



# Environmental Impact Study

## Flato Southeast (Eco Park), Dundalk, Ontario

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## 1.0 Introduction

SLR Consulting (Canada) was retained by Flato Eco Park Dundalk Inc. (Flato) to undertake environmental investigations at part of lots 238, 239 and 240 Concession 1, Southwest of Toronto and Sydenham Road (SWTSR) and part of lots 238 and 239 Concession 2, SWTSR located in Dundalk, Ontario in support of proposals for residential and industrial development within these properties (“site”, Figure 1). The entire site is under the jurisdiction of the Grand River Conservation Authority (GRCA).

These lands fall within a larger area currently subject to an approved Ministerial Zoning Order (MZO). The development of these subject lands will be phased. There is also an Environmental Assessment being prepared for Eco Parkway which traverses the site connecting with Highway 10.

### 1.1 Goals and Objectives

The purpose of the EIS is to demonstrate that the proposed development has regard for the policies, guidelines, and regulations that apply to these lands in the Official Plans of the Township of Southgate and Grey County, *Provincial Planning Statement* under the *Planning Act, 1990*, the GRCA (2005) *Environmental Impact Study Guidelines and Submission Standards for Wetlands*, and *Ontario Regulation 41/24 – Prohibited Activities, Exemptions and Permits*. The objectives of this study include the following:

- Characterize existing conditions
- Identify significant natural heritage features, functions, and sensitivities
- Assess potential effects associated with the proposed development
- Apply mitigation strategies and techniques to minimize potential effects and show consistency with the natural heritage policy and legislative framework that applies to these lands
- Recommend whether the proposed Draft Plan of Subdivision (DPOS) can proceed with appropriate mitigation and/or compensation if required

### 1.2 Planning Context

Development on the site 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, 2019*
- *Migratory Birds Convention Act, 1994*
- *Endangered Species Act, 2007* (ESA)
- *Federal Species at Risk Act, 2002*
- *Ontario Regulation 41/24 – Prohibited Activities, Exemptions and Permits*
- *Township of Southgate (2022) Official Plan*



- *Grey County (2019) Official Plan*
- *GRCA (2005) Environmental Impact Study Guidelines and Submission Standards for Wetlands*
- *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (Toronto and Region Conservation Authority and Credit Valley Conservation, 2014)

### 1.3 Previous Studies and Reports

A schedule B Municipal Class Environmental Assessment was completed for the Township of Southgate by Triton Engineering Services Limited to support the selection of a preferred route for an easterly extension of Eco Parkway to Highway 10, with the proposed route passing through the subject property. The approval status of the EA is unknown at the time of writing this report.

### 1.4 Site Location and Description

The site is approximately 60 ha and is located on the west side of Highway 10 (Figure 1). Natural features on the site include:

- unevaluated wetlands in the southern portion of the site
- Contiguous wetlands to the south of the site are identified by MNR as part of the Provincially Significant Melancthon Wetland Complex
- A small patch of woodland in the center
- Two headwater drainage features (HDF) and their associated floodplain
- One permanent watercourse

Development is proposed on most of the site except for most of the unevaluated wetlands which will be maintained as an Environmental Protection Area.

The proposed development includes single detached residential properties, townhomes, apartments, parkland, commercial and industrial areas and stormwater management facilities.

## 2.0 Methods

This EIS includes a summary of the existing conditions based on a review of secondary source material and preliminary field inventories including vegetation mapping, aquatic resource investigations, targeted wildlife surveys and feature staking exercises with representatives from the GRCA. Existing conditions within the site were evaluated through a review of secondary source material and site investigations by qualified SLR Ecologists between April 24 and September 20, 2022. Recent aerial photographs of the site were obtained and used to assist in field verification. Data collected were integrated to review the natural environment features and functions and identify environmental constraints to the DPOS application.

### 2.1 Desktop Analysis

A secondary source review was performed to characterize the natural environment of the site and identify known natural heritage features and functions within and adjacent to the site. The information presented in **Table 1** was reviewed and used to inform the need for additional field studies and avoid duplication of effort.



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

Information Source	Data Description
Aerial Imagery	Ministry of Natural Resources (MNR) imagery from 1954 to 2024
Ontario Geological Survey (OGS) Mapping (OGSEarth; Ministry of Mines, 2024)	Physiography, topography and soil characteristics of the site
GRCA (2024) Map Your Property Application	Policies in accordance with Ontario <i>Conservation Authorities Act, R.S.O. 1990, c. C27</i> and regulation limits
MNR (2024) 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. (2006) Ontario Breeding Bird Atlas (OBBA)	General Avian species and potential Species at Risk (SAR)
Fisheries and Oceans Canada (2024) Aquatic Species at Risk Interactive Map	Online mapping resource to identify potential species at risk occurrences and critical habitat
Government of Ontario (2024) Ontario Species at Risk List (O. Reg. 230/08)	SAR list and status ratings
Township of Southgate (2022) Official Plan	Environmental protection areas, Greenbelt, natural heritage system and schedules
Grey County (2019) Official Plan	Environmental protection areas, Greenbelt, natural heritage system and schedules

## 2.2 Field Studies

### 2.2.1 Terrain and Surficial Geology

To complement the review of OGS mapping, SLR is also completing hydrogeological investigations in support of the proposed project (Figure 2). These investigations are provided under a separate cover.

### 2.2.2 Natural Environment

Additional information with respect to fisheries, wildlife and SAR were obtained through preliminary field reconnaissance and targeted 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 Field Surveys**

Date	Task	Weather	Personnel
April 24, 2022	Amphibian Surveys	Sky: light rain; Beaufort <sup>1</sup> wind: 0; Temperature: 19°C	Joelle Pecora, Megan Olson
April 26, 2022	Headwater Drainage Feature Assessment	Sky: overcast; Beaufort wind: 2; Temperature: 8°C	Diane Francis
May 2, 2022	Amphibian Surveys	Sky: overcast; Beaufort wind: 2; Temperature: 9°C	Diane Francis, Megan Olson
May 28, 2022	Headwater Drainage Feature Assessment	Sky: partly cloudy; Beaufort wind: 3; Temperature: 15°C	Diane Francis
May 30, 2022	Amphibian Surveys	Sky: partly cloudy; Beaufort wind: 1; Temperature: 22°C	Danielle Bourque, Fiona Shi
June 1, 2022	Amphibian Surveys	Sky: clear; Beaufort wind: 2; Temperature: 12°C	Joelle Pecora, Fiona Shi
June 30, 2022	Amphibian Surveys	Sky: partly cloudy; Beaufort wind: 2; Temperature: 23°C	Ed Poropat, Jeremy Bensette
June 15, 2022	Breeding Bird Surveys	Sky: partly cloudy; Beaufort wind: 2; Temperature: 25°C	Jeremy Bensette
June 29, 2022	Breeding Bird Surveys	Sky: overcast; Beaufort wind: 3; Temperature: 19°C	Jeremy Bensette
August 9, 2022	Feature boundary pre-staking	Sky: overcast and drizzle; Beaufort wind: 3; Temperature: 19°C	Joelle Pecora, Megan Olson
August 10, 2022	Headwater Drainage Feature Assessment, Ecological Land Classification, Botanical Inventory	Sky: partly cloudy, Beaufort Wind: 3; Temperature: 25°C	Matt Ross
September 20, 2022	Feature Boundary Confirmation with GRCA	Sky: partly cloudy, Beaufort Wind: 4; Temperature: 19°C	Matt Ross, Richard Baxter (GRCA)

<sup>1</sup>The 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



### 2.2.2.1 Fish and Aquatic Habitat

The objective of field investigations was to identify, map, and describe the existing aquatic habitat present on the subject lands.

A review of current and historical aerial imagery of the site identified the potential presence of HDF. Drainage features underwent evaluation in May, June, and August 2022 using the Rapid Method provided in the Evaluation, Classification and Management of Headwater Drainage Features Guideline (Toronto and Region Conservation Authority and Credit Valley Conservation, 2014). This approach is appropriate for low-sensitivity sites and documents the HDF form and flow conditions, riparian vegetation, and site features that are important components of habitat. Recommended management options for drainage features are derived from information collected according to the HDF guidelines.

### 2.2.2.2 Vegetation Communities

Aerial photography and Land Information Ontario data were used to delineate vegetation communities according to principles of the Ecological Land Classification (ELC) for Southern Ontario: First Approximation and its Application (Lee et. al., 1998). Site investigations were undertaken in 2022 to collect vegetation data at the community level. A split-spoon soil auger was used to sample soil profiles to determine at what point they exhibit hydric properties, i.e., sufficiently saturated to support greater than 50% wetland species.

### 2.2.2.3 Feature Staking

The pre-staking of features to delineate the boundaries of wetland features and tree dripline of woodland features within the site was undertaken on August 9, 2022. Feature Staking verification with GRCA was completed on September 20, 2022, however, the verified boundaries have not been surveyed by a land surveyor. The wetland boundary was determined where wetland vegetation dominates the community and the soils exhibit characteristics of at least seasonal saturation as per the definition of wetland in the PPS, 2024.

### 2.2.2.4 Tree Inventory

An inventory of trees that could be injured or destroyed by the proposed DPOS is planned to assess trees that may be impacted. Trees not protected by a buffer but within 6 m of the property boundary will be included. An arborist report and Tree Inventory and Protection Plan (TIPP) will be prepared under separate cover.

### 2.2.2.5 Breeding Bird Surveys

The OBBA (Bird Studies Canada et al., 2006) 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 15 and 29, 2022. Surveys followed standard methodologies and conditions established by the OBBA (Bird Studies Canada, 2001) (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.





### 2.2.2.6 Reptile and Amphibian Surveys

Secondary source literature was reviewed to identify known records of reptiles, amphibians, or both, potentially found within the site, including the NHIC database. Amphibian surveys were 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. Established methods sponsored by Environment and Climate Change Canada (2017) for detecting Western Chorus Frog were also used (Blazing Star Environmental, 2020). These methods involved daytime surveys where calls of the Western Chorus Frog are more detectable and not drowned out by the loud calls of the Spring Peeper (*Pseudacris crucifer*) which typically call at night.

Survey timing was coordinated with several other ecologists throughout Southern Ontario via email circulation to assist surveyors in targeting the prime breeding window for early and late breeders targeting Western Chorus Frog (*Pseudacris triseriata*). 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

### 2.2.2.7 Incidental Wildlife

All incidental observations were recorded while ecologists were onsite. 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.

### 2.2.2.8 Species of Conservation Concern

Aquatic and terrestrial species that are designated federally or provincially and are of regional or local interest (e.g. rare to the watershed or municipality) are collectively identified as Species of Conservation Concern (SoCC). This category also includes species protected under the ESA, 2007. The Make-A-Map: Natural Heritage Areas application (Ministry of Natural Resources 2023) and the Fisheries and Oceans Canada (DFO) Distribution Maps for Fish and Mussel Species at Risk (DFO, 2024) were consulted for element occurrences. A habitat-based approach was used to evaluate the potential for Species of Conservation Concern to occur within the site.





With the addition of several bat species to the ESA list, a cursory review of site conditions was completed to determine potential habitat. This review was scoped to provide information on possible use and presence within the general context of the site.

### 2.2.2.9 Significant Wildlife Habitat

Using the criteria outlined in the Significant Wildlife Habitat (SWH) Technical Guide (Ministry of Natural Resources, 2000) and Ecoregion Criteria Schedules 6E (Ministry of Natural Resources and Forestry, 2015), SWH was evaluated as part of the field investigations to evaluate the potential to occur on or adjacent to the site. Under the SWH Criteria, constructed habitat is not to be considered as SWH.

## 3.0 Existing Conditions

The subject properties are characterized by a predominately agricultural landscape containing cultivated lands, with woodland, wetland, and hedgerow features. Three HDFs occur within the boundaries of the site (Figure 1). The following sections describe geological, aquatic and terrestrial site characteristics.

### 3.1 Terrain and Surficial Geology

Based on a review of surficial geology maps from the Ontario Geological Survey (OGS), the overburden of the area is composed of the Elma Till which consists of sandy silt to silt deposits that are imperfectly drained.

The underlying bedrock is of the Guelph formation which consists of Silurian fine to medium crystalline, medium to thick-bedded, porous dolostone of a thickness ranging from 4 to 100 m. The Guelph formation is mainly located in the subsurface of southwestern Ontario but is exposed south and west of the Niagara Escarpment from the Niagara River through the Bruce Peninsula (Jagger Hims Limited and Rowell, 2009). SLR completed hydrogeological investigations in support of the proposed project, under a separate cover (Figure 2).

### 3.2 Fish and Aquatic Habitat

Agricultural lands predominate the site. Three drainage features occur within the site, with one identified as a minor tributary; observations show that the features flow intermittently. Data supporting the Headwater Drainage Feature evaluation were completed in the spring and summer of 2022.

Observations made in April, May and August 2022 to characterize potential HDF associated with the proposed DPOS are summarized in **Table A**. Surface water was observed at all locations during the April visit. All locations were dry during the May and August visits. Based on these observations the assessment of the headwater drainage features on the site of the proposed DPOS were classified as follows: the two features located in the northeast and southwest portions of the property were assessed as “no management”, while the centrally located tributary was assessed as “mitigation” for its northern portion and “conservation” for its southern portion (Figure 3) according to the Headwater Features Guidelines (CVC and TRCA 2014). Management can range from replication of functions through enhanced lot level conveyance measures such as vegetated swales, to mimic online wet vegetation pockets, to constructed wetlands connected to downstream features as appropriate.



### 3.3 Vegetation Communities

Preliminary mapping of the vegetation communities is provided on (Figure 5) classified using Ecological Land Classification (ELC) (Lee et al., 1998). Each unit is named according to the soil and plant attributes and a code is assigned (e.g. Cultural Woodland, CUW). Wetland is delineated by the survey limit staked in the field as determined by the dominance of wetland vegetation and hydric soils. There are agricultural, woodland and wetland communities located on site, the woodland community located on the north side and the wetland community located in the south portion of the property. Two wetland communities are situated along the south side of the property and another to the northeast of these, separated by a cultural meadow. Deciduous hedgerows occur along some field and site boundaries. A botanical inventory is provided in **Table B**.

In addition to the agricultural fields, the communities dominated by natural vegetation on and immediately surrounding the Site include:

- Cattail Mineral Shallow Marsh (MAS2-1)
- Willow Mineral Thicket Swamp (SWT2-2)
- Reed-canary Grass Mineral Meadow Marsh (MAM2-2)
- Dry-Fresh Sugar Maple – Beech Deciduous Forest (FOD5-2)
- Dry-Fresh Sugar Maple Deciduous Forest (FOD5-1)
- Cultural Meadow (CUM 1-1)
- Fresh-Moist Poplar Mixed Forest (FOM8-1)
- Forb Mineral Meadow Marsh (MAM2-10)
- Deciduous Hedgerow (HR-D)

#### 3.3.1 Cattail Mineral Shallow Marsh complexed with Willow Mineral Thicket Swamp (MAS2-1/SWT2-2)

This community abuts the southeast corner of the site and continues off site to the south. Species include Narrow-leaved Cattail (*Typha angustifolia*), Reed Canary Grass (*Phalaris arundinaceae*), Bebb's Willow (*Salix bebbiana*), Meadow Willow (*Salix petiolaris*), Panicked Aster (*Symphotrichum lanceolatum*), Flat-top Goldenrod (*Euthamia graminifolia*), Dark Green Bulrush (*Scirpus atrovirens*), Dudley's Rush (*Juncus dudleyi*), Fox Sedge (*Carex vulpinoidea*), and Spotted Joe Pye Weed (*Eutrochium maculatum*).

#### 3.3.2 Willow Mineral Thicket Swamp complexed with Reed Canary Grass Mineral Meadow Marsh (SWT2-2/MAM2-2)

This wetland community is situated in the southern central portion of the site abutting the property boundary and continuing off site to the south and east. Predominate species include Bebb's Willow, Meadow Willow, Pussy Willow (*Salix discolor*) Broad-leaved Cattail (*Typha latifolia*), Reed Canary Grass, Narrow-leaved Meadowsweet (*Spirea alba*), Spotted Joe Pye Weed, and Field Horsetail (*Equisetum arvense*).



### 3.3.3 Reed Canary Grass Mineral Meadow Marsh (MAM2-2)

This community extends north of the abovementioned community in association with the central drainage feature on the site and consists primarily of Reed Canary Grass, Spotted Joe Pye Weed, Field Horsetail, Panicked Aster, Flat-top Goldenrod, Tall Goldenrod (*Solidago altissima*) Fowl Manna Grass (*Glyceria striata*), and Wild Strawberry (*Fragaria virginiana*).

### 3.3.4 Dry-Fresh Sugar Maple – Beech Deciduous Forest (FOD5-2)

This small forest community is centrally located on the site. The relatively open canopy consists of Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*); the subcanopy contains American Beech, Black Cherry (*Prunus serotina*), Ironwood (*Ostrya virginiana*), and American Elm (*Ulmus americana*). Understorey species include Choke Cherry (*Prunus virginiana*), Alternate-leaved Dogwood (*Cornus alternifolia*), Wild Raspberry (*Rubus idaeus*), and Red Osier Dogwood (*Cornus sericea*). Ground cover consists of Thicket Creeper (*Parthenocissus inserta*), Tall Goldenrod, Giant Goldenrod (*Solidago gigantea*), Sugar Maple saplings, Calico Aster (*Symphotrichum lateriflorum*), Wild Strawberry, and White Avens (*Geum canadensis*).

### 3.3.5 Dry-Fresh Sugar Maple Deciduous Forest (FOD5-1)

This small, remnant forest community is situated along a hedgerow near the western corner of the site. The canopy consists of Sugar Maple, with a sub-canopy of Black Cherry, Green Ash (*Fraxinus pennsylvanica*); understorey species include Red Osier Dogwood, Alternate-leaved Dogwood, Wild Raspberry, Choke Cherry. Ground cover consists of Smooth Brome (*Bromus inermis*), Field Horsetail, White Avens, Wood Avens (*Geum urbanum*), Panicked Aster and Thicket Creeper.

### 3.3.6 Cultural Meadow (CUM 1-1)

This community type occurs between the FOD5-2 and SWT2-2/MAM2-2 communities as well as adjacent to Highway 10 east of the Site. Species present are typical of this community type and include Goldenrod species (*Solidago spp.*), Reed Canary Grass, Wild Carrot (*Daucus carota*), Black-eyed Susan (*Rudbeckia hirta*), Field Sow-thistle (*Sonchus arvensis*), Daisy Fleabane (*Erigeron annuus*), Timothy (*Phleum pratense*), Curly Dock (*Rumex crispus*), Bird's-foot Trefoil (*Lotus corniculatus*), Common Plantain (*Plantago major*), New England Aster (*Symphotrichum novae-angliae*) and Cow Vetch (*Vicia cracca*).

### 3.3.7 Fresh-Moist Poplar Mixed Forest (FOM8-1)

This forested community occurs immediately south of the southern corner of the site. Canopy species include Balsam Poplar (*Populus balsamifera*), Trembling Aspen (*Populus tremuloides*), White Spruce (*Picea glauca*), White Birch (*Betula papyrifera*) and Black Cherry, with Black Cherry also in the sub-canopy. Understorey species include Choke Cherry, Nannyberry (*Viburnum lentago*), Alternate-leaved Dogwood and Wild Raspberry, while ground cover consists of Sedge species (*Carex sp.*), Swamp Dewberry (*Rubus hispidus*), Sensitive Fern (*Onoclea sensibilis*), and Bracken Fern (*Pteridium aquilinum*).

### 3.3.8 Forb Mineral Meadow Marsh (MAM2-10)

This community occurs immediately south of the Site abutting the boundary. Species present include Tall Goldenrod, Wild Carrot, Flat-top Goldenrod, Spotted Joe Pye Weed, Bracken Fern,



Fox Sedge, Field Horsetail, Panicked Aster, with sporadic Pussy Willow, Meadow Willow, Balsam Poplar, and Red Osier Dogwood.

### 3.3.9 Deciduous Hedgerow (HR-D)

These features are generally present at the borders of agricultural fields or along field access laneways and are comprised of a mix of deciduous species including Sugar Maple, Black Cherry, Green Ash, Apple (*Malus spp.*), American Elm and Hawthorn (*Crataegus spp.*).

## 3.4 Tree inventory

A tree inventory is planned to assess trees that may be impacted by the proposed DPOS. An arborist report and Tree Inventory and Protection Plan (TIPP) will be prepared under separate cover.

## 3.5 Breeding Birds

A review of the OBBA map square 17TNJ59 yielded 93 results of birds potentially breeding in the area: the map squares measure 10 km by 10 km, with many of the results unlikely to be present within the site due to a lack of suitable supporting habitat. Review of the NHIC online database yielded potential occurrences for two provincially rare species: Eastern Meadowlark (*Sturnella magna*) and Bobolink (*Dolichonyx oryzivorus*) are provincially ranked as Threatened.

Two breeding bird surveys were completed by SLR on June 15 and 29, 2022, within the designated window (Figure 4). The inventory of wildlife observed on the site is provided in **Table C**. Many of the species recorded are rural/urban tolerant species, typical of cultural and agricultural landscapes and will breed in a variety of disturbed habitats. Such species include Mourning Dove (*Zenaidia macroura*), Red-eyed Vireo (*Vireo olivaceus*), Warbling Vireo (*Vireo gilvus*) American Robin (*Turdus migratorius*), Song Sparrow (*Melospiza melodia*) and Red-winged Blackbird (*Agelaius phoeniceus*). Wilson's Snipe (*Gallinago delicata*) was heard on site incidentally during HDF surveys.

The wetland and woodland features located in the southeast portion of the site and continuing immediately southeast provide habitat for SoCC, including Eastern Wood-pewee (*Contopus virens*) listed as Special Concern, Great Egret (*Ardea alba*) and Common Gallinule (*Gallinula galeata*), provincially ranked as S2 and S3, respectively. Other species present are some that typically occur in larger, healthy wetland features such as Marsh Wren (*Cistothorus palustris*), Virginia Rail (*Rallus limicola*), Sora (*Porzana Carolina*) and American Bittern (*Botaurus lentiginosus*)

Bobolink was observed during the June 29, 2022 visit within the MAM2-2 community along the watercourse/drainage feature in the centre of the site with individuals singing and carrying food. This habitat would be considered marginal at best due to its small size and isolated nature, as Bobolink prefer large, contiguous tracts of grassland habitat. It is most likely that the individuals observed were displaced from more suitable breeding habitat (e.g., hayfields) in the surrounding landscape between the first survey conducted on June 15<sup>th</sup> 2022 and the second, and were utilizing this area on the Site as temporary refuge. Thus, the habitat they were occupying on site would not be considered suitable breeding habitat for this species.

## 3.6 Reptiles and Amphibians

Review of the NHIC online database yielded no records for reptiles and amphibians.



Amphibian surveys were conducted in April, May and August 2022 at strategic locations on the site to provide suitable coverage for detection of calling individuals (Figure 4).

Species detected during surveys included Spring Peeper (*Pseudacris crucifer*), American Toad (*Anaxyrus americanus*), Gray Tree Frog (*Dryophytes versicolor*) and Green Frog (*Lithobates clamitans*), among others presented in Table 3.

**Table 3: 2022 Amphibian Survey Results**

Common Name	Station A			Station B		
	Apr-22	May-22	Jun-22	Apr-22	May-22	Jun-22
Spring Peeper	3 <sup>1</sup>	3	-	-	-	-
American Toad	3	1	-	-	-	-
Green Frog	-	1	-	-	-	2
Gray Tree Frog	-	3	1	-	-	-
Wood Frog	1	1	-	-	-	-
Western Chorus Frog	-	-	-	-	-	-

### 3.7 Other Wildlife

Wildlife observed on site by SLR during field visits were typical of locations in semi-urban environments and agricultural settings (**Table C**). Evidence of White-tailed Deer (*Odocoileus virginianus*) was observed within the site. Evidence of Chimney Crayfish (*Fallicambarus fodiens*) was observed during the HDF assessments conducted in April and May 2022.

Other species of mammals and birds tolerant of urban environments are expected to occur as suitable habitats are present.

### 3.8 Species of Conservation Concern

The MNR website provided the following Element Occurrence (EO) records\* for 1km Squares (17TNJ59,17NJ4990, 17NJ5190 ) in the vicinity of the site:

- Bobolink (*Dolichonyx oryzivorus*) provincially designated as Threatened

<sup>1</sup> Denotes amphibian call level



- Eastern Meadowlark (*Sturnella magna*) provincially designated as Threatened

Department of Fisheries and Oceans' (DFO) interactive Aquatic Habitat Mapping did not identify the presence of Species at Risk or Critical Habitat within or adjacent to the site.

While no additional element occurrences were recorded for the broad area search there are SoCC that may occur if suitable habitat is present. The species in **Table D** have been identified as having potential habitat affinities within the site. To date, Bobolink has been observed on site and Eastern Wood-pewee have been observed immediately adjacent to the site.

\*Note: Species at Risk Information is accurate and up to date as of this report (October 2024). 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.

### 3.9 Significant Wildlife Habitat

The significance of an area as wildlife habitat is often difficult to determine at the site-specific level, as the assessment must incorporate information from a wide geographic area and consider other factors such as regional resource patterns and landscape effects. Therefore, under the PPS, the planning authorities have the responsibility to identify and designate Significant Wildlife Habitat (SWH). Wildlife habitat significance includes:

- Seasonal concentration areas (e.g. conifer forests for deer wintering)
- Rare vegetation communities or specialized habitats for wildlife
- Habitats of species of conservation interest, excluding the habitats of endangered and threatened species which are protected under the 2024 PPS and 2007 ESA
- Animal movement corridors

To address this habitat function, criteria for evaluating SWH for Eco-region 6E have been provided by MNR (2015), the results of which are presented in **Table E**. Field investigations completed to date identified confirmed habitat for Special Concern and Rare Wildlife Species for eastern Wood-pewee, Common Gallinule and Great Egret, Amphibian Breeding Habitat (Wetland), Marsh Bird Breeding Habitat, Terrestrial Crayfish Habitat; candidate habitat identified includes Bat Maternity Colonies and Amphibian Movement Corridors (Figure 6).

## 4.0 Description of Development

The proposed DPOS consists of single detached (188 units), back-to-back towns (76 units), live work towns (78 units), and apartments (138 units), with an additional future residential area for 3 units, as well as parkland, open space, associated road and stormwater management facilities. Blocks have also been set aside for future commercial (eastern portion of the site) and industrial (western portion of the site) usage.

### 4.1 Servicing

No existing water connections are available at the limits of the site. The Eco Parkway watermain is proposed to be extended along with the roadway to the proposed development and will provide the primary servicing connection to the site (Crozier Consulting Engineers, 2024). A second connection along Highway 10 from Milliner Avenue will be required to meet sufficient





flow requirements and to facilitate a lopped distribution network per Township and MECPC standard (Crozier Consulting Engineers, 2024).

The watermain on site is proposed to follow the alignment of the road network complete with individual service connections for each lot (Crozier Consulting Engineers, 2024). Fire hydrants will be spaced as required to provide the necessary fire protections and meet municipal standards (Crozier Consulting Engineers, 2024).

The development will be fully serviced by hydro, natural gas, cable, and telecommunications.

Sanitary servicing for the development will also be provided. A network of gravity sewers which follow the alignment of onsite roadways are proposed along with an outlet and a centrally located sanitary pumping station (Crozier Consulting Engineers, 2024).

## 4.2 Stormwater Management

The proposed development will be constructed with a fully urbanized stormwater management system (SWM) complete with curb and gutter and storm sewers. A dual drainage approach will consist of minor and major stormwater flow routes to ensure adequate conveyance of runoff. The minor drainage system will consist of storm sewers and catch basins sized to convey the 5-year design storm event. The major drainage system will provide overland stormwater flow routes within the road allowance directing drainage toward the appropriate Stormwater Management Facility (Crozier Consulting Engineers, 2024).

The proposed SWM Facilities are adequately sized to provide “enhanced protection” level treatment. Quantity control is met for the subject site by controlling post-development flows to pre-development levels for all storms up to the 100-year storm event. The SWM facility will incorporate a minimum 24-hour retention of the 25mm event to provide erosion control (Crozier Consulting Engineers, 2024).

## 5.0 Impact Assessment

### 5.1 Direct Impacts

Direct impacts include those that have an immediate effect on natural features and are generally associated with site preparation and construction activities, such as vegetation clearing and grubbing, grading, excavation, paving and building of structures.

#### 5.1.1 Environmental Constraints

The DPOS was overlaid on the features and constraints mapping to determine whether residual impacts remain (Figure 7). The figure presents natural features and the wetland boundaries have been verified by GRCA in the field but have not been surveyed by an Ontario Land Surveyor. Recommended buffers are presented in Table 4, and Figure 7 displays the application of a proposed minimum 15 m buffer on the wetland features planned for retention. An additional buffer width will be provided from any private lot lines by placement of the SWM blocks. The areas of the proposed habitat removals are presented in Table 5.



**Table 4: Recommended Buffers to Natural Features and Structures**

Policy	Woodland	Wetland	Watercourse	Top of Bank	Floodplain <sup>1</sup>	Hedgerow Trees
Grey County OP	Not specified	30 m (can be reduced with the support of an EIS)	30 m (less with rationale/no negative impacts)	30 m (less with rationale/no negative impacts)	Not identified in the OP	Not identified in the OP
Township of Southgate OP	Not identified in the OP	Not identified in the OP	15 m, or 30 m for coldwater stream	Defers to Conservation Authority	Not identified in the OP	Not identified in the OP
GRCA	Not specified	30 m (less with rationale/no negative impacts)	15 m (Superseded by floodplain)	15 m	15 m	Not applicable
buffers recommended	10 m	30 m (less with rationale/no negative impacts)	Not represented because other buffers extend further	15 m	15 m	Estimate 3 m but could change with detailed tree preservation report
<p><sup>1</sup> A buffer would also be applied to the watercourse however the floodplain and wetland plus buffers far exceeds that constraint therefore it is not illustrated.</p> <p>Note: grading is generally not allowed within the buffers unless approved. Development is expected to meet existing grades at the limit of the buffer.</p>						

### 5.1.2 Fish and Aquatic Habitat

The watercourses identified on site were assessed as HDFs. No fish were observed during field investigations and all features were found to be dry during the May and August 2022 assessment. Due to either their contribution to downstream fish habitat through allochthonous transport, or their association with important riparian or terrestrial habitat (e.g. wetlands), appropriate management recommendations are applied to one of the three features to allow their primary functions to be maintained (see Figure 3). The proposed DPOS would remove the two HDFs located in the northeast and southwest portion of the site as well as a portion of the central feature to accommodate development; the former two features assessed as “no management” were identified as shallow swales or ponded areas with no defined channel and minimal function of seasonal overland flow to offsite natural features. Their removal would not result in adverse affects to the offsite features. The third feature was assessed as “mitigation” for the northern portion, to be removed, and “conservation” for the southern portion, which will be retained. Flows and recharge to these features should be maintained through lot level conveyance, LIDs or stormwater management facilities. With the implementation of appropriate quality control measures, impacts to fish and fish habitat are not expected.





### 5.1.3 Terrestrial Habitat

The DPOS is predominately situated within agricultural and rural residential lands, although removal of some natural features is anticipated to accommodate the plan. The proposed development will result in the removal of portions of Cultural Meadow, Reed Canary Grass Mineral Meadow Marsh, Cattail Mineral Shallow Marsh complexed with Willow Mineral Thicket Swamp, the entirety of the Sugar Maple and Sugar Maple - Beech Deciduous Forests, and the hedgerow features; also to be removed are the HDFs located in the northeast and southwest portions of the site (see Section 5.1.2), and a portion of the HDF in the centre of the site; the southern two thirds of this feature occur within and contribute to wetland habitat.

The removal of vegetation for site preparation prior to construction should be completed outside of the sensitive timing window for birds and bats (April 1<sup>st</sup>- September 30<sup>th</sup>). Tree removals required for construction will occur in accordance with the Grey County Forestry Management By-law #4341-06, and restoration of disturbed areas are to be planted and seeded as per a future landscape restoration plan. A tree preservation plan will be prepared to the satisfaction of the appropriate authority to support the Site Plan Application.

**Table 5: Areas of Terrestrial Habitat Removal**

Habitat features	Area (ha)
Dry-Fresh Sugar Maple - Beech Deciduous Forest	1.15
Dry-Fresh Sugar Maple Deciduous Forest	0.27
Cattail Mineral Shallow Marsh complexed with Willow Mineral Thicket Swamp	1.13
Cultural Meadow	0.06
Reed-canary Grass Mineral Meadow Marsh	0.24
<b>Total</b>	<b>2.85 (4.7% of total site area)</b>

#### 5.1.3.1 Wetlands

The removal of portions of Reed Canary Grass Mineral Meadow Marsh and Cattail Mineral Shallow Marsh complexed with Willow Mineral Thicket Swamp is proposed. These wetlands as they occur on the site are identified on Township official plan schedules as “other wetlands” and on the County official plan as “hazard lands” and have not been evaluated by the MNRF; both OP’s state that no development or site alterations are permitted within other wetlands or their adjacent lands unless it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. The contiguous wetlands immediately to the southeast of the site are identified by the MNRF as part of the provincially significant Melancthon Wetland Complex.

Under section 28.1.2 of the *Conservation Authorities Act (1990)*, a Conservation Authority is required to issue a permit with or without conditions for a development project authorized under section 34.1 or 47 of the *Planning Act*. These conditions can include those as indicated by subsection 28.1.2 (6) of the CAA “to mitigate:

- a) any effects the development project is likely to have on the control of flooding, erosion, dynamic beaches or unstable soil or bedrock;



- b) any conditions or circumstances created by the development project that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property; or
- c) any other matters that may be prescribed by regulation.”

In addition to the above, subsection (17) states:

“An authority that issues a permit to carry out a development project under this section shall enter into an agreement with respect to the development project with the permit holder and the authority and the permit holder may add a municipality or such other person or entity as they consider appropriate as parties to the agreement...” with subsection (18) stating “An agreement under subsection (17) shall set out actions or requirements that the permit holder must complete or satisfy in order to compensate for ecological impacts and any other impacts that may result from the development project.”

Given the policy discussed above, there appears to be opportunity to propose, based on the outcomes of the EIS and Hydrogeological studies, appropriate mitigation measures for the removal of these wetland features, which will ensure there are no negative impacts.

#### **5.1.3.2 Groundwater**

A Hydrogeological Assessment has been completed for the site under separate cover (SLR, 2024). It was determined that groundwater recharge conditions were predominant across the site. This indicates that the features on site (tributary, wetlands) are primarily fed by surface water runoff and precipitation events.

Typically, temporary excavations for basements will remain dry from a groundwater inflow perspective, due to the low permeability soils and relatively shallow depths. In the wet season, there may be some temporary groundwater discharge that can be handled by sump and pump techniques. Due to the expected low volumes, it is not expected that Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR) approvals will be required for basement foundations which are anticipated to be fairly shallow. Furthermore, the radius of influence resultant from these temporary excavations is expected to be small, therefore, there is no impact to the surrounding water supply wells anticipated. Additional evaluations of dewatering requirements will be completed during detailed design.

#### **5.1.3.3 Water Balance**

A water balance is being completed by others and will be used to assess potential hydrologic impacts to wetland features and identify appropriate mitigation measures. This assessment will be provided in a subsequent submission.

#### **5.1.4 Species of Conservation Concern**

To date, two SAR (Eastern Wood-pewee, Bobolink) have been detected on or adjacent to the site. Foraging habitat for Monarch is present in the meadow and meadow marsh communities on site and any removals can be restored within the setbacks of protected natural features. The current DPOS does not propose the encroachment into or removal of habitat for Eastern Wood-pewee.

Impacts to Bobolink are not anticipated as the meadow marsh where they were observed is not considered suitable breeding habitat and the individuals observed were likely using this area as



a temporary refuge following displacement from suitable habitat (e.g. hayfields) in the surrounding landscape.

To avoid potential impacts to bats that may be utilizing trees on site, removal of trees should occur outside of the active season for bats which typically occurs between April 1<sup>st</sup> and September 30<sup>th</sup>. Prior to the removal of trees, an acoustic survey for bats should be conducted to determine habitat use by SAR bats and support any consultation with MECP on this matter. Additional mitigation for bat habitat impacts is provided in **section 5.1.5.1**.

### 5.1.5 Significant Wildlife Habitat

To accommodate the proposed development, the following removals are proposed:

**Table 6: Proposed Removal of Significant Wildlife Habitat**

Significant Wildlife Habitat	Area (ha)
<b>Candidate</b>	
Bat Maternity Colonies	1.42
Amphibian Movement Corridors	0.24
<b>Confirmed</b>	
Amphibian Breeding Habitat (Wetlands) Marsh Bird Breeding Habitat Special Concern and Rare Wildlife Species: Eastern Wood-pewee, Common Gallinule, Great Egret	1.13
Terrestrial Crayfish	0.24

The PPS states that *development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*

As such, the following assessment of impacts for the SWH in Table 6 and associated mitigation is presented.

#### 5.1.5.1 Bat Maternity Colonies

As confirmatory studies were not conducted on the site for this habitat type, it is assumed that bat species may be utilizing the habitat for breeding and roosting. The features in question are small in area relative to the available habitat in the greater landscape surrounding the site. Therefore, if the removal of the features is completed outside of the active season for bats (April 1st to September 30<sup>th</sup>), direct impacts to the species are not anticipated. However, as mentioned above, an acoustic survey should be undertaken prior to habitat removal to determine habitat use by bat species and support recommended mitigation measures. To offset the loss of potential habitat being removed, artificial habitat in the form of bat boxes can be installed in an appropriate location such as adjacent to the proposed stormwater management facilities. Additionally, landscape trees as part of the development will provide treed habitat on the site once they have reached maturity.



### 5.1.5.2 Amphibian Movement Corridors

Confirmatory studies were not completed, so it is assumed that the area delineated is functioning as this habitat type. Since the area north of this habitat indicated on Figure 6 is a heavily disturbed swale surrounded by agricultural fields, it is not anticipated that movement of amphibian species would occur beyond the limits of the delineated habitat. It is likely that movement would be limited to within the delineated habitat and between it and the adjacent wetland habitat on the site to the south. Field investigations including amphibian breeding surveys did not indicate that the adjacent upland habitat (deciduous forest and meadow) provided any habitat for amphibians. The removal of the small amount of habitat identified as candidate amphibian movement corridor is not likely to constitute a negative impact to amphibians utilizing habitat on the site and surrounding landscape. The setback area between the site plan and the wetlands on site that is currently agricultural lands, whether restored or naturalized will likely provide a similar area and function to that being removed. This area would require removal for Eco Parkway which is being addressed through the Municipal EA process.

### 5.1.5.3 Amphibian Breeding Habitat (Wetlands)

The area of wetland (Cattail Mineral Shallow Marsh complexed with Willow Mineral Thicket Swamp) proposed for removal, although part of the large wetland area located off site to the south, is at a slightly higher elevation and is not inundated by water for as long as areas to the south. Field observations confirm this as summer investigations indicated that water was not at the surface, and the diversity and density of hydrophilic vegetation is less than that further south. These factors, particularly the hydroperiod, likely render this area less suitable for the breeding of later season amphibians (Northern Leopard Frog, American Toad, Green Frog and Gray Tree Frog) and may only be suitable for species that utilize more ephemeral habitat such as Spring Peeper and Wood Frog. Thus, the removal of this habitat would likely only impact the latter species. This ephemeral habitat can be replicated adjacent to the existing wetlands on the site within the setbacks to the proposed development; these areas are already at topographic low points and, coupled with the proximity to existing wetlands, would provide ideal conditions for the maintenance of ephemeral ponding and saturation for early season breeding amphibians. This area will be impacted by the extension of Eco Parkway through the site.

### 5.1.5.4 Marsh Bird Breeding Habitat

As with the amphibian breeding habitat, for marsh birds, this same area likely represents habitat that is more marginally suitable for breeding. Marsh breeding birds typically require areas with a combination of permanent open water of various depths and wetland vegetation, usually emergent or shrubs. The area of habitat in question does provide appropriate vegetation but does not provide the open water component. It is also situated adjacent to a busy highway. Consequently, although this area is part of the large wetland community that provides suitable habitat, it is not likely to be utilized for breeding by marsh birds, and its removal is not anticipated to impact these species or their existing habitat located south of the site.

### 5.1.5.5 Special Concern and Rare Wildlife Species

#### *Eastern Wood-pewee*

This species utilizes deciduous or mixed forest or woodland habitat of varying sizes for breeding. Although the overall wetland community does contain suitable patches of treed habitat, these are relatively small and occur off-site to the south of the wetland area in question.



Since suitable habitat for this species is not present in the area proposed for removal, impacts are not anticipated.

#### *Common Gallinule*

As discussed in **Section 5.1.5.4** the habitat area proposed for removal does not provide suitable conditions for breeding marsh birds. Impacts to this species are not expected.

#### *Great Egret*

This species prefers to nest colonially in trees or shrubs in flooded wetland areas. Suitable habitat is present within the wetland community situated south of the site, where trees and deeper, permanent water occurs. As conditions are not suitable for this species in the area proposed for removal, impacts to this species are not anticipated.

## 5.2 Indirect Impacts

Indirect impacts may occur from the residential occupation of the development and could include the dumping of refuse, encroachment of yards into natural features, and unsanctioned use of natural features for recreation (e.g., trails, parties, etc.). Off-leash or unconfined household pets may disturb the natural features and impact the natural function through disrupting sensitive breeding behaviours or predation of native fauna (e.g., cats hunting wild birds). Stormwater runoff from built-up impermeable areas including roads may contain sediments and pollutants such as oils and hydrocarbons. Overall, these indirect impacts could result in damage to the ecological functions of the natural features through the removal of native species, the introduction and spread of non-native or invasive flora or fauna, and degradation due to pollution.

To minimize the potential for these indirect impacts, mitigations can be implemented to provide physical barriers (i.e. fences), create awareness (education through interpretive signage), provide appropriate avenues for recreation (sanctioned trail system) and enforcement of applicable by-laws. Setbacks identified in the EIS should be restored to provide a buffer to the existing natural features and ultimately result in an increase in natural area. The use of low impact developments (LID) in the design of the proposed development would aid in the reduction of stormwater runoff and appropriately pre-treat any runoff prior to entry into the stormwater management facility.

### 5.2.1 Stormwater Management

Two (2) stormwater management (SWM) blocks are anticipated to be required to support the proposed development. The SWM ponds will discharge from the east and west to the central environmental protection lands and then to the watercourse discharging into the wetland south of the proposed development (Crozier Consulting Engineers, 2024). Both SWM blocks will help mitigate the risks from flooding and reduce the chances of sediments and pollutants entering the watercourse and wetland. The SWM blocks have been placed adjacent to the delineated wetland to provide additional protection and mitigation from development and should be landscaped to provide a form of ecological net gain to the area.

## 6.0 Policy Review and Conformity

The following section describes policies relevant to the natural environment and describes how the natural heritage features identified within this EIS have been addressed. Policy conformity is summarized in **Table 7**.



**Table 7: Summary of Policy Conformity**

Policy	Conformity	Rationale
<i>Provincial Planning Statement (PPS, 2024)</i>	Conforms	<ul style="list-style-type: none"> <li>Although features of provincial interest are identified on and adjacent to the site (significant wildlife habitat) negative impacts to these features are not anticipated should mitigation recommendations be implemented (avoidance/setbacks/restoration)</li> </ul>
<i>Grey County Official Plan (2019)</i>	In conformity with natural heritage policies	<ul style="list-style-type: none"> <li>EIS describes the features and functions of the subject lands and confirms there are no significant/natural heritage features that will be negatively affected by the proposed DPOS</li> <li>DPOS overlies features identified in OP section 7.3 (wetlands). However, negative impacts are not anticipated should mitigation recommendations be implemented</li> </ul>
<i>Township of Southgate Official Plan (2022)</i>	In conformity with natural heritage policies	<ul style="list-style-type: none"> <li>DPOS overlies features identified in OP section 6 (wetlands). However, negative impacts are not anticipated should mitigation/compensation recommendations be implemented</li> <li>Tree removals will be subject to the appropriate municipal by-law</li> </ul>
<i>Conservation Authorities Act (1990); Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits</i>	In conformity based on policies of Section 28.1.2	<ul style="list-style-type: none"> <li>Development approved under Section 47 of the <i>Planning Act</i> (MZO); therefore, the Conservation Authority is required to provide a permit with or without conditions</li> <li>An agreement is to be entered into with the authority outlining actions or requirements the permit holder must satisfy regarding compensation for ecological impacts</li> </ul>
<i>Endangered Species Act (ESA, 2007)</i>	In conformity with the implementation of recommended mitigations	<ul style="list-style-type: none"> <li>Potential for SAR bats to occur</li> <li>Consultation with MECP regarding these impacts will be coordinated during a subsequent phase of development</li> <li>The appropriate proponent led process to mitigate impacts and compensate for any habitat removed will be followed</li> </ul>



Policy	Conformity	Rationale
<i>Migratory Birds Convention Act</i> (MBCA, 1994)	In conformity with the implementation of recommended mitigations	<ul style="list-style-type: none"> <li>Vegetation clearing will not occur within the breeding bird period provided under Environment Canada guidance for periods of highest nesting probability (i.e. cannot occur generally between April 1<sup>st</sup> and August 31<sup>st</sup>)</li> </ul>
<i>Fisheries Act (2019)</i>	Conforms	<ul style="list-style-type: none"> <li>No fish habitat identified on site of proposed DPOS</li> <li>Flow/recharge input to downstream habitat to be maintained through lot level conveyance, LID and stormwater management facilities</li> </ul>





## 7.0 Conclusions and Recommendations

The following operational constraints and mitigation strategies are recommended for use during the construction phase of this project for protection of the natural heritage features and functions on and adjacent to the site:

- Tree Preservation Plan (TPP) will be completed to identify appropriate compensation for tree removals.
- Consultation with MECP for the potential presence of bat species at risk including completion of an Information Gathering Form and Avoidance and Alternatives Form to be used towards an Overall Benefit Permit (C-PAF).
- Permanent post and rail or chain-link fence is recommended along the limits of the blocks/lots that abut the wetland which provided adequate protection to the feature. This fencing should be sturdy beyond the typical rebar and sediment fabric fence. Prior to the commencement of construction, the limits of protection areas (buffers) are to be delineated and fenced to avoid inadvertent intrusion of people, machinery, or other activities such as stockpiling of material, dumping and encroachment. 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.
- Grading limits are to respect minimum root protection zones for trees along the woodland and in tree protection zones for trees to be retained beyond the buffers, to be determined in the TPP. Minimum protection of the root zone is measured from the base of the tree to the tree's dripline. Earthworks/grading, stockpiling of material etc. is to be directed away from protection areas. Final Study Area grading and design is to ensure these areas are not encroached upon unless approved by the municipality and/or GRCA where minor grading intrusions may be necessary (e.g. to match grades).
- Vegetation removals associated with construction related activities are to be minimized. Additional tree hording/fencing may be required in consultation with the municipality and/or GRCA to prevent intrusion and stockpiling of materials into the adjacent wetland. No fill should be placed in and around the wetland communities.
- Exposed soils should be re-vegetated as soon as possible with native seed mixes to reduce impact from the construction and invasive species spread.
- 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 MNR/MECP or GRCA should be contacted for advice.
- It is the proponent's responsibility to ensure that the works conform to the Migratory Bird Convention Act and Endangered Species Act, 2007 in that no migratory bird(s) or SAR species will be harassed, harmed, killed nor will nests or habitats be destroyed by the proposed work. The recommended avoidance window which includes SAR bats is from April 1<sup>st</sup> to September 30<sup>th</sup>. 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 and Climate Change's (ECCC) nesting periods for migratory birds: April 1st to August 31st
- Bat maternity season: April 1st to September 30<sup>th</sup>
- Under the ESA (Ontario Regulation 830/21) removal of habitat for Bobolink or Eastern Meadowlark must not occur between May 1<sup>st</sup> and July 31<sup>st</sup> of any year
- 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.
- Restoration within and adjacent to natural heritage features is proposed. This can include areas seeded with native species meadow mix (suitable for this growing region and soils). Native Milkweed should be incorporated into buffer planting seed mix and where possible other natural areas on the property. Planting of species native to the region within locations of suitable ecological conditions, including the proposed stormwater management facilities, is also recommended to enhance existing natural features.
- Landscaping and planting plans to be provided at the detailed design stage of submission.
- The landscaping plan should include native plant species where possible to provide habitat for SAR insects.
- Construction monitoring by an ecologist/arborist is recommended as part of a monitoring program to be developed with the GRCA.
- All outdoor lighting (including any new street lighting and external lighting on buildings) should be directed toward the ground and away from the natural areas.



## 8.0 Closure

We trust this information will meet your current requirements. Please do not hesitate to contact the undersigned should you have any questions or require additional information.

Regards,

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                             1 electronic copy – SLR Consulting (Canada) Ltd.



## 9.0 References and Bibliography

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# Tables

## **Environmental Impact Study**

Flato Southeast (Eco Park), Dundalk, Ontario

**Flato Eco Park Dundalk Inc.**



SLR Project No.: 209.30125.00002



October 17, 2024

**Table A: Headwater Drainage Feature Observations**



**Observations made on 26 April 2022**

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
1	Limited Functions	Ponding through grass, connected to NE wetland feature	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Limited Functions	No Management	<p>DIRECTION SW (T) 17T 550473 4890857 ACCURACY 4 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 1 2022-04-26</p>
2	Limited Functions	No defined channel, ponding with flow contributions from 2 channels to the SE	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Limited Functions	No Management	<p>DIRECTION NW (T) 17T 550477 4890811 ACCURACY 6 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 2 2022-04-26</p>



Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
3	Limited Functions	No defined feature (water in vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	
4	Contributing Functions - Ephemeral	Pooling at edge of agricultural field, flow from E to W	Contributing Functions - Lawn and cropped land	Contributing Functions - allochthonous transport	Limited Functions - Lawn	No Management	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
5	Contributing Functions - Ephemeral	No distinct channel, flow from N to S	Contributing Functions - Meadow	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p> <small>DIRECTION Nw (T) 17T 558381 4890717 ACCURACY 4 m DATUM NGS84</small>  <small>Dundalk: 772060 May 18 Note 5 2022-04-26</small> </p>
6	Limited Functions	No defined channel	Valued Functions - Meadow	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p> <small>DIRECTION Nw (T) 17T 558183 4890506 ACCURACY 6 m DATUM NGS84</small>  <small>Dundalk: 772060 May 18 Note 6 2022-04-26</small> </p>







Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
7	Limited Functions	No defined feature, intermittent ponding (water in vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DUNDALK: 772060 SE (T) 17T 550150 4890456 ACCURACY 6 m DATUM NGS84</p> <p>Dundalk: 772060 SE (T) Note 7 2022-04-26</p>
8	Limited Functions	No defined feature (water in vehicle wheel ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DUNDALK: 772060 SE (T) 17T 550191 4890423 ACCURACY 4 m DATUM NGS84</p> <p>Dundalk: 772060 SE (T) Note 8 2022-04-26</p>

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
9	Limited Functions	No defined feature (water in vehicle wheel ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	<p>DUNDALK: 772060 Hwy 10      17T 550197 4898419      ACCURACY 4 m DATUM NGS84</p> <p>Dundalk: 772060 Hwy 10      Note 9      2022-04-26</p>
10	Limited Functions	No defined feature, intermittent ponding (water in vehicle ruts)	Limited Function Cropped land	Contributing function allochthonous transport	Limited Functions	No Management	<p>DUNDALK: 772060 Hwy 10      17T 550209 4898396      ACCURACY 4 m DATUM NGS84</p> <p>Dundalk: 772060 Hwy 10      Note 10      2022-04-26</p>
11	Limited Functions	Somewhat defined feature, large area ponding	Contributing/Limited Functions - Lawn and cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	<p>DUNDALK: 772060 Hwy 10      17T 550278 4898367      ACCURACY 6 m DATUM NGS84</p> <p>Dundalk: 772060 Hwy 10      Note 11      2022-04-26</p>




Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
12	Limited Functions	No defined feature (some ponding connected to wetland to the south)	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DUNDALK: 772060 Hwy 10 Note 12 2022-04-26  DIRECTION SE (T) 17T 550319 4890348 ACCURACY 4 m DATUM WGS84</p>
13	Limited Functions	No defined feature (ponding in field)	Contributing/Limited Functions - Lawn and cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DUNDALK: 772060 Hwy 10 Note 13 2022-04-26  DIRECTION N (T) 17T 550332 4890330 ACCURACY 4 m DATUM WGS84</p>

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
14	Limited Functions	No defined feature (water in vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	
15	Limited Functions	No defined feature (water in vehicle ruts) with flow toward the South	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	
16	Limited Functions	No defined feature, flowing toward wetland	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
17	Limited Functions	Ponding in front of wetland	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p data-bbox="1461 302 1776 331">DIRECTION 17T 550496 ACCURACY 6 m SE (T) 4890140 DATUM WGS84</p> <p data-bbox="1461 688 1776 716">Dundalk: 772060 Hwy 10 Note 17 2022-04-26</p>
18	Contributing Functions - Ephemeral	Ponding along west side of wetland, connected to swale, no flow	Contributing - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	Mitigation	 <p data-bbox="1461 721 1923 750">DIRECTION 17T 550610 ACCURACY 4 m S (T) 4890437 DATUM WGS84</p> <p data-bbox="1461 1042 1923 1070">Dundalk: 772060 Hwy 10 Note 18 2022-04-26</p>

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
19	Contributing Functions - Ephemeral	Defined channel with flow connected downstream	Important Functions - wetland	Contributing Functions - allochthonous transport	Valued Functions - General amphibian habitat	Mitigation	 <p>DIRECTION SE (T) 17T 550630 4896445 ACCURACY 6 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 19 2022-04-26</p>
20	Contributing Functions - Ephemeral	Ponding connected to wetland	Contributing Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	Mitigation	 <p>DIRECTION SE (T) 17T 550692 4890413 ACCURACY 6 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 20 2022-04-26</p>





Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
21	Contributing Functions - Ephemeral	Defined channel dispersing into vegetation	Important Functions - wetland	Contributing Functions - allochthonous transport	Valued Functions - General amphibian habitat	Mitigation	 <p>DIRECTION N (T) 17T 550679 4890385 ACCURACY 4 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 21 2022-04-26</p>
22	Limited Functions	Drainage flowing North to South	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DIRECTION Nw (T) 17T 550884 4890508 ACCURACY 4 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 22 2022-04-26</p>
23	Limited Functions	No defined feature, intermittent ponding, no flow	Limited Functions - Cropped Land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DIRECTION SW (T) 17T 550792 4890672 ACCURACY 4 m DATUM WGS84</p> <p>Dundalk: 772060 Hwy 10 Note 23 2022-04-26</p>




Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
24	Limited Functions	Ponding with drainage flow	Limited Functions - Cropped Land	Contributing Functions - allochthonous transport	Limited Functions	No Management	
25	Recharge Functions - Standing Water	Ground water upwelling with additional input from rutting in field	Limited Functions - Cropped Land	Contributing Functions - allochthonous transport	Limited Functions	Maintain Recharge	

Observations made on 28 May 2022


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
1	Limited Functions	No defined channel, lawn	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Contributing Functions - Movement corridor	No Management	 <p>DIRECTION SW (T) 17T 550453 4890770 ACCURACY 4 m DATUM WGS84</p> <p>EcoPark Note 1 2022-05-28</p>
2	Limited Functions	No defined channel, lawn	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Limited Functions - Lawn	No Management	 <p>DIRECTION SW (T) 17T 550491 4890814 ACCURACY 4 m DATUM WGS84</p> <p>EcoPark Note 2 2022-05-28</p>


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
3	Limited Functions	Somewhat defined channel, agricultural/plowed field	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	
4	Contributing Functions - Ephemeral	Somewhat defined channel, lawn	Contributing Functions - Lawn and cropped land	Contributing Functions - allochthonous transport	Limited Functions - Lawn	No Management	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
5	Contributing Functions - Ephemeral	No defined channel	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Contributing Functions - Movement corridor	No Management	
6	Limited Functions	No defined channel	Valued Functions - Meadow	Contributing Functions - allochthonous transport	Contributing Functions - Movement corridor	No Management	


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
7	Limited Functions	No defined feature (vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	





Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
8	Limited Functions	No defined feature (vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
9	Limited Functions	No defined feature (vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	





Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
10	Limited Functions	No defined feature (vehicle ruts)	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p data-bbox="1417 414 1774 446">DIRECTION SW (T) 17T 550199 4890416 ACCURACY 5 m DATUM WGS84</p> <p data-bbox="1417 917 1774 941">EcoPark Note 10 2022-05-28</p>

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
11	Limited Functions	No defined feature	Contributing/Limited Functions - Lawn and cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p data-bbox="1415 412 1766 444">DIRECTION SW (T) 17T 550238 4890396 ACCURACY 5 m DATUM WGS84</p> <p data-bbox="1423 911 1757 927">EcoPark Note 11 2022-05-28</p>


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
12	Limited Functions	No defined feature, evidence of ponding	Contributing Functions - Lawn	Contributing Functions - allochthonous transport	Contributing Functions - Movement corridor	No Management	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
13	Limited Functions	No defined feature	Contributing/Limited Functions - Lawn and cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
14	Limited Functions	No defined feature	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p data-bbox="1423 412 1801 448">DIRECTION 17T 550336 ACCURACY 5 m SE (T) 4890291 DATUM WGS84</p> <p data-bbox="1423 959 1801 976">EcoPark Note 14 2022-05-28</p>


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
15	Limited Functions	No defined feature, evidence of drainage	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	





Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
16	Limited Functions	No defined feature, evidence of drainage	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p data-bbox="1423 412 1822 451">DIRECTION 17T 550440 ACCURACY 4 m E (T) 4890168 DATUM WGS84</p> <p data-bbox="1430 987 1816 1008">EcoPark Note 16 2022-05-28</p>





Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
17	Limited Functions	No defined feature, evidence of ponding	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	<div data-bbox="1388 410 1843 451" style="background-color: #333; color: white; padding: 2px;"> <span style="font-size: 0.8em;">DIRECTION SW (T)</span> <span style="font-size: 0.8em; margin-left: 20px;">17T 550520 4890127</span> <span style="font-size: 0.8em; margin-left: 20px;">ACCURACY 4 m DATUM WGS84</span> </div>  <div data-bbox="1388 982 1843 1015" style="background-color: #333; color: white; padding: 2px;"> <span style="font-size: 0.8em;">EcoPark</span> <span style="font-size: 0.8em; margin-left: 20px;">Note 17</span> <span style="font-size: 0.8em; margin-left: 20px;">2022-05-28</span> </div>


Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
18	Contributing Functions - Ephemeral	No defined feature	Contributing/Limited Functions - Lawn and Cropped land	Contributing Functions - allochthonous transport	Limited Functions	Mitigation	 <p data-bbox="1388 407 1906 444">DIRECTION SE (T) 17T 550603 4890433 ACCURACY DATUM 1</p> <p data-bbox="1388 834 1906 867">EcoPark Note 18 2022-0</p>

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
19	Contributing Functions - Ephemeral	No defined feature	Important Functions - Wetland	Contributing Functions - allochthonous transport	Valued Functions - General amphibian habitat	Conservation	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
20	Contributing Functions - Ephemeral	No defined feature	Important Functions - Wetland	Contributing Functions - allochthonous transport	Valued Functions - General amphibian habitat	Conservation	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
21	Contributing Functions - Ephemeral	Defined channel, dry	C Important Functions - Wetland	Contributing Functions - allochthonous transport	Valued Functions - General amphibian habitat	Conservation	 <p>DIRECTION S (T) 17T 550718 4890377 ACCURAC DATUM</p> <p>EcoPark Note 21 2022-6</p>
22	Limited Functions	Defined channel, dry	Limited Functions - Cropped land	Contributing Functions - allochthonous transport	Limited Functions	No Management	 <p>DIRECTION S (T) 17T 550920 4890474 ACCURAC DATUM</p> <p>EcoPark Note 22 2022-6</p>



Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
23	Limited Functions	No defined feature	Limited Functions - Cropped Land	Contributing Functions - allochthonous transport	Limited Functions	No Management	

Drainage Feature Segment	Hydrology	Hydrology Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	HDF Management Recommendation	Photo
24	Limited Functions	No defined feature	Limited Functions - Cropped Land	Contributing Functions - allochthonous transport	Limited Functions	No Management	
25	Limited Functions	No defined feature	Limited Functions - Cropped Land	Contributing Functions - allochthonous transport	Limited Functions	No Management	

**\*NOTE: All features were dry during the August 10, 2022 visit**



**Table B: Botanical Inventory**

Scientific Name	Common Name	CC	CW	GRank	COSEWIC	Nrank	SARO	SRank	Invasive
<i>Acer saccharum</i>	Sugar Maple	4	3	G5		N5		S5	
<i>Agrostis gigantea</i>	Redtop	0	-3	G4G5		NNA		SE5	Y
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	3	5	G5		N5		S5	
<i>Betula papyrifera</i>	Paper Birch	2	3	G5		N5		S5	
<i>Bromus inermis</i>	Smooth Brome	0	5	G5		NNA		SE5	Y
<i>Carex hystericina</i>	Porcupine Sedge	5	-5	G5		N5		S5	
<i>Carex vulpinoidea</i>	fox Sedge	3	-5	G5		N5		S5	
<i>Cirsium vulgare</i>	Bull Thistle	0	3	GNR		NNA		SE5	
<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	6	3	G5		N5		S5	
<i>Cornus sericea</i>	Red-osier Dogwood	2	-3	G5		N5		S5	
<i>Dactylis glomerata</i>	Orchard Grass	0	3	GNR		NNA		SE5	
<i>Daucus carota</i>	Wild Carrot	0	5	GNR		NNA		SE5	
<i>Epilobium hirsutum</i>	Hairy Willowherb	0	-3	GNR		NNA		SE5	Y
<i>Epipactis helleborine</i>	Broad-leaved Helleborine	0	3	GNR		NNA		SE5	Y
<i>Equisetum arvense</i>	field Horsetail	0	0	G5		N5		S5	
<i>Erigeron annuus</i>	Annual fleabane	0	3	G5		N5		S5	
<i>Erigeron canadensis</i>	Canada Horseweed	0	3	G5		N5		S5	
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	2	0	G5		N5		S5	
<i>Eutrochium maculatum</i>	Spotted Joe Pye Weed	3	-5	G5		N5		S5	
<i>Fagus grandifolia</i>	American Beech	6	3	G5		N5		S4	
<i>Fragaria virginiana</i>	Wild Strawberry	2	3	G5		N5		S5	
<i>Fraxinus pennsylvanica</i>	Red Ash	3	-3	G5		N5		S4	
<i>Geum canadense</i>	Canada Avens	3	0	G5		N5		S5	
<i>Geum urbanum</i>	Wood Avens	0	5	G5		NNA		SE3	Y
<i>Glyceria striata</i>	fowl Mannagrass	3	-5	G5		N5		S5	
<i>Hypericum perforatum</i>	Common St. John's-wort	0	5	GNR		NNA		SE5	Y

Scientific Name	Common Name	CC	CW	GRank	COSEWIC	Nrank	SARO	SRank	Invasive
<i>Juncus dudleyi</i>	Dudley's Rush	1	-3	G5		N5		S5	
<i>Larix laricina</i>	Tamarack	7	-3	G5		N5		S5	
<i>Leucanthemum vulgare</i>	Oxeye Daisy	0	5	GNR		NNA		SE5	
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	0	3	GNR		NNA		SE5	Y
<i>Mentha spicata</i>	Spearmint	0	-3	GNR		NNA		SE4	
<i>Onoclea sensibilis</i>	Sensitive fern	4	-3	G5		N5		S5	
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	4	3	G5		N5		S5	
<i>Parthenocissus vitacea</i>	Thicket Creeper	4	3	G5		N5		S5	
<i>Phalaris arundinacea</i>	Reed Canarygrass	0	-3	G5		N5		S5	Y
<i>Phleum pratense</i>	Common Timothy	0	3	GNR		NNA		SE5	
<i>Phragmites australis</i>	Common Reed	0	-3	G5		N5		S4?	Y
<i>Picea glauca</i>	White Spruce	6	3	G5		N5		S5	
<i>Pinus sylvestris</i>	Scots Pine	0	3	GNR		NNA		SE5	Y
<i>Plantago major</i>	Common Plantain	0	3	G5		NNA		SE5	
<i>Poa compressa</i>	Canada Bluegrass	0	3	GNR		NNA		SE5	
<i>Poa pratensis</i>	Kentucky Bluegrass	0	3	G5		N5		S5	
<i>Populus balsamifera</i>	Balsam Poplar	4	-3	G5		NNR		S5	
<i>Populus tremuloides</i>	Trembling Aspen	2	0	G5		N5		S5	
<i>Potentilla anserina</i>	Silverweed	5	-3	G5		NNR		S5	
<i>Prunella vulgaris</i>	Common Self-heal	0	0	G5		N5		S5	
<i>Prunus serotina</i>	Black Cherry	3	3	G5		N5		S5	
<i>Prunus virginiana</i>	Chokecherry	2	3	G5		N5		S5	
<i>Pteridium aquilinum</i>	Bracken fern	2	3	G5		N5		S5	
<i>Rubus idaeus</i>	Red Raspberry	2	3	G5		N5		S5	
<i>Rubus pubescens</i>	Dwarf Raspberry	4	-3	G5		N5		S5	
<i>Rudbeckia hirta</i>	Black-eyed Susan	0	3	G5		N5		S5	
<i>Rumex crispus</i>	Curled Dock	0	0	GNR		NNA		SE5	

Scientific Name	Common Name	CC	CW	GRank	COSEWIC	Nrank	SARO	SRank	Invasive
<i>Salix bebbiana</i>	Bebb's Willow	4	-3	G5		N5		S5	
<i>Salix discolor</i>	Pussy Willow	3	-3	G5		N5		S5	
<i>Salix petiolaris</i>	Meadow Willow	3	-3	G5		N5		S5	
<i>Schoenoplectus tabernaemontani</i>	Soft-stemmed Bulrush	5	-5	G5		N5		S5	
<i>Scirpus atrovirens</i>	Dark-green Bulrush	3	-5	G5		N5		S5	
<i>Solidago altissima</i>	Tall Goldenrod	1	3	G5		N5		S5	
<i>Solidago gigantea</i>	Giant Goldenrod	4	-3	G5		N5		S5	
<i>Sonchus arvensis</i>	field Sow-thistle	0	3	GNR		NNA		SE5	
<i>Spiraea alba</i>	White Meadowsweet	3	-3	G5		N5		S5	
<i>Symphotrichum lanceolatum</i>	Panicled Aster	3	-3	G5		N5		S5	
<i>Symphotrichum lateriflorum</i>	Calico Aster	3	0	G5		N5		S5	
<i>Symphotrichum novae-angliae</i>	New England Aster	2	-3	G5		N5		S5	
<i>Toxicodendron radicans</i>	Poison Ivy	2	0	G5		N5		S5	
<i>Typha angustifolia</i>	Narrow-leaved Cattail	0	-5	G5		N5		SE5	Y
<i>Typha latifolia</i>	Broad-leaved Cattail	1	-5	G5		N5		S5	
<i>Ulmus americana</i>	White Elm	3	-3	G4		N5		S5	
<i>Verbascum thapsus</i>	Common Mullein	0	5	GNR		NNA		SE5	
<i>Viburnum lentago</i>	Nannyberry	4	0	G5		N5		S5	
<i>Vicia cracca</i>	Tufted Vetch	0	5	GNR		NNA		SE5	Y

Floristic Analysis	
Total Spp.	72
Native	51
% Native	70.83
Introd.	21
% Introd.	29.17
Coefficient of Conservatism	
SUM CC	141
Mean CC (Natives)	2.76
Mean CC (All Spp.)	1.96
FQI	
FQI (Natives)	19.74
FQI (All Spp.)	16.62
Mean Coefficient of Wetness	
Natives	-0.65
All Species	0.21

<sup>1</sup>**S-Ranks** - Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. **S1** Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) **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. **S#S#** Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4). **SX** Apparently extirpated from Ontario, with little likelihood of rediscovery. Typically not seen in the province for many decades, despite searches at known historic sites. **SNA** (Formally SE) Exotic; not believed to be a native component of Ontario's flora.

<sup>2</sup>**SARA** - Species at Risk Act (S.C. 2002, c. 29) Act current to 2022-02-23 and last amended on 2022-02-03. COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

<sup>3</sup>**SARO** - ONTARIO REGULATION 230/08 under the Endangered Species Act, 2007 species at risk in Ontario list. Act current 2022-01-26.

**Table C: Wildlife Observations**

Common Name	Scientific Name	SRank <sup>1</sup>	SARA <sup>2</sup> COSEWIC	SARO <sup>3</sup>	Highest Breeding Evidence Observed <sup>4</sup>	Comments
<b>Avifauna</b>						
Alder Flycatcher	<i>Empidonax alnorum</i>	S5B			T	
American Bittern	<i>Botaurus lentiginosus</i>	S5B			P	
American Crow	<i>Corvus brachyrhynchos</i>	S5B,SZN			P	
American Goldfinch	<i>Carduelis tristis</i>	S5B,SZN			P	
American Redstart	<i>Setophaga ruticilla</i>	S5B			A	
American Robin	<i>Turdus migratorius</i>	S5B,SZN			CF	
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5			H	
Blue Jay	<i>Cyanocitta cristata</i>	S5			H	
<b>Bobolink</b>	<b><i>Dolichonyx oryzivorus</i></b>	<b>S4B,SZN</b>	<b>THR SCH 1 THR</b>	<b>THR</b>	CF	
Brown-headed Cowbird	<i>Molothrus ater</i>	S4B			H	
Cedar Waxwing	<i>Bombycilla cedrorum</i>	S5B,SZN			H	
Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>	S5B			A	
Chipping Sparrow	<i>Spizella passerina</i>	S5B			T	
Common Gallinule	<i>Gallinula galeata</i>	S3B			T	
Common Grackle	<i>Quiscalus quiscula</i>	S5B,SZN			H	
Common Yellowthroat	<i>Geothlypis trichas</i>	S5B			T	
Downy Woodpecker	<i>Dryobates pubescens</i>	S5			H	
Eastern Kingbird	<i>Tyrannus tyrannus</i>	S4B			T	
Eastern Phoebe	<i>Sayornis phoebe</i>	S5B			CF	

Common Name	Scientific Name	SRank <sup>1</sup>	SARA <sup>2</sup> COSEWIC	SARO <sub>3</sub>	Highest Breeding Evidence Observed <sup>4</sup>	Comments
<b>Eastern Wood-Pewee</b>	<b><i>Contopus virens</i></b>	<b>S4B</b>	<b>SC SCH 1 SC</b>	<b>SC</b>	T	
European Starling	<i>Sturnus vulgaris</i>	SNA			H	
Gray Catbird	<i>Dumetella carolinensis</i>	S4B			T	
Great Egret	<i>Ardea alba</i>	S2B,S3M			H	
Green Heron	<i>Butorides virescens</i>	S4B			H	
Hairy Woodpecker	<i>Dryobates villosus</i>	S5			P	
House Wren	<i>Troglodytes aedon</i>	S5B,SZN			T	
Indigo Bunting	<i>Passerina cyanea</i>	S4B			T	
Mallard	<i>Anas platyrhynchos</i>	S5			P	
Marsh Wren	<i>Cistothorus palustris</i>	S4B,S3N			T	
Mourning Dove	<i>Zenaida macroura</i>	S5			T	
Red-eyed Vireo	<i>Vireo olivaceus</i>	S5B,SZN			T	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	S5			A	
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S4			CF	
Savannah Sparrow	<i>Passerculus sandwichensis</i>	S4B			T	
Song Sparrow	<i>Melospiza melodia</i>	S5B,SZN			T	
Sora	<i>Porzana carolina</i>	S5B			T	
Spotted Sandpiper	<i>Actitis macularius</i>	S5			H	
Swamp Sparrow	<i>Melospiza georgiana</i>	S5B,S4N			T	
Tree Swallow	<i>Tachycineta bicolor</i>	S4B			ON	
Turkey Vulture	<i>Cathartes aura</i>	S5B			X	
Virginia Rail	<i>Rallus limicola</i>	S4S5B			A	
Warbling Vireo	<i>Vireo gilvus</i>	S5B,SZN			T	



Common Name	Scientific Name	SRank <sup>1</sup>	SARA <sup>2</sup> COSEWIC	SARO <sub>3</sub>	Highest Breeding Evidence Observed <sup>4</sup>	Comments
Wild Turkey	<i>Meleagris gallopavo</i>	S5			H	
Wilson's Snipe	<i>Gallinago delicata</i>	S5B			D	Heard during amphibian surveys
Wood Duck	<i>Aix sponsa</i>	S5B,S3N			P	
Yellow Warbler	<i>Setophaga petechia</i>	S5B			CF	
<b>Herptiles</b>						
American Toad	<i>Anaxyrus americanus</i>	S5			Calling	
Gray Tree Frog	<i>Dryophytes versicolor</i>	S5			Calling	
Green Frog	<i>Lithobates clamitans</i>	S5			Calling	
Northern Leopard Frog	<i>Lithobates pipiens</i>	S5			Observed	
Spring Peeper	<i>Pseudacris crucifer</i>	S5			Calling	
Wood Frog	<i>Lithobates sylvaticus</i>	S5			Calling	
<b>Mammals / Other</b>						
White-tailed Deer	<i>Odocoileus virginianus</i>	S5			Tracks	

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**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.

**S#S#** Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

**SX** Apparently extirpated from Ontario, with little likelihood of rediscovery. Typically not seen in the province for many decades, despite searches at known historic sites.

**SNA** (Formally SE) Exotic; not believed to be a native component of Ontario's flora.

<sup>2</sup>**SARA** - Species at Risk Act (S.C. 2002, c. 29) Act current to 2018-07-05 and last amended on 2018-05-30.

<sup>3</sup>**SARO** - ONTARIO REGULATION 230/08 under the Endangered Species Act, 2007 species at risk in Ontario list. Act current to 2018-08-01. COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

**EXT** Extinct - A species that no longer exists.

**EXP** Extirpated - A species no longer existing in the wild in Canada, but occurring elsewhere.

**END** Endangered - A species facing imminent extirpation or extinction.

**THR** Threatened - A species likely to become endangered if limiting factors are not reversed.

**SC** Special Concern (formerly vulnerable) - A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

**NAR** Not At Risk - A species that has been evaluated and found to be not at risk of extinction given the current circumstances.

**DD** Data Deficient (formerly Indeterminate) - Available information is insufficient to resolve a species' eligibility for assessment or to permit an assessment of the species' risk of extinction.

\* - Species on Schedule 1 of Species At Risk Act (SARA)

<sup>4</sup>**Highest Breeding Evidence Ontario Breeding Bird Atlas: Breeding Evidence Codes**

**X** - Present    **XX** - Heard but not expected to be breeding (e.g. using habitat - foraging)

**POSSIBLE**

**H** - Species observed in its breeding season in suitable nesting habitat.

**S** - Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

**PROBABLE**

**P** - Pair observed in suitable nesting habitat in nesting season

**T** - Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more apart, at the same place

**D** - Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulations

**V** - Visiting probably nest site

**A** - Agitated behaviour or anxiety calls of an adult

**B** - Brood patch on adult female or cloacal protuberance on adult males

**N** - Nest building or excavation of nest hole

**CONFIRMED**

**DD** - Distraction display or injury feigning    **CF** - Adult carrying food for young    **NE** - Nest containing eggs

**NY** - Nest with young seen or heard    **NU** - Used nest or egg shells found (occupied or laid within the period of the survey)    **FY** - Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight

**AE** - Adult leaving or entering nest sites in circumstancing indicating occupied nest    **FS** - Adult carrying fecal sac

**Table D: Species of Conservation Concern Screening Results**

Common Name <sup>1</sup>	Scientific Name	Designation	Potential for Habitat Affinities to Occur within or Adjacent to the site
<b>Mammals</b>			
1 Tri-colored Bat	<i>Perimyotis subflavus</i>	Endangered	<p>Yes, suitable habitat in large, open canopied trees exhibiting decay.</p> <p>Potential roosting and foraging (woodland features / hedgerows, trees generally). Confirmatory surveys not conducted.</p>
1 Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	<p>Yes, suitable habitat in large, open canopied trees exhibiting decay.</p> <p>Potential roosting and foraging (anthropogenic features, woodland features / hedgerows, trees generally). Confirmatory surveys not conducted</p>
1 Northern Myotis	<i>Myotis septentrionalis</i>	Endangered	<p>Yes, suitable habitat in large, open canopied trees exhibiting decay.</p> <p>Potential roosting and foraging (woodland features). Confirmatory surveys not conducted</p>
<b>Avifauna</b>			
1 Canada Warbler	<i>Cardellina canadensis</i>	Special Concern	<p>Potential habitat in moist woodland and wetland adjacent to the site.</p> <p>Species not observed.</p>
1 Eastern Wood-pewee	<i>Contopus virens</i>	Special Concern	<p>Yes, suitable habitat present in woodland features.</p> <p>Species observed adjacent to site in swamp habitat and mixed forest</p>

Common Name <sup>1</sup>	Scientific Name	Designation	Potential for Habitat Affinities to Occur within or Adjacent to the site
<sup>1,2</sup> Bobolink	<i>Dolichonyx oryzivorus</i>	Threatened	No, suitable habitat (cultural meadow, meadow marsh) too small Species observed in narrow meadow marsh along drainage swale on site
<sup>1, 2</sup> Eastern Meadowlark	<i>Sturnella magna</i>	Threatened	No, suitable habitat (cultural meadow, meadow marsh) too small Species not on site
<sup>1</sup> Barn Swallow	<i>Hirundo rustica</i>	Special Concern	Suitable foraging habitat on site. Species not observed on site
<sup>1</sup> Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Special Concern	No, suitable habitat (cultural meadow, too small. Species not observed on site
<sup>1</sup> Common Nighthawk	<i>Chordeiles minor</i>	Special Concern	Although some suitable habitat present (open meadow, agricultural fields) species not observed on site
<sup>1</sup> Chimney Swift	<i>Chaetura pelagica</i>	Threatened	Potential Anthropogenic (chimney) habitat present adjacent to site; treed habitat present on and adjacent to site. Species not observed.
<sup>1</sup> King Rail	<i>Rallus elegans</i>	Endangered	Potential to occur in wetland habitat (large marsh) south of site Species not observed.
<sup>1</sup> Black Tern	<i>Chlidonias niger</i>	Special Concern	Potential to occur in wetland habitat (large marsh) south of site Species not observed.
<sup>1</sup> Least Bittern	<i>Ixobrychus exilis</i>	Threatened	Potential to occur in wetland habitat (large marsh) south of site Species not observed.

Common Name <sup>1</sup>	Scientific Name	Designation	Potential for Habitat Affinities to Occur within or Adjacent to the site
<sup>1</sup> Short-eared Owl	<i>Asio flammeus</i>	Threatened	Suitable marsh and meadow marsh habitat present on and adjacent to site. Species not observed.
<sup>1</sup> Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Endangered	Suitable treed habitat present on and adjacent to site. Species not observed.
<sup>1</sup> Acadian Flycatcher	<i>Empidonax virescens</i>	Endangered	Suitable forested habitat not present on site, although may be occur adjacent to site. Species not observed.
<sup>1</sup> Wood Thrush	<i>Hylocichla mustelina</i>	Special Concern	Suitable woodland habitat not present on site, but may occur adjacent to site. Species not observed.
<sup>1</sup> Golden-winged Warbler	<i>Vermivora chrysoptera</i>	Special Concern	Suitable habitat not present on site but may occur adjacent to site. Species not observed.
<sup>1</sup> Louisiana Waterthrush	<i>Parkesia motacilla</i>	Threatened	Suitable habitat not present on site but may occur adjacent to site. Species not observed.
<sup>1</sup> Cerulean Warbler	<i>Setophaga cerulea</i>	Threatened	Suitable forested habitat not present on site, although may occur adjacent to site. Species not observed.
<b>Herptofauna</b>			
<sup>1</sup> Snapping Turtle	<i>Chelydra serpentina</i>	Special Concern	Wetlands on and adjacent to the site provide potential habitat and movement corridors. Species not observed on site
<sup>1</sup> Midland Painted Turtle	<i>Chrysemys picta marginata</i>	*Designated in 2018 by COSEWIC, not legally listed Provincially	Wetlands on and adjacent to the site provide potential habitat and movement corridors.

Common Name <sup>1</sup>	Scientific Name	Designation	Potential for Habitat Affinities to Occur within or Adjacent to the site
			Species not observed on site
<sup>1</sup> Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	Special Concern	Wetlands on and adjacent to the site provide potential habitat and movement corridors.  Species not observed on site
<b>Vegetation</b>			
<sup>1</sup> Butternut	<i>Juglans cinerea</i>	Endangered	Potential habitat present in wooded features, hedgerows  Species not observed on site.
<sup>1</sup> Black Ash	<i>Fraxinus nigra</i>	Endangered	Potential habitat present in wetlands on and adjacent to site  Species not observed.
<b>Other</b>			
<sup>1</sup> Rusty-patched Bumble Bee ( <i>Bombus affinis</i> ) <sup>1</sup> Gypsy Cuckoo Bumble Bee ( <i>Bombus bohemicus</i> ) <sup>1</sup> Nine-spotted Lady Beetle ( <i>Coccinella novemnotata</i> ) <sup>1</sup> Transverse Lady Beetle ( <i>Coccinella transversoguttata</i> )		Endangered	Possible however degree of habitat alteration and ploughing makes occurrence unlikely.  Habitat generalists. Often overlooked. A range of habitats (meadow successional fields, forests, riparian areas, parks)
<sup>1</sup> Yellow-banded Bumble Bee ( <i>Bombus terricola</i> )		Special Concern	
<sup>1</sup> Monarch	<i>Danaus plexippus</i>	Special Concern	Habitat present – meadows suitable for foraging  Species not observed on site.
<p>Source: (1) MNR, SARO List, SLR expertise; (2) NHIC (2024)</p> <p><u>Designation Status</u> Provincial Status – Species at Risk in Ontario list maintained by the Ontario Ministry of Natural Resources and forestry, O.Reg. 230/08. Endangered Species Act Regulation OMNR S.O. 2007, Chapter 6. Schedules 1 thru 5.4. O. Reg. 242/08.</p> <p><u>Regional or Local</u> Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC). 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.</p>			



**Table E: Significant Wildlife Habitat Screening**

Wildlife Habitat Category <sub>1</sub>	Candidate Habitat Identified Based on MNDMNR Criteria for Ecoregion 6E	Confirmed Habitat Identified Based on MNDMNR Criteria for Ecoregion 6E
<b>Seasonal Concentration Areas for Wildlife Species</b>		
Waterfowl Stopover Staging Areas (Terrestrial)	No. Suitable flooded field habitat not present.	No. Suitable habitat not present.
Waterfowl Stopover Staging Areas (Aquatic)	No. Suitable habitat not present on site; may be present south of site in large wetland	No. Suitable habitat not present on site.
Shorebird Migratory Stopover Area	No. Suitable shoreline/mudflat habitat not present.	No. Suitable shoreline/mudflat habitat not present.
Raptor Wintering Area (i.e., used for feeding and /or roosting)	No. Suitable woodland/treed habitat not present on site.	No. Suitable woodland/treed habitat not present on site.
Bat Hibernacula	No. Suitable habitat not present.	No. Suitable habitat not present.
Bat Maternity Colonies (Non-SAR)	Yes. Suitable habitat present.	Candidate (Unconfirmed). FOM and FOD communities
Bat Migratory Stopover Area	No. Suitable habitat not present.	No. Suitable habitat not present.
Turtle Wintering Areas	No. Suitable aquatic habitat not present on site.	No. Suitable aquatic habitat not present on site.
Reptile Hibernaculum	No. Suitable habitat not present.	No. Suitable habitat not present.
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	No. Bank and cliff habitat not present.	No. Bank and cliff habitat not present.
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)	Yes. Suitable habitat present in swamp on and adjacent to site.	No – species thresholds not met
Colonially-Nesting Bird Breeding Habitat (Ground)	No. Rocky islands or peninsulas not present; although meadow and marsh habitat present in proximity to watercourses, not suitable for Brewer's Blackbird	No. Species not observed.
Migratory Butterfly Stopover Areas	No. Study area is more than 20km from Lake Ontario Shoreline.	No. Study area is more than 20km from Lake Ontario Shoreline.
Land bird Migratory Stopover Areas	No. Study area is more than 20km from Lake Ontario Shoreline.	No. Study area is more than 20km from Lake Ontario Shoreline.
Deer Yarding Areas	No. Insufficient coniferous cover.	No. Not Identified by MNR
Deer Wintering and Congregation Areas	No. Insufficient coniferous cover.	No. Not Identified by MNR

Wildlife Habitat Category 1	Candidate Habitat Identified Based on MNDMNR Criteria for Ecoregion 6E	Confirmed Habitat Identified Based on MNDMNR Criteria for Ecoregion 6E
<b>Rare Vegetation Communities</b>		
Cliffs and Talus Slopes, Sand Barren Alvar, Tallgrass Prairie, Savannah	No. Communities not present.	No. Communities not present.
Old Growth forest	No. Communities not present.	No. Communities not present.
Provincially Rare S1, S2 and S3 vegetation communities	No. Communities not present.	No. Communities not present.
Regionally or Locally Rare vegetation communities	No. Communities not present.	No. Communities not present.
<b>Specialized Habitats for Wildlife</b>		
Waterfowl Nesting Area	Suitable habitat present.	No – species thresholds not met
Bald Eagle and Osprey Nesting, foraging and Perching Habitat	No. Suitable habitat not present on site.	No. Suitable habitat not present on site and species not observed.
Raptor Nesting – Woodland Habitat	No. Suitable woodland with interior habitat not present.	No. Suitable woodland with interior habitat not present.
Turtle Nesting Areas	No. Suitable nesting habitat not present.	No. Suitable nesting habitat not present.
Seeps and Springs	No. Suitable habitat not present.	No. Suitable habitat not present.
Amphibian Breeding Habitat (Woodland)	Yes. Suitable habitat present.	No. Insufficient numbers of calling amphibians to qualify as SWH.
Amphibian Breeding Habitat (Wetland)	Yes. Suitable habitat present.	Confirmed (SWT2-2/MAS2-1)
Woodland Area-Sensitive Bird Breeding Habitat	No. Suitable woodland with interior habitat not present.	No. Suitable woodland with interior habitat not present.
<b>Habitats of Species of Conservation Concern</b>		
Marsh Bird Breeding Habitat	Yes. Suitable wetland habitat present.	Confirmed (SWT2-2/MAS2-1)
Open Country Bird Breeding Habitat	No. Suitable grassland habitat not present.	No. Suitable grassland habitat not present.
Shrub/Early Successional Bird Breeding Habitat	No. Suitable shrub/successional habitat not present.	No. Suitable shrub/successional habitat not present.
Terrestrial Crayfish	Yes. Suitable habitat present.	Confirmed - burrows observed on site adjacent to wetland/watercourse (MAM2-2 along watercourse at centre of site)

Wildlife Habitat Category <sup>1</sup>	Candidate Habitat Identified Based on MNDMNR Criteria for Ecoregion 6E	Confirmed Habitat Identified Based on MNDMNR Criteria for Ecoregion 6E
Special Concern and Rare Wildlife Species	Yes. Suitable habitat present.	Confirmed SWH for: Eastern Wood-pewee (SC) in SWT2-2/MAS2-1 and FOM8-1; and Common Gallinule (S3) and Great Egret (S2) in SWT2-2/MAS2-1
<b>Animal Movement Corridors</b>		
Amphibian Movement Corridors	Yes. Suitable habitat present along vegetated watercourse/drainage feature in centre of site	Candidate (unconfirmed). MAM2-2
Deer Movement Corridors	No. Suitable habitat not present.	No. Not Identified by MNR
<sup>1</sup> Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.		



# Figures

## **Environmental Impact Study**

Flato Southeast (Eco Park), Dundalk, Ontario

**Flato Eco Park Dundalk Inc.**

SLR Project No.: 209.30125.00002

October 17, 2024





Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



**NOTES:**  
 BASEDATA:  
 ONTARIO MINISTRY OF NATURAL RESOURCES, LAND INFORMATION  
 ONTARIO (LIO)

**LEGEND**  
 SITE BOUNDARY



SCALE 1:25,000  
 PAGE SIZE 11 x 17  
 NAD 1983 UTM Zone 17N  
 THIS MAP IS FOR CONCEPTUAL PURPOSES ONLY  
 AND SHOULD NOT BE USED FOR NAVIGATION

FLATO ECO PARK DUNDALK INC.  
 DUNDALK, ONTARIO, CANADA

ENVIRONMENTAL IMPACT STUDY

SITE LOCATION



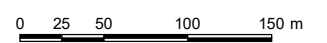
FIGURE NO:  
**1**





- LEGEND**
- SITE BOUNDARY
  - + MONITORING WELL
  - MINI-PIEZOMETER
  - ⊕ BOREHOLE
  - PERMANENT WATERCOURSE

**NOTES:**  
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ENVIRONMENTAL IMPACT STUDY

HYDROGEOLOGICAL INVESTIGATIONS



FIGURE NO:  
**2**





**LEGEND**

- SITE BOUNDARY
- PERMANENT WATERCOURSE

**HEADWATER DRAINAGE FEATURE**

- CONSERVATION
- MITIGATION
- NO MANAGEMENT

**NOTES:**  
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 ONTARIO (LIO)



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 DUNDALK, ONTARIO, CANADA

ENVIRONMENTAL IMPACT STUDY

HEADWATER DRAINAGE FEATURES



FIGURE NO:  
**3**





**LEGEND**

- SITE BOUNDARY
- PERMANENT WATERCOURSE
- AMPHIBIAN SURVEY LOCATION (2024)
- BREEDING BIRD POINT COUNT LOCATION
- BREEDING BIRD SURVEY (TRANSECT; 2024)

**NOTES:**  
 BASEDATA:  
 ONTARIO MINISTRY OF NATURAL RESOURCES, LAND INFORMATION  
 ONTARIO (LIO)

0 25 50 100 150 m

SCALE 1:4,500  
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 DUNDALK, ONTARIO, CANADA

**ENVIRONMENTAL IMPACT STUDY**

**SURVEY LOCATIONS**

SLR

FIGURE NO:  
4



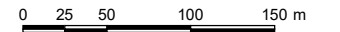


**LEGEND**

<span style="border: 1px solid red; display: inline-block; width: 20px; height: 10px;"></span>	SITE BOUNDARY
<span style="border-bottom: 1px solid blue; display: inline-block; width: 20px;"></span>	PERMANENT WATERCOURSE
<span style="border: 1px solid yellow; display: inline-block; width: 20px; height: 10px;"></span>	ECOLOGICAL LAND CLASSIFICATION (SLR CONSULTING, 2024)

ELC Code	ELC Description
AG	Agriculture
CUM1-1	Cultural Meadow
FOD5-1	Dry-Fresh Sugar Maple Deciduous Forest
FOD5-2	Dry-Fresh Sugar Maple - Beech Deciduous Forest
FOM8-1	Fresh-Moist Poplar Mixed Forest
MAM2-10	Forb Mineral Meadow Marsh
MAM2-2	Reed Canary Grass Mineral Meadow Marsh
MAS2-1/SWT2-2	Cattail Mineral Shallow Marsh complexed with Willow Mineral Thicket Swamp
SWT2-2/MAM2-2	Willow Mineral Thicket Swamp complexed with Reed Canary Grass Mineral Meadow Marsh

**NOTES:**  
 BASEDATA:  
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FLATO ECO PARK DUNDALK INC.  
 DUNDALK, ONTARIO, CANADA

ENVIRONMENTAL IMPACT STUDY

ECOLOGICAL LAND CLASSIFICATION



FIGURE NO:  
**5**





- LEGEND**
- SITE BOUNDARY
  - PERMANENT WATERCOURSE
  - ECOLOGICAL LAND CLASSIFICATION (SLR CONSULTING, 2024)
  - CANDIDATE SWH**
  - AMPHIBIAN MOVEMENT CORRIDORS
  - BAT MATERNITY COLONIES
  - CONFIRMED SWH**
  - AMPHIBIAN BREEDING HABITAT (WETLANDS)
  - MARSH BIRD BREEDING HABITAT
  - TERRESTRIAL CRAYFISH
  - SPECIAL CONCERN AND RARE WILDLIFE SPECIES (EASTERN WOOD-PEWEE)
  - SPECIAL CONCERN AND RARE WILDLIFE SPECIES (COMMON GALLINULE AND GREAT EGRET)

**NOTES:**  
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 DUNDALK, ONTARIO, CANADA

ENVIRONMENTAL IMPACT STUDY










SIGNIFICANT WILDLIFE HABITAT

**SLR** FIGURE NO:  
**6**





**LEGEND**

	SITE BOUNDARY
	SITE PLAN (MHBC, OCTOBER 9, 2024)
	CONSERVATION AUTHORITY ADMIN
	REGULATORY FLOODPLAIN (GRCA)
	GRCA STAKED WETLAND BOUNDARY (NOT SURVEYED)
	WOODED ECOLOGICAL LAND CLASSIFICATION
	WETLAND ECOLOGICAL LAND CLASSIFICATION
	SIGNIFICANT WOODLANDS (GREY COUNTY OFFICIAL PLAN (2018))
	PERMANENT WATERCOURSE

**NOTES:**  
 BASEDATA:  
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 ONTARIO (LIO)

0 25 50 100 150 m  
 SCALE 1:4,500  
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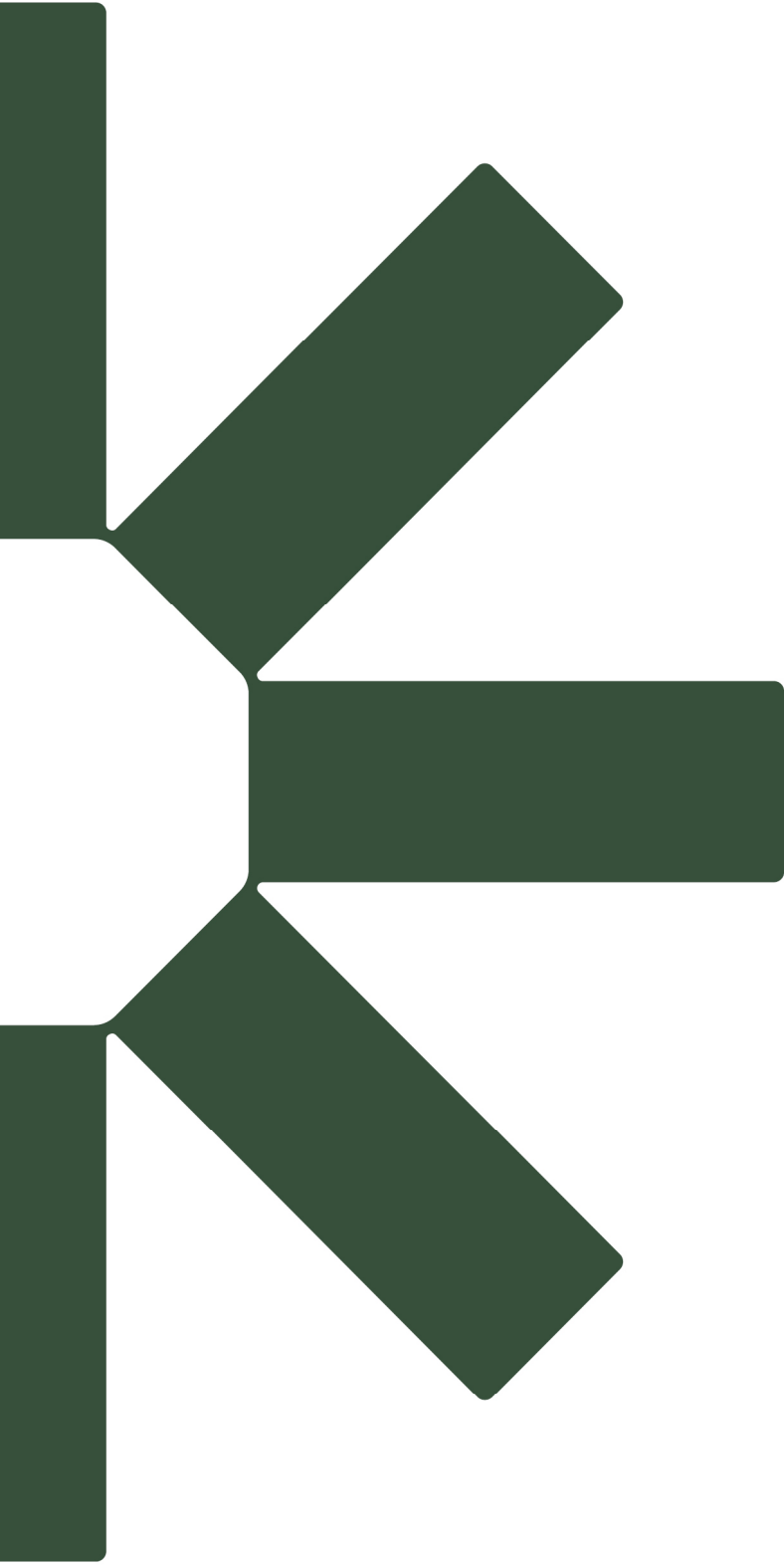
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 DUNDALK, ONTARIO, CANADA

ENVIRONMENTAL IMPACT STUDY

ENVIRONMENTAL CONSTRAINTS  
 AND SITE PLAN

 **SLR** FIGURE NO:  
**7**





Making Sustainability Happen