•Field Naturalist Clubs<br>•Conservation Authorities | •Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of the Significant Wildlife Habitat Technical Guide (MNRF, 2000).<br>•Area of the ELC Vegetation Type polygon is the SWH.<br>•SWH MIST Index #37 provides development effects and mitigation measures | N | No other Rare Vegetation Communities Present |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Specialized Habitat for Wildlife** | | | | | | |
| **Waterfowl Nesting Area Rationale**: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant. | American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard | All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4 Note: Includes adjacency to Provincially Significant Wetlands | • Waterfowl nesting area extends 120 m cxlix from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. •Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. •Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites Information Sources •Ducks Unlimited staff may know the locations of particularly productive nesting sites •MNRF Wetland Evaluations for indication of significant waterfowl nesting habitat •Reports and other information available from Conservation Authorities | Studies confirmed: •Presence of 3 or more nesting pairs for listed species excluding Mallards, or; •Presence of 10 or more nesting pairs for listed species including Mallards. •Any active nesting site of an American Black Duck is considered significant. •Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •A field study confirming waterfowl nesting habitat will determine boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest •SWH MIST Index #25 provides development effects and mitigation measures. | N | Suitable habitat not present – natural features too small and impinged by urban features (highways, roads) and agriculture |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Bald Eagle and Osprey Nesting, Foraging and Perching Habitat**<br><br>**Rationale**: Nest sites are fairly uncommon in Eco - region 7E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat. | Osprey<br><br>Special Concern:<br>Bald Eagle | ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands. | •Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. •Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy.<br>•Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms)<br><br>Information Sources<br>•NHIC compiles all known nesting sites for Bald Eagles in Ontario<br>•MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat<br>•Nature Counts, Ontario Nest Records Scheme data.<br>•OMNRF District<br>•Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented<br>•Reports and other information available from Conservation Authorities.<br>•Field Naturalists clubs | Studies confirm the use of these nests by:<br>•One or more active Osprey or Bald Eagle nests in an area<br>•Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important<br>•For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on sight lines from the nest to the development and inclusion of perching and foraging habitat<br>•To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid-August.<br>•Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"<br>•SWH MIST Index #26 provides development effects and mitigation measures | N | Suitable treed habitat not present |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Woodland Raptor Nesting Habitat**<br><br>**Rationale:** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species. | Northern Goshawk Cooper's Hawk<br>Sharp-shinned Hawk<br>Red-shouldered Hawk Barred Owl<br>Broad-winged Hawk | May be found in all forested ELC Ecosites.<br><br>May also be found in SWC, SWM, SWD and CUP3. | •All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer.<br>•Stick nests found in a variety of intermediate-aged to mature conifer,deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands.<br>•In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest.<br><br>Information Sources<br>•OMNRF Districts<br>•Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented<br>•Check data from Bird Studies Canada<br>•Reports and other information available from Conservation Authorities | Studies confirm:<br>•Presence of 1 or more active nests from species list is considered significant<br>•Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH. (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest).<br>•Barred Owl – A 200m radius around the nest is the SWH<br>•Broad-winged Hawk and Coopers Hawk, – A 100m radius around the nest is the SWH<br>•Sharp-Shinned Hawk – A 50m radius around the nest is the SWH<br>•Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.<br>•SWH MIST Index #27 provides development effects and mitigation measures | N | Woodland habitat not present |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Turtle Nesting Areas**<br><br>**Rationale**: These habitats are rare and when identified will often be the only breeding site for local populations of turtles | Midland Painted Turtle<br><br>Special Concern:<br>Northern Map Turtle Snapping Turtle | Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1, FEO1 | •Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.<br>•For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and is located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.<br>•Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes and rivers are most frequently used.<br><br>Information Sources<br>•Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels)<br>•Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them<br>•Natural Heritage Information Centre (NHIC)<br>•Field naturalist clubs | Studies confirm:<br>•Presence of 5 or more nesting Midland Painted Turtles.<br>•1 or more Northern Map Turtle or Snapping Turtle nesting is a SWH.<br>•The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 to 100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH.<br>•Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 to 100 m area of habitat.<br>•Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method.<br>•SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat. | N | Although exposed soil is present within 100 m of Marsh ecosites, species were not observed, marsh habitat is narrow/limited and impinged by urban land uses |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Seeps and Springs**<br><br>**Rationale**: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams. | Wild Turkey<br>Ruffed Grouse<br>Spruce Grouse<br>White-tailed Deer Salamanders | Seeps/springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs. | •Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system<br>•Seeps and springs are important feeding and drinking areas. Especially in the winter will support a variety of plant and animal species.<br><br>Information Sources<br>•Topographical Map<br>•Thermography<br>•Hydrological surveys conducted by Conservation Authorities and MECP<br>•Field Naturalists Clubs and landowners<br>•Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped | Studies confirm:<br>•Presence of a site with 2 or more seeps/springs should be considered SWH.<br>• The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat cxlviii.<br>• SWH MIST Index #30 provides development effects and mitigation measures | N | Suitable features not present/observed |
| **Amphibian Breeding Habitat (Woodland)**<br>**Rationale:** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations | Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog | All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians | •Presence of a wetland, pond or woodland pool (including vernal pools) >500 m2 (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. •Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. Information Sources •Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records •Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. •OMNRF Districts and wetland evaluations •Field Naturalist clubs •Canadian Wildlife Service Amphibian Road Call Survey •Ontario Vernal Pool Association: http://www.ontariovernalpools.org | Studies confirm: •Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or egg masses) or 2 or more of the listed frog species with Call Level Codes of 3. •A combination of observational study and call count surveys will be required during the spring (Mar.-Jun.) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands •The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. •SWH MIST Index #14 provides development effects and mitigation measures | N | No woodlands present on or adjacent to site |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Amphibian Breeding Habitat (Wetlands)**<br><br>**Rationale**: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes. | Eastern Newt<br>American Toad<br>Spotted Salamander<br>Four-toed Salamander<br>Blue-spotted Salamander Gray Treefrog<br>Western Chorus Frog Northern Leopard Frog Pickerel Frog<br>Green Frog<br>Mink Frog<br>Bullfrog | ELC Community Classes SW, MA, FE, BO, OA and SA.<br><br>Typically these wetland ecosites will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bullfrog) may be adjacent to woodlands. | •Wetlands >500m2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats<br>•Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators •Bullfrogs require permanent water bodies with abundant emergent vegetation.<br><br>Information Sources<br>•Ontario Herpetofaunal Summary Atlas (or other similar atlases)<br>•Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count.<br>•OMNRF Districts and wetland evaluations.<br>•Reports and other information available from Conservation Authorities | Studies confirm:<br>•Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant<br>•The ELC ecosite wetland area and the shoreline are the SWH<br>•A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands.<br>•If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.<br>•SWH MIST Index #15 provides development effects and mitigation measures | Potential | Although marsh and open water habitat are present, calling amphibians were not detected during the single call count survey completed. Green Frog was heard calling incidentally during breeding bird and ELC surveys. Additional early and mid spring surveys are recommended to property screen habitat and amphibian species presence. |
| **Woodland Area -Sensitive Bird Breeding Habitat**<br>**Rationale:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds | Yellow-bellied Sapsucker Red-breasted Nuthatch Veery<br>Blue-headed Vireo Northern Parula<br>Black-throated Green Warbler<br>Blackburnian Warbler Black-throated Blue Warbler Ovenbird<br>Scarlet Tanager<br>Winter Wren<br><br>Special Concern:<br>Cerulean Warbler<br>Canada Warbler | All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD | •Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha<br>•Interior forest habitat is at least 200 m from forest edge habitat<br><br>Information Sources:<br>•Local birder clubs<br>•Canadian Wildlife Service (CWS) for the location of forest bird monitoring<br>•Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species<br>•Reports and other information available from Conservation Authorities. | Studies confirm:<br>•Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.<br>•Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH<br>•Conduct field investigations in spring and early summer when birds are singing and defending their territories<br>•Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"<br>•SWH MIST Index #34 provides development effects and mitigation measures | N | Woodlands >30 ha with interior habitat are not present within the study area |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)** | | | | | | |
| **Marsh Breeding Bird Habitat**<br><br>**Rationale**: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes. | American Bittern<br>Virginia Rail<br>Sora<br>Common Moorhen<br>American Coot<br>Pied-billed Grebe<br>Marsh Wren<br>Sedge Wren<br>Common Loon<br>Sandhill Crane<br>Green Heron<br>Trumpeter Swan<br><br>Special Concern:<br>Black Tern<br>Yellow Rail | MAM1<br>MAM2<br>MAM3<br>MAM4<br>MAM5<br>MAM6<br>SAS1<br>SAM1<br>SAF1<br>FEO1<br>BOO1<br><br>For Green Heron: all SW, MA and CUM1 sites | •Nesting occurs in wetlands.<br>•All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present<br>•For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water<br><br>Information Sources<br>•OMNRF District and wetland evaluations<br>•Field Naturalist clubs<br>•Natural Heritage Information Centre (NHIC) Records<br>•Reports and other information available from Conservation Authorities<br>•Ontario Breeding Bird Atlas | Studies confirm:<br>• Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species<br>• Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH<br>• Area of the ELC ecosite is the SWH.<br>• Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats.<br>• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"<br>• SWH MIST Index #35 provides development effects and mitigation measures | N | Although wetland habitat is present, species were not observed |
| **Open Country Bird Breeding Habitat**<br><br>**Rationale**: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records | Upland Sandpiper Grasshopper Sparrow Vesper Sparrow<br>Northern Harrier<br>Savannah Sparrow<br><br>Special Concern:<br>Short-eared Owl | CUM1<br>CUM2 | •Large grassland areas (includes natural and cultural fields and meadows) >30 ha<br>•Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years)<br>•Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older.<br>•The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species<br><br>Information Sources<br>•Agricultural land classification maps, Ministry of Agriculture<br>•Local bird clubs<br>•Ontario Breeding Bird Atlas<br>•EIA/EIS Reports and other information available from Conservation Authorities | Field studies confirm:<br>•Presence of nesting or breeding of 2 or more of the listed species<br>•A field with 1 or more breeding Short-eared Owls is to be considered SWH<br>•The area of SWH is the contiguous ELC ecosite field areas<br>•Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories<br>•Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"<br>•SWH MIST Index #32 provides development effects and mitigation measures | N | Habitat criteria not met. Meadow/grassland areas within study area are not > 30 ha |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Shrub/Early Successional Bird Breeding Habitat Rationale**: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records. | Indicator Species: Brown Thrasher Clay-coloured Sparrow Common Species: Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher Special Concern:Yellow-breasted Chat Golden-winged Warbler | CUT1, CUT2, CUS1, CUS2, CUW1, CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species | •Large field areas succeeding to shrub and thicket habitats >10 ha in size •Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years) •Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species •Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands Information Sources •Agricultural land classification maps, Ministry of Agriculture•Local bird clubs•Ontario Breeding Bird Atlas •Reports and other information available from Conservation Authorities | Field studies confirm: •Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species •A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH •The area of the SWH is the contiguous ELC ecosite field/thicket area. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #33 provides development effects and mitigation measures | N | Habitat criteria not met; Thickets >10 ha in size not present |
| **Terrestrial Crayfish**<br><br>**Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare. | Chimney or Digger Crayfish; (Fallicambarus fodiens )<br><br>Devil Crayfish or Meadow Crayfish; (Cambarus diogenes ) | MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SWD, SWT, SWM<br><br>CUM1 with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish | •Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish •Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water •Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well-formed.<br><br>Information Sources •Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF, March, 1998 | Studies confirm: •Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites •Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH •Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult •SWH MIST Index #36 provides development effects and mitigation measures | N | Marsh habitat present, but evidence of species not observed |

**Table A3: Significant Wildlife Habitat Screening**

| Wildlife Habitat | Wildlife Species | Candidate SWH | | Confirmed SWH | Criteria Met (y/n) | Comments |
|---|---|---|---|---|---|---|
| | | ELC Ecosite Codes | Habitat Criteria and Information Sources | Defining Criteria | | |
| **Special Concern and Rare Wildlife Species**<br><br>**Rationale:** These species are quite rare or have experienced significant population declines in Ontario. | All Special Concern and Provincially Rare (S1, S2, S3, SH) plant and animal species. Lists of these species are tracked by the NHIC. | All plant and animal element occurrences (EOs) within a 1 km or 10 km grid.<br><br>Older EOs were recorded prior to GPS being available, therefore location information may lack accuracy | •When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites<br><br>Information Sources<br>•Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data<br>•NHIC Website "Get Information": http://nhic.mnr.gov.on.ca •Ontario Breeding Bird Atlas<br>•Expert advice should be sought as many of the rare spp. Have little information available about their requirement | Studies confirm:<br>•Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.<br>•The area of the habitat to the finest ELC scale that protects the habitat features and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat.<br>•SWH MIST Index #37 provides development effects and mitigation measures | N | Not applicable; Special Concern, or Rare Wildlife habitat not identified. |
| **Animal Movement Corridors** | | | | | | |
| **Amphibian Movement Corridors**<br><br>**Rationale:** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations. | Eastern Newt<br>American Toad<br>Spotted Salamander<br>Four-toed Salamander<br>Blue-spotted Salamander Gray Treefrog<br>Western Chorus Frog Northern Leopard Frog Pickerel Frog<br>Green Frog<br>Mink Frog<br>Bullfrog | Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1 | •Movement corridors between breeding habitat and summer habitat<br>•Movement corridors must be determined when Amphibian Breeding Habitat is confirmed as SWH (Amphibian Breeding Habitat, Wetland)<br><br>Information Sources<br>•MNRF District Office<br>•Natural Heritage Information Centre (NHIC)<br>•Reports and other information available from Conservation Authorities<br>•Field Naturalist Clubs | •Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites<br>•Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant<br>•Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps<20m<br>• Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat<br>• SWH MISTIndex #40 provides development effects and mitigation measures | N | Not applicable; amphibian breeding habitat not identified |

# Table A4. Species at Risk Screening

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| **AVIFAUNA** | | | | | | | | | |
| Bobolink (*Dolichonyx oryzivorus*) | S4B | THR | SC | THR | 1 | In Ontario, Bobolink are widely distributed throughout most of the province south of the boreal forest. In southern Ontario, its range extends from Windsor north to Sault Ste. Marie, and east to Cornwall. Bobolinks are most common in: Bruce/Grey/Dufferin region, Kawartha Lakes and Peterborough region, between Belleville and Kingston and between the Ottawa and St. Lawrence rivers (Government of Ontario, 2024). Bobolink mostly nest in hayfields and pastures, although it also uses wet prairie, grassy peatlands, alvars, abandoned fields dominated by tall grasses (Government of Canada, 2023). Bobolinks often build their small nests on the ground in dense grasses. | NHIC, OBBA | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Eastern Meadowlark (*Sturnella magna*) | S4B,S3N | THR | THR | THR | 1 | In Ontario, Eastern Meadowlark is primarily found south of the Canadian Shield but it also inhabits the Lake Nipissing, Timiskaming and Lake of the Woods areas. Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches (Government of Ontario, 2024). | NHIC, OBBA | N | None. |
| Wood Thrush (*Hylocichla mustelina*) | S4B | SC | THR | THR | 1 | Wood Thrush is found all across southern Ontario. It is also found, but less common, along the north shore of Lake Huron, as far west as the southeastern tip of Lake Superior. Wood Thrush live in mature deciduous and mixed (conifer-deciduous) forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing perches. These birds prefer large forests but will also use smaller stands of trees. They build their nests in living saplings, trees or shrubs, usually in sugar maple or American Beech (Government of Ontario, 2023). | NHIC, OBBA | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Eastern Wood-Pewee (*Contopus virens*) | S4B | SC | SC | SC | 1 | The Eastern Wood-pewee is found across most of southern and central Ontario, and in northern Ontario as far north as Red Lake, Lake Nipigon and Timmins. Eastern Wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation (Government of Ontario, 2021). | NHIC, OBBA | N | None. |
| Chimney Swift (*Chaetura pelagica*) | S3B | THR | THR | THR | 1 | Chimney Swift adopted chimneys for both nesting and roosting. It is now mainly associated with urban and rural areas where chimneys and similar structures are available, and where aerial insects are abundant for foraging (Government of Canada, 2023). In Ontario, it is most widely distributed in the Carolinian zone in the south and southwest of the province, but has been detected throughout most of the province south of the 49th parallel (Government of Ontario, 2024). | OBBA | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Common Nighthawk (*Chordeiles minor*) | S4B | SC | SC | SC | 1 | In Ontario, the Common Nighthawk occurs throughout the province except for the coastal regions of James Bay and Hudson Bay. Common Nighthawk habitat consists of open areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores, and mine tailings. Although the species also nests in cultivated fields, orchards, urban parks, mine tailings and along gravel roads and railways, they tend to occupy natural sites (Government of Ontario, 2022). | OBBA | N | None. |
| Bank Swallow (*Riparia riparia*) | S4B | THR | THR | THR | 1 | Bank Swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs. The Bank Swallow is found all across southern Ontario, with sparser populations scattered across northern Ontario. The largest populations are found along the Lake Erie and Lake Ontario shorelines, and the Saugeen River (which flows into Lake Huron) (Government of Ontario, 2023). | OBBA | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Barn Swallow (*Hirundo rustica*) | S4B | SC | SC | THR | 1 | Barn Swallow is found throughout southern Ontario and can range as far north as Hudson Bay, wherever suitable locations for nests exist. These birds prefer to nest within human-made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped, which are often re-used from year to year and made of mud. They are typically attached to horizontal beams or vertical walls underneath an overhang and prefer unpainted, rough-cut wood, since the mud does not adhere as well to smooth surfaces (Government of Ontario, 2023). | OBBA | N | None. |
| Red-headed Woodpecker (*Melanerpes erythrocephalus*) | S3 | END | END | END | 1 | The Red-headed Woodpecker is found across southern Ontario, where it is widespread but rare. The Red-headed Woodpecker lives in open woodland and woodland edges and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, which the bird uses for nesting and perching (Government of Ontario, 2023). | OBBA | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Acadian Flycatcher (*Empidonax virescens*) | S1B | END | END | END | 1 | The Acadian Flycatcher is typically found in mature, shady forests with ravines, or in forested swamps with lots of maple and beech trees. In Ontario, the Acadian Flycatcher primarily lives in the warmer climate of southern Ontario's Carolinian forests. It needs large, undisturbed forests, often more than 40 hectares in size. It has also been known to nest at a few sites in the Greater Toronto Area but this is unusual. The Acadian Flycatcher population in Ontario is very small, with 25 to 75 breeding pairs recorded in 2010 (Government of Ontario, 2022). | OBBA | N | None. |
| **HERPTILES** | | | | | | | | | |
| Western Chorus Frog Great Lakes / St. Lawrence - Canadian Shield population (*Pseudacris triseriata*) | S4 | - | THR | THR | 1 | Western Chorus Frog is found in the lowlands of southern Ontario. They require both terrestrial and aquatic habitats in close proximity. Terrestrial habitat consists mostly of humid prairie, moist woods, or meadows. For reproduction and tadpole development, this species requires seasonally dry, temporary ponds that are devoid of predators such as fish (Government of Canada, 2023) | NHIC | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Snapping Turtle (*Chelydra serpentina*) | S4 | SC | SC | SC | 1 | In Ontario, the Snapping Turtle can be found throughout southern and central Ontario. Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. During the nesting season, from early to mid-summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits (Government of Ontario, 2021). | ORAA | N | None. |
| Midland Painted Turtle (Chrysemys picta marginata) | S4 | - | SC | SC | 1 | Midland painted turtle inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. They often bask on shorelines or on logs and rocks that protrude from the water, and hibernates on the bottom of waterbodies (Government of Ontario, 2021) | NHIC | N | None. |
| Yellow-banded Bumblebee (*Bombus terricola*) | S3 S5 | SC | SC | SC | 1 | Yellow-banded Bumble Bee ranges across the Mixedwood Plains and Boreal Shield Ecozones of southern Ontario, with scattered collections having been made in the Hudson Bay lowlands around James Bay. It was collected in 2013 in southern Ontario, including Toronto, Oro Station and Ottawa. Yellow-banded Bumble Bee is a habitat generalist within open coniferous, deciduous and mixed-wood forests, wet and dry | NHIC | N | None. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides, in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas. Yellow-banded Bumble Bee is a generalist pollen forager (COSEWIC, 2015). | | | |
| **MAMMALS** | | | | | | | | | |
| Eastern Red Bat (*Lasiurus borealis*) | S3 | END | END | - | - | Eastern red bats roost in the foliage of deciduous or sometimes evergreen trees and occasionally in shrubs (Bat Conservation International, 2024; COSEWIC, 2024). Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. Their solitary roosting behaviour and well-camouflaged fur results in roosts being highly cryptic. Roost sites that have overhead foliage for cover and open flight space below are selected. Eastern red bats typically uses several trees during the breeding season (COSEWIC, 2024). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Eastern Small-footed Myotis (*Myotis leibii*) | S2 S3 | END | - | - | - | The Eastern Small-footed Bat has been found from south of Georgian Bay to Lake Erie and east to the Pembroke area. There are also records from the Bruce Peninsula, the Espanola area, and Lake Superior Provincial Park. During the summers, they roost in rock fields and talus slopes, favoring areas with high sun exposure. Colonies are also occasionally found in stone buildings under bridges or hollow trees. These bats often change their roosting locations every day (Government of Ontario, 2023; Bat Conservation International, 2025). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |
| Hoary Bat (*Lasiurus cinereus*) | S3 | END | END | - | - | Hoary bats roost solitarily among the foliage of trees, with preferences including maple, oak, ash, elder, hemlock, and redwood trees (Bat Conservation International, 2024). Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. There is little information regarding roost switching and roost area for Hoary Bats (COSEWIC, 2024). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Little Brown Myotis (*Myotis lucifugus*) | S3 | END | END | END | 1 | Little Brown Bat is widespread in southern Ontario and found as far north as Moose Factory and Favourable Lake. This species is especially associated with humans, often forming nursery colonies in buildings, attics, and other man-made structures. Females may establish summer maternity colonies in large-diameter trees (Government of Ontario, 2021; Bat Conservation International, 2025). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |
| Northern Myotis (*Myotis septentrionalis*) | S3 | END | END | END | 1 | Northern Myotis is found throughout forested areas in southern Ontario, to the north shore of Lake Superior and occasionally as far north as Moosonee, and west to Lake Nipigon. Northern Myotis are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. Snags (standing dead or dying trees) are particularly important for this species. During the summer, female bats frequently switching between a collection of different tree roosts (Government of Ontario, 2021; Bat Conservation International, 2025). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Silver-haired Bat (*Lasionycteris noctivagans*) | S3 | END | END | - | - | Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available. Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees. Frequent roost switching is common (COSEWIC, 2024). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |
| Tri-colored Bat (*Perimyotis subflavus*) | S3? | END | END | END | 1 | Tri-colored Bat is found in southern Ontario and as far north as Espanola near Sudbury. Because it is very rare, it has a scattered distribution. During the summer, the Tri-colored Bat is found in a variety of forested habitats. They can be found in a range of roosts, including tree cavities, caves, rock crevices, culverts, and buildings. They forage over water and along streams in the forest (Government of Ontario, 2021; Bat Conservation International, 2025). | Professional Experience | P | Treed areas of the Study Area to be reviewed during seasonally appropriate windows. |
| **INSECTS** | | | | | | | | | |

| NAME | S-RANK | SARO | COSEWIC | SARA | SCHEDULE | SPECIES RANGE AND HABITAT REQUIREMENTS | SOURCE OF RECORD | HABITAT PRESENT (Y/P/N) | POTENTIAL IMPACTS AND MITIGATION |
|---|---|---|---|---|---|---|---|---|---|
| Monarch Butterfly (*Danaus plexippus*) | S2N,S4B | SC | END | END | 1 | Monarchs are most abundant in southern Ontario where milkweed plants and breeding habitat are widespread. Milkweeds (numerous species) are the sole food plant for Monarch caterpillars. These plants grow predominantly in open and periodically disturbed habitats such as roadsides, fields, wetlands, prairies, and open forests. Adult butterflies can be found in more diverse habitats where they feed on nectar from a variety of wildflowers (Government of Ontario, 2022). | OBA | P | There will be a temporary loss of foraging habitat (i.e., vegetation removal) along the Tributary D corridor; however, Special Concern species do not require protection or compensation measures under the ESA. |

Notes:

SC - Special Concern

THR - Threatened

END - Endangered

S1 - Extremely rare in Ontario

S2 - Very rare in Ontario

S3 - Rare to uncommon in Ontario

S4 - Considered to be common in Ontario

S5 - Species is widespread in Ontario

SH - Possibly extirpated

S#S# - Indicates insufficient information exists to assign a single rank.

S#? - Indicates some uncertainty with the classification due to insufficient data.

S#N - Nonbreeding

S#B – Breeding

Y= Yes, P = Potential, N = No

# Figures

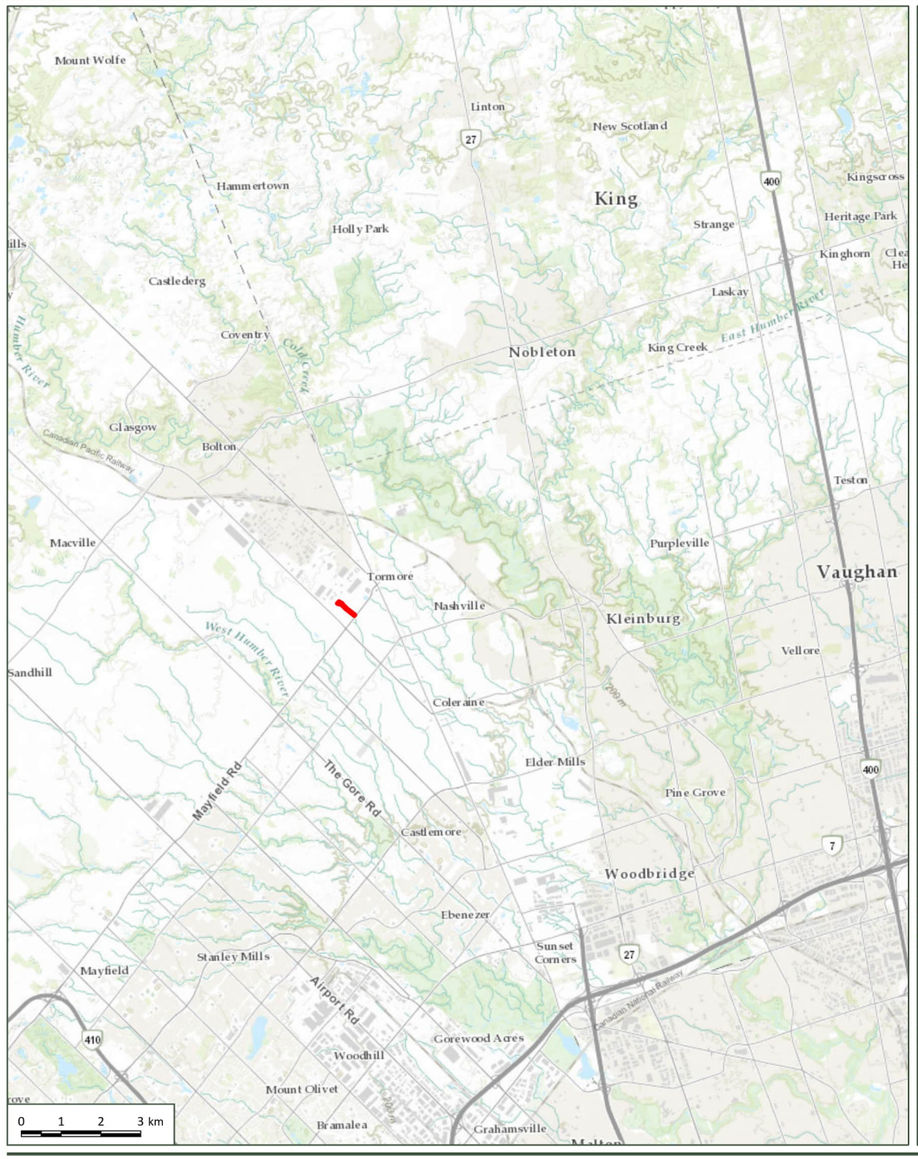
## Environmental Impact Study

South Simpson Road Natural Channel Design

**Simpson Road Landowners Group Inc.**

SLR Project No.: 233.V24250.00001

August 7, 2025






**LEGEND:**

- WATERCOURSE[1]
- GENERAL STUDY AREA

**NOTES:**
1 - GEOSPATIAL ONTARIO (GEO)

**SERVICE LAYER CREDITS:** CITY OF BRAMPTON, CITY OF TORONTO, REGION OF PEEL, YORK REGION, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN, REGION OF PEEL

0 100 200 300 m

SCALE 1:6,000
PAGE SIZE: 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY AND SHOULD NOT BE USED FOR NAVIGATION

SIMPSON ROAD LANDOWNERS GROUP INC.
VAUGHAN ON

WEST RAINBOW CREEK
ENVIRONMENTAL IMPACT STUDY

## SITE LOCATION

SLR

FIGURE NO:
**1**

DATE: July 30, 2025

PROJECT NO: 233.V24250.00001


**LEGEND:**

- CHANNEL ALIGNMENT (2022)
- ECOLOGICAL LAND CLASSIFICATION (ELC)
- GENERAL STUDY AREA

ELC Community

CUM1-1: Dry-Moist Old Field Meadow
CUT1: Mineral Cultural Thicket Ecosite
CVC_2: Light Industry
MAS2-2/MAM2-2: Cattail Mineral Shallow Marsh complexed with Reed Canary Grass Mineral Meadow Marsh
OAGM1: Annual Row Crops
OAO: Open Aquatic

**SERVICE LAYER CREDITS:** REGION OF PEEL

0 25 50 75 100 m

SCALE: 1:1,700
PAGE SIZE: 11 x 17
NAD 1983 UTM Zone 17N

THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY
AND SHOULD NOT BE USED FOR NAVIGATION

SIMPSON ROAD LANDOWNERS GROUP INC.
VAUGHAN ON

WEST RAINBOW CREEK
ENVIRONMENTAL IMPACT STUDY

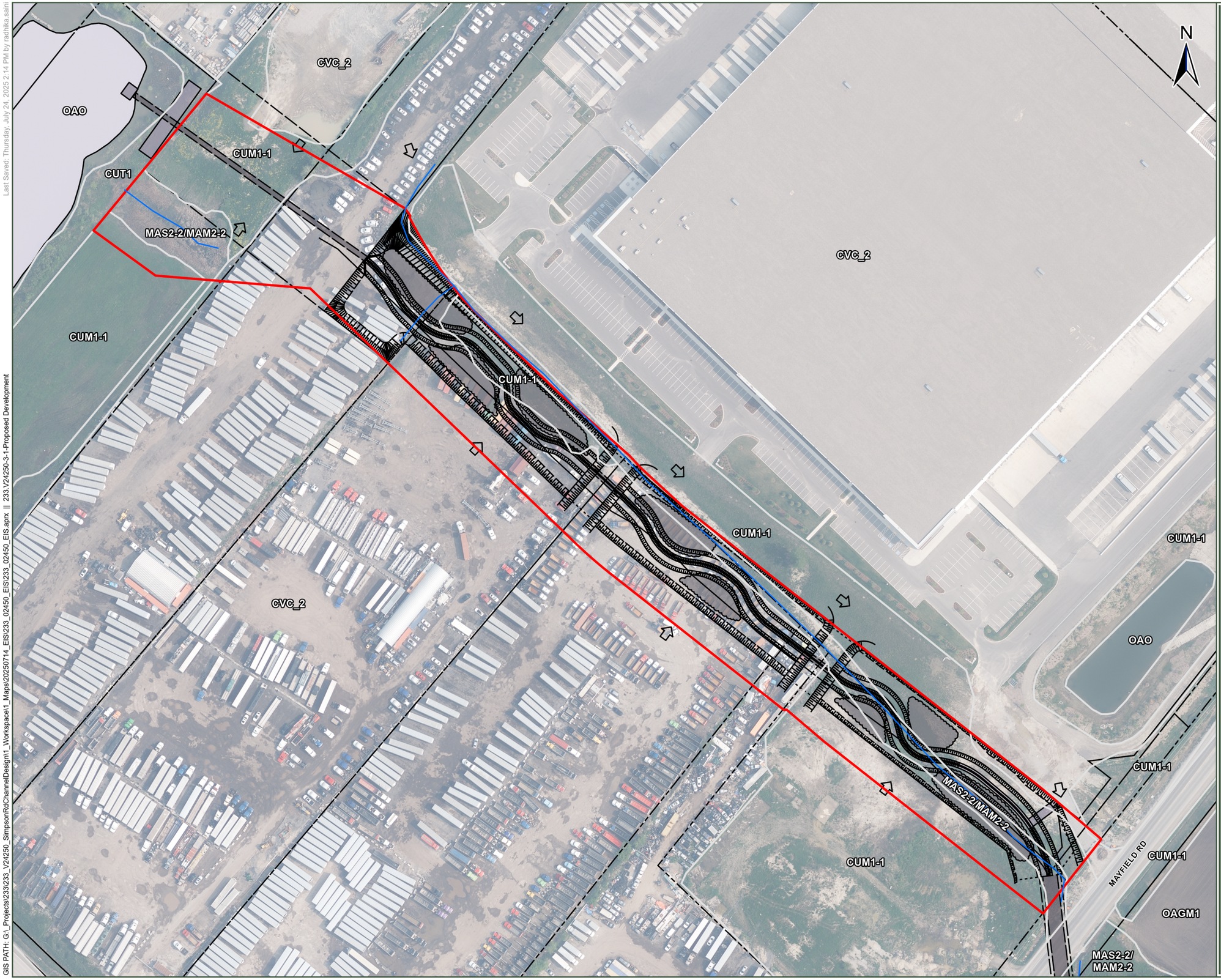
# EXISTING ENVIRONMENTAL CONDITIONS

SLR

FIGURE NO:
**2**

DATE: July 30, 2025

PROJECT NO: 233.V24250.00001




**LEGEND:**

- CONCEPT PLAN (2025-06-24)
- CHANNEL ALIGNMENT (2022)
- GENERAL STUDY AREA
- ECOLOGICAL LAND CLASSIFICATION (ELC)

ELC Community

CUM1-1: Dry-Moist Old Field Meadow
CUT1: Mineral Cultural Thicket Ecosite
CVC_2: Light Industry
MAS2-2/MAM2-2: Cattail Mineral Shallow Marsh complexed with Reed Canary Grass Mineral Meadow Marsh
OAGM1: Annual Row Crops
OAO: Open Aquatic

**SERVICE LAYER CREDITS:** REGION OF PEEL

0 25 50 75 100 m

SCALE: 1:1,700
PAGE SIZE: 11 x 17
NAD 1983 UTM Zone 17N
THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY
AND SHOULD NOT BE USED FOR NAVIGATION

SIMPSON ROAD LANDOWNERS GROUP INC.
VAUGHAN ON

WEST RAINBOW CREEK
ENVIRONMENTAL IMPACT STUDY

# PROPOSED DEVELOPMENT

SLR

FIGURE NO:
**3**

DATE: July 30, 2025

PROJECT NO: 233.V24250.00001

# Appendix A Agency Correspondence

## Environmental Impact Study

South Simpson Road Natural Channel Design

**Simpson Road Landowners Group Inc.**

SLR Project No.: 233.V24250.00001

August 7, 2025

## Tatiana Hrytsak

**From:** Jason Wagler <Jason.Wagler@trca.ca>
**Sent:** January 25, 2022 4:24 PM
**To:** Eric Greck; Baran Yilmaz (Anatolia Capital Corp)
**Cc:** Jairo Morelli; 'paul@parcor.ca' (paul@parcor.ca); Maria Parish; Scott Sexton; Dilnesaw Chekol
**Subject:** RE: Rainbow Creek Conceptual Channel Realignment (Simpson Road, Caledon)

Good Afternoon Baran and Eric,

We have reviewed the conceptual channel design modifications and we offer the following pre-consultation permitting comments based on this review:

**Development Planning**

1. Channel modifications cannot result in the loss of riparian flood storage. TRCA engineering staff have indicated further below that the 145m watercourse enclosure results in the loss of 1200 cubic metres of flood storage. Flood storage loss is not supported, and the channel work cannot result in a loss of riparian flood storage under current policy.

2. In accordance with the TRCA's board adopted policies, modifications to an existing watercourse must result in a significant improvement to hydrological or ecological conditions. The current design has yet to demonstrate a significant improvement over the existing condition. The enclosure of a 145m portion of the channel and loss of flood storage does not appear to meet this test.

3. Enclosing watercourses is not permitted to create additional area to accommodate or facilitate new development.

**Planning Ecology**

4. The portion of the feature to be enclosed should remain as an open channel, so that allochthonous inputs to the creek can occur, and be transported to downstream habitats.

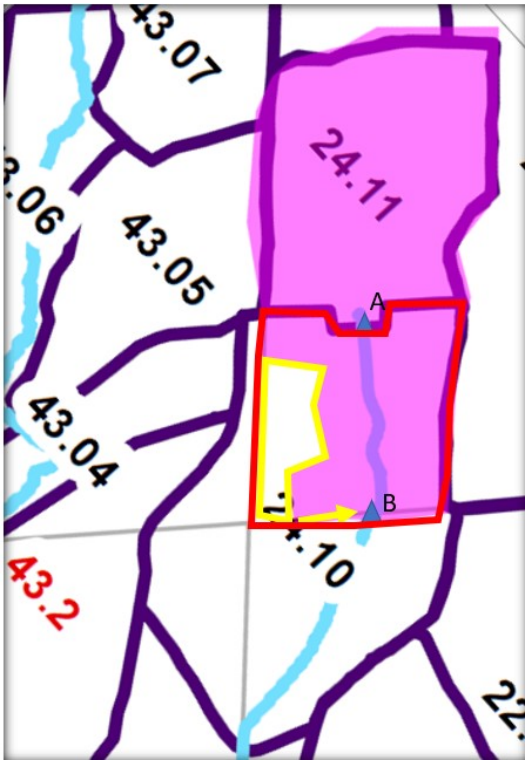
5. TRCA's natural channel design guidelines stress to keep channels open for science-based reasons. Keeping it open is in line with our Natural Channel design guidelines. Closing 145 m of creek is not in conformance with the guidelines or policy and the section needs to stay open.

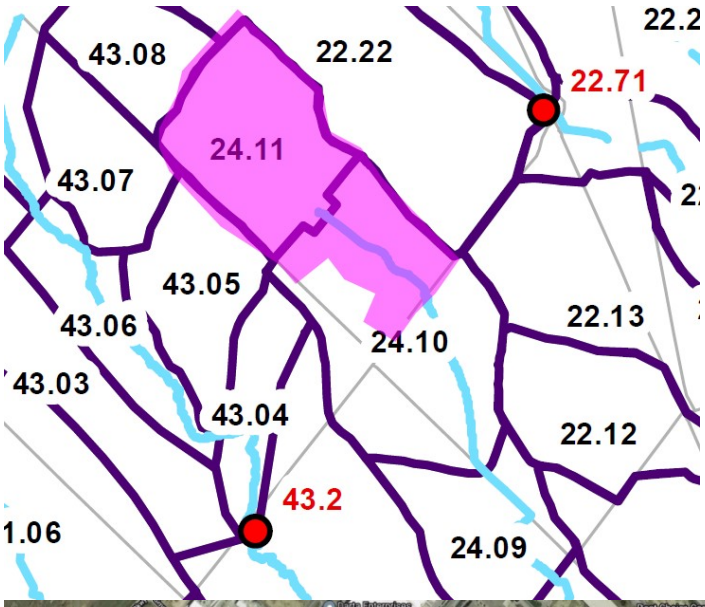
**Water Resources Engineering**

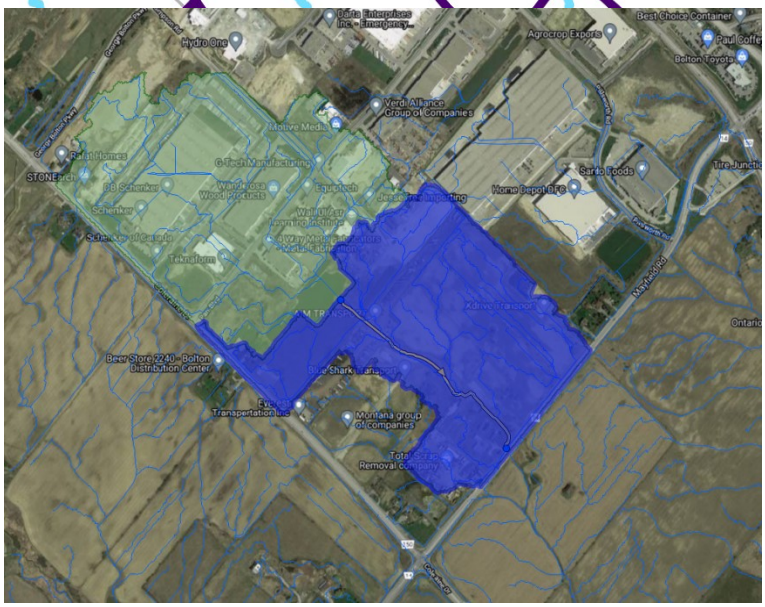
6. Please note that the suggestion of looking at the Amazon site was not to request for provision of similar channel width but to have an idea how the channel can be designed in an industrialized area where it maintains existing flood storage, provides better conveyance capacity that considers future land-use conditions, and improves the ecological values of the corridor.

7. TRCA staff re-delineate the drainage area to Point B (shown on the map below) using LiDAR topographic information within a PCSWMM model and the result looks similar to the one the applicant established; however in order to determine the area encircled in yellow drains to point B, TRCA staff undertook a forensic analysis using available crossing information and some drainage pattern and it was found that the area encircled in yellow drains to point B, as such the regulatory flow needs to consider the area encircled in yellow. TRCA staff applied the area proportion method to calculate the Regional flow at point B and the result is similar the one used to size the channel with the previous applicant.

8. Typically, channel routing will be applied for the flows generated from the upper sub-catchment but not flows generated from the sub-catchment where the channel is located. For example, the flows generated from sub-catchment 24.11 can be routed through channel AB, however the flows generated from the sub-catchment encircled in red can't be routed through channel AB. As such, the peak flows at point B are the sum of peak flows from sub-catchment 24.11 routed through channel AB and the peak flows generated from sub-catchment area encircled in red.





9. Closing the channel will reduce the regulatory flood storage of the valley corridor by about 1200 m3 and this is against the policy of TRCA as per LCP. Therefore, from a water resources engineering perspective, the channel dimension proposed by AMEC is a reasonable one and the channel must remain open to maintain the flood storage.

We strongly suggest proceeding with the approved design put forward by the Town of Caledon. However, should you wish to proceed with a modified proposal, the application would need to address the above comments for staff support.

Thank you,

**Jason Wagler, MCIP RPP**
Senior Planner
Development Planning and Permits | Development and Engineering Services

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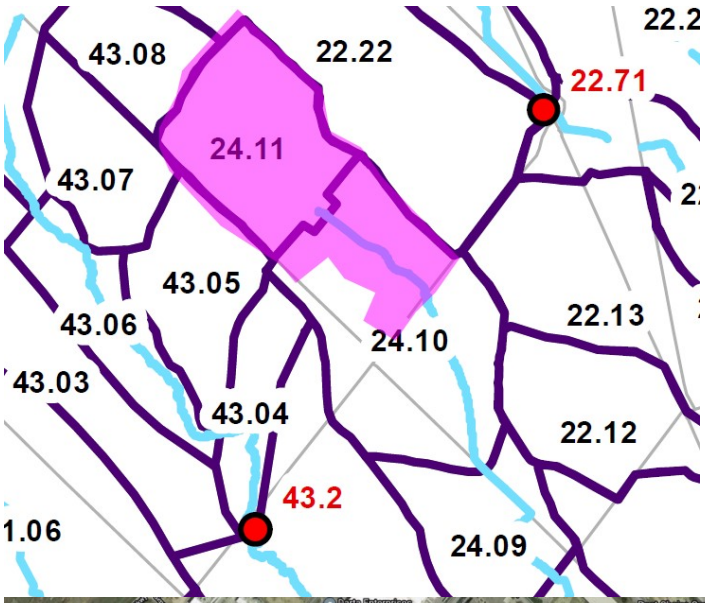
**From:** Eric Greck <egreck@greck.ca>
**Sent:** December 9, 2021 9:54 AM
**To:** Jason Wagler <Jason.Wagler@trca.ca>; Baran Yilmaz (Anatolia Capital Corp) <Baran.Yilmaz@anatoliacapitalcorp.com>
**Cc:** Jairo Morelli <Jairo.Morelli@trca.ca>; 'paul@parcor.ca' (paul@parcor.ca) <paul@parcor.ca>; Maria Parish <Maria.Parish@trca.ca>; Scott Sexton <ssexton@greck.ca>
**Subject:** RE: Rainbow Creek Conceptual Channel Realignment (Simpson Road, Caledon)

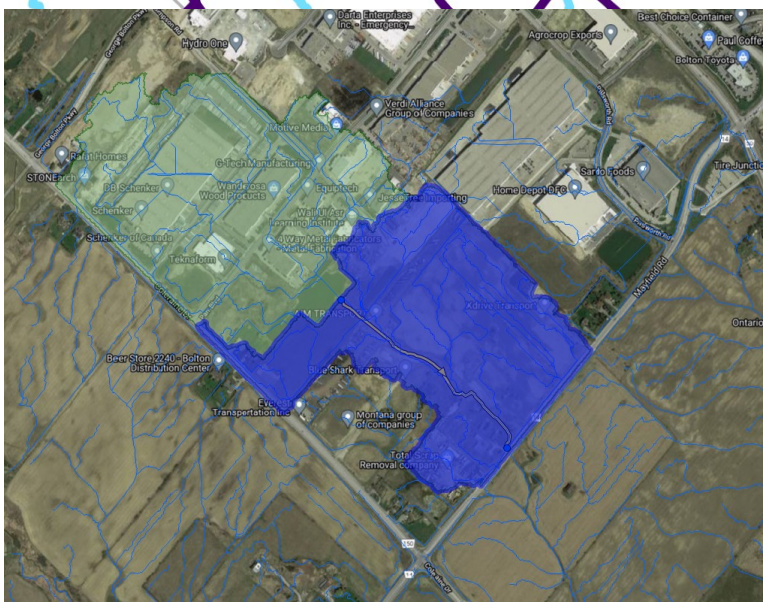
Hi Jason and Team,

Thank you for providing the requested background information. We have reviewed and are still strongly in support of the originally proposed channel concept for the following reasons:

1. The "Amazon Lands" channel is an entirely separate channel system with it's own unique characteristics. Comparing or suggesting we provide a similar channel width simply because it was approved nearby and includes a larger overall channel area is not a valid request. Such a design is not founded on good engineering or science. In fact, from what we see, the channel proposed does not implement characteristics of modern channel design that are used today. It looks like something that would have been designed in the 90's.

2. We reviewed the hydrology model provided and undertook the following exercises to determine the appropriate flows to regulate flooding and to assess routing/attenuation impacts.
    - Re-delineated the subject catchment area using DEM information via Land Information Ontario (LIO)
    - Re-routed the existing and proposed concept channel




| Storm Event | TRCA (Oct 2020) |
|---|---|
| 2-year | 1.22 |
| 5-year | 1.87 |
| 10-year | 2.32 |
| 25-year | 2.84 |
| 50-year | 3.23 |
| 100-year | 3.63 |
| Regional | 13.13 |

| Storm Event* | Peak Flow Rate (m3/s) | |
|---|---|---|
| | Existing Channel | Proposed Channel |
| 2-year | 3.34 | 3.14 |
| 5-year | 4.71 | 4.53 |
| 10-year | 5.63 | 5.48 |
| 25-year | 6.93 | 6.79 |
| 50-year | 7.86 | 7.74 |
| 100-year | 8.80 | 8.68 |

| | | |
|---|---|---|
| Regional | 11.93 | 11.92 |
| *2-year through 100-year events based on existing landuse (w/ SWM) conditions. Regional Storm using future landuse conditions | | |

Our "Existing Channel" flows are not consistent with what was originally provided from TRCA. What we have calculated is a more accurate representation of the expected flow regime, given the upstream catchment area is predominantly urbanized. Notice the higher peaks on smaller returns and a smaller variation between the 100year and Regional events. TRCA flows are more representative of agricultural drainage, which is not characteristic of this catchment. Note: As per TRCA modelling the 2-year through 100-year event is based on existing landuse (w/ SWM) conditions and the Regional Storm is based on future landuse conditions (w/ out SWM). However, the Storm pond for catchment 24.11 upstream does not have SWM quantity control, as stated by TRCA staff. It is strictly quality control.

When we compare the existing to proposed channel flows we notice a minor reduction. This is not attributed solely to flood storage but incorporates other routing flow characteristics such as travel time. This suggests this channel will actually improve conveyance and flooding through this area.

3. As discussed in our meeting already, given the entire upstream catchment area is completely urbanized and the surrounding area is zoned commercial use, we believe a hybrid closed and open channel is an appropriate and fair request. The proposed area to be piped will only service an upstream area of 82ha. This reflects a considerably part of the headwater system. Partially filling these lands is not only consistent with the development conditions upstream but most importantly allows the landowners fronting future Simpson Road (approved by City of Caledon) to practically utilize their lands (green/red/grey hatches are different land parcels, Figure 1). Installing a channel will consume far to much land and cripples them to fully utilize the commercially zoned lands. Moreover, a channel crossings would not be a practical solution to cross their lands, given the size of the valley being proposed.

   Our concept respects future land use planning (2031) and improves the existing drainage culvert that is there now, see Figure 2 and 3. The existing channel has no significant ecological value, something that can be considerably improved as suggested by the environmental consultants, even with our hybrid design.

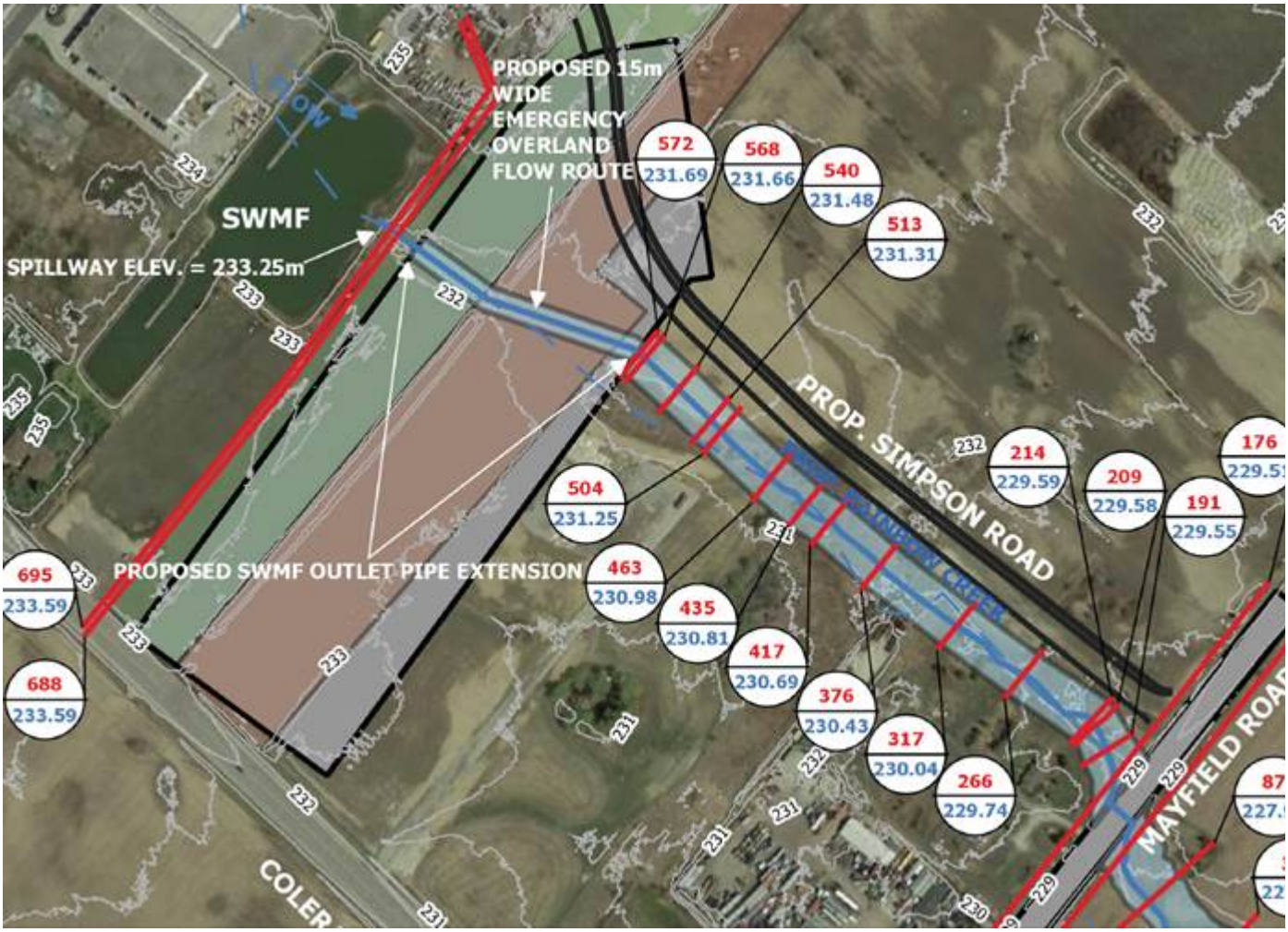

PROPOSED 15m WIDE EMERGENCY OVERLAND FLOW ROUTE
SWMF
SPILLWAY ELEV. = 233.25m
PROPOSED SWMF OUTLET PIPE EXTENSION
PROP. SIMPSON ROAD
MAYFIELD ROAD
572 231.69
568 231.66
540 231.48
513 231.31
504 231.25
463 230.98
435 230.81
417 230.69
376 230.43
317 230.04
266 229.74
214 229.59
209 229.58
191 229.55
695 233.59
688 233.59

**Figure 1**


**Figure 2**

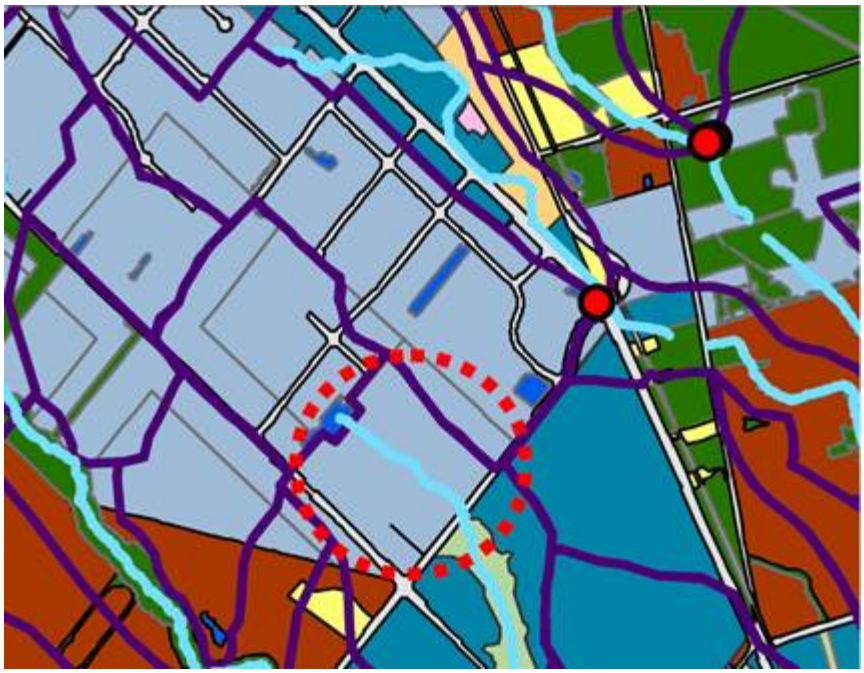


**Figure 3**

Although a quick overview, we believe this is compelling evidence to support of our concept channel and therefore we would like to proceed further with a detail design supported by a more formal technical design brief from Greck and our ecology and fluvial geomorphological specialists.

Please advise on this approach.

Should you wish to discuss further, I recommend discussing internally with Sameer Dhalla, Dan Hipple, Joel Smith, Philip Wolfraim or Matt Johnston. These individuals are aware of our expertise in these matters. In fact, they have retained Greck on numerous projects over the years to undertake channel design and related water resources studies on behalf of TRCA.

We look forward to your prompt response.

Thank you,

**Eric Greck, P.Eng**
Principal

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---

**From:** Jason Wagler <Jason.Wagler@trca.ca>
**Sent:** Monday, October 25, 2021 2:25 PM
**To:** Baran Yilmaz (Anatolia Capital Corp) <Baran.Yilmaz@anatoliacapitalcorp.com>
**Cc:** Eric Greck <egreck@greck.ca>; Jairo Morelli <Jairo.Morelli@trca.ca>; 'paul@parcor.ca' (paul@parcor.ca) <paul@parcor.ca>; Maria Parish <Maria.Parish@trca.ca>
**Subject:** RE: Rainbow Creek Conceptual Channel Realignment (Simpson Road, Caledon)

Good Afternoon Baran,

While we have minor comments on the hydraulic modelling submitted, the reduction to a 35m width from the approved 45m wide design and proposed piping of 145m of the existing channel is not supported by TRCA staff. There would be a significant reduction in the riparian storage with the proposed 35m channel width. We suggest that the design is revised to be similar to the realignment implemented on the Amazon lands on Coleraine Drive.

Thank you,

Jason

**Jason Wagler, MCIP RPP**
Senior Planner
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**From:** Baran Yilmaz (Anatolia Capital Corp) <Baran.Yilmaz@anatoliacapitalcorp.com>
**Sent:** October 19, 2021 10:27 AM
**To:** Jason Wagler <Jason.Wagler@trca.ca>; Scott Sexton <ssexton@greck.ca>
**Cc:** Eric Greck <egreck@greck.ca>; Jairo Morelli <Jairo.Morelli@trca.ca>; 'paul@parcor.ca' (paul@parcor.ca) <paul@parcor.ca>
**Subject:** RE: Rainbow Creek Conceptual Channel Realignment (Simpson Road, Caledon)

Good morning Jason,

I hope you are keeping well.

Just wanted to follow up on this.

Talk soon,

**Baran Yilmaz**
Asset Manager

Anatolia Capital Corp.
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F 1 905 771 6300

baran.yilmaz@anatoliacapitalcorp.com |

**From:** Jason Wagler <Jason.Wagler@trca.ca>
**Sent:** September 28, 2021 9:41 AM
**To:** Scott Sexton <ssexton@greck.ca>
**Cc:** Baran Yilmaz (Anatolia Capital Corp) <Baran.Yilmaz@anatoliacapitalcorp.com>; Eric Greck <egreck@greck.ca>; Jairo Morelli <Jairo.Morelli@trca.ca>; 'paul@parcor.ca' (paul@parcor.ca) <paul@parcor.ca>
**Subject:** RE: Rainbow Creek Conceptual Channel Realignment (Simpson Road, Caledon)



Thank you Scott – we'll review the submitted concept and reports and provide staff comments in 2-3 weeks.

Jason

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Toronto and Region Conservation Authority

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**From:** Scott Sexton <ssexton@greck.ca>
**Sent:** September 27, 2021 4:22 PM
**To:** Jason Wagler <Jason.Wagler@trca.ca>
**Cc:** Baran Yilmaz (Anatolia Capital Corp) <Baran.Yilmaz@anatoliacapitalcorp.com>; Eric Greck <egreck@greck.ca>; Jairo Morelli <Jairo.Morelli@trca.ca>; 'paul@parcor.ca' (paul@parcor.ca) <paul@parcor.ca>
**Subject:** Rainbow Creek Conceptual Channel Realignment (Simpson Road, Caledon)

Jason,

Following up to our conversation earlier in September, provided in the link below our updated memo outlining our conceptual channel realignment for the Simpson Road development in Caledon. The link includes the memo (in PDF) and supporting HEC-RAS modelling.

https://bit.ly/3m4lvQj

If you have any questions, please don't hesitate to contact myself or Eric.

Thanks & Regards,

Greck

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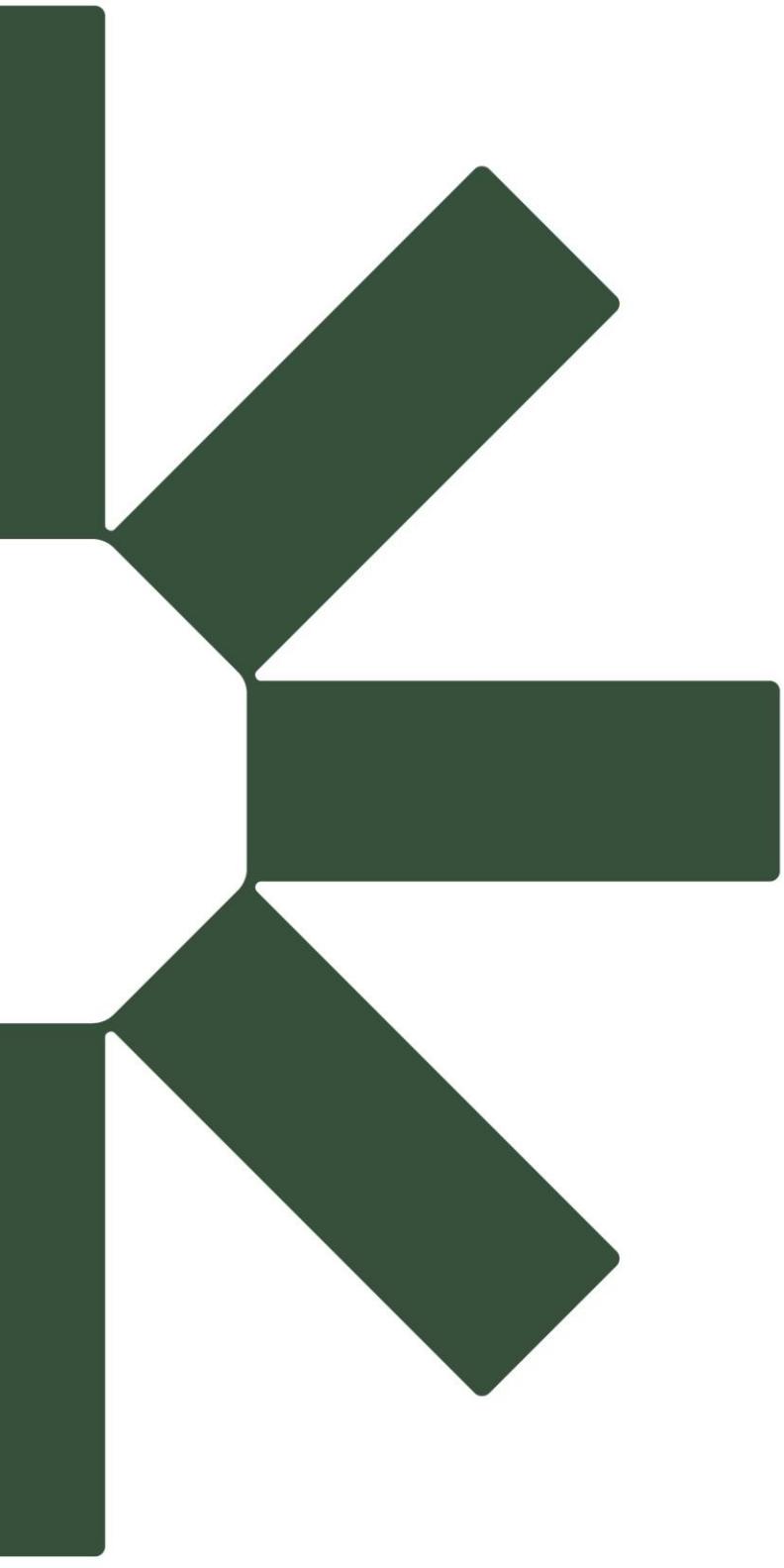

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