Environmental Impact Study

2860 Thornton Road North, City of Oshawa, Durham Region

407AT7 Centre Inc. c/o RG Consulting Inc.

4 Abacus Road, Brampton, ON L6T 5J6 c/o Ralph Grittani

Prepared by:

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Revision: 1

Revision Record

Revision	Date	Prepared By	Checked By	Authorized By
A	May 20, 2025	Karisa Tyler		Rosalind Chaundy
0	June 20, 2025	Karisa Tyler		Rosalind Chaundy
1	October 2, 2025	Karisa Tyler		Rosalind Chaundy

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Covering Letter

SLR Consulting (Canada) Ltd. is pleased to submit the following Environmental Impact Study (EIS) report for the 35.6 hectare (ha) property at 2860 Thornton Road North located in the City of Oshawa, Region of Durham (the "Subject Property" – **Figure 1**). The Subject Property is located at the northwest corner of Thornton Road North and Winchester Road West. The Subject Property occurs within the planning area of the Central Lake Ontario Conservation Authority (CLOCA) and contains Regulated Lands in the northern and southern portions of the property.

The findings of our study are the result of a background review, field investigations, and an analysis of data using the current scientific understanding of the ecology of the area, as well as the current natural heritage policy requirements. We have identified the environmental sensitivities, constraints, and development opportunities of the Subject Property.

Based on the findings and recommendations of this study to date, it is our professional opinion that with the implementation of the mitigation measures provided in this report, the proposed development plan is environmentally feasible.

Please let us know if you have questions or comments on this submission.

Table of Contents

Tables in Text

Figures in Text

Photos in Text

Appendices

1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by RG Consulting Inc. to complete an Environmental Impact Study (EIS) for 2860 Thornton Road North in the City of Oshawa, Durham Region (the "Subject Property" – **Figure 1**).

The Subject Property is located at the northwest corner of Thornton Road North and Winchester Road West. It currently supports rural residential property, agricultural fields and associated outbuildings, and vegetated areas in the northern and southern portions of the property. The northern and southern portions of the Subject Property contain woodland, with a watercourse located in the northern portion. The Subject Property occurs within the planning area of the Central Lake Ontario Conservation Authority (CLOCA), and portions of the site are CLOCA regulated lands. Proposed development will require conformity with applicable policies and regulations.

The intent of the following EIS is to inventory and evaluate the sensitivity and significance of the existing natural heritage features and ecological functions associated with the Subject Property. The EIS will also assess potential impacts on the natural heritage features and will also recommend measures to mitigate such impacts.

LEGEND

- Watercourse [1]
- Wetland - Unevaluated as per OWES[1]
- Subject Property (35.6 ha)

1- Land Information Ontario (LIO)

0 50 100 150 200
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:5,000
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: KT
Date: Jun 20, 2025

NORTH

Source Notes:
Imagery provided by Durham GIS REST services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
407AT7 Centre Inc

PROJECT
2860 Thornton Rd N EIS

TITLE
Site Location

SLR

REF. NO. 2403801-1-1

Figure 1

Document Path: E:\Shared drives\Projects 2024\24038 - 407AT7 Centre Inc\2403801 - 2860 Thornton Rd N EIS\GIS\1_Workspace\1_Maps\(2024-08) EIS Figures\(2024-08) EIS Figures.aprx

2.0 Environmental Policy and Legislation

The environmental policies applicable to the Subject Property have been reviewed with specific relevant policies summarized in the following sections. The environmental policies federally and provincially, as well as the Durham Region Official Plan (OP), City of Oshawa OP, and CLOCA development policies have all been considered.

2.1 Provincial Planning Statement, 2024

The *Provincial Planning Statement* (PPS) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (Ontario Ministry of Municipal Affairs and Housing 2024). The PPS defines eight types of Natural Heritage Features (NHFs) and adjacent areas and provides planning policies for each. Of these NHFs, development is not permitted in:

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

Additionally, unless it can be demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions, development and site alteration are also not permitted in:

- Significant Wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest;
- Other Coastal Wetlands in Ecoregions 5E, 6E and 7E; and
- Lands defined as *Adjacent Lands* to all the above natural heritage features.

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

2.1.1 Site Specific Relevance of the PPS

- The Subject Property is located within Ecoregion 6E (Crins, Gray, Uhlig, & Wester, 2009).
- There are no provincially designated features on the Subject Property (**Map A**).
- There are mapped woodlands, unevaluated wetlands, and a watercourse on and adjacent to the Subject Property.
- Species at Risk (SAR) are discussed further in the report.

Map A: Natural Heritage Information Centre (NHIC) – Mapping showing woodlands (dark green layer), unevaluated wetlands (blue patterned layer), and a watercourse (blue line) on and adjacent to the Subject Property (boundaries in red). A portion of the Subject Property is also within the Greenbelt Natural Heritage System (light green layer with dark green line).

2.2 Migratory Birds Convention Act, 1994

The *Migratory Birds Convention Act*, 1994 (Government of Canada 1994) and Migratory Birds regulations, 2014 (MBR), along with the provincial *Fish and Wildlife Conservation Act (1997)*, protect most species of migratory birds and their nests and eggs anywhere they are found in Canada (Government of Canada 1994). General prohibitions under the MBCA and MBR protect migratory birds, their nests and eggs and prohibit the deposit of harmful substances in waters / areas frequented by them. The MBR includes an additional prohibition against incidental take, which is the inadvertent harming or destruction of birds, nests, or eggs.

Compliance with the MBCA and MBR is best achieved through a due diligence approach, which identifies potential risk, based on a site-specific analysis in consideration of the Avoidance Guidelines and Best Management Practices information on the Environment Canada website.

2.3 Endangered Species Act, 2007

Species designated as Endangered or Threatened by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk (SAR) in Ontario (Government of Ontario, 2007). These SAR and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation, and migration) are afforded legal protection under the *Endangered Species Act*, 2007 (Government of Ontario 2007). This Act is administered by the Ministry of Environment, Conservation and Parks (MECP).

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

It should be noted that as of June 5, 2025, the Province of Ontario passed Bill 5: *Protect Ontario by Unleashing Our Economy Act, 2025* which involves amendments to the current *Endangered Species Act, 2007* and enacts the *Species Conservation Act, 2025* (SCA). The SCA has not yet come into force as the approval of the associated regulation has not been completed. It remains the proponent's responsibility to ensure conformity with the ESA.

2.4 Greenbelt Plan, 2017

The *Greenbelt Plan,* 2017 was prepared and approved under the *Greenbelt Act,* 2005 and took effect in December 2004 (Ontario Ministry of Municipal Affairs and Housing 2017). The Greenbelt Plan builds on the PPS to identify where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas and functions occurring on the landscape of the Greater Golden Horseshoe. Within the Greenbelt Area there are Protected Countryside and Urban River Valley land designations.

Additionally, Settlement Areas and a Natural Heritage System have been mapped within the Protected Countryside land designation. These areas within the Greenbelt Area are afforded varying protections through their applicable policies.

KNHFs and KHFs are also classified within this Plan. KNHFs include the habitat of endangered and threatened species, fish habitat, wetlands, life science areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands, significant wildlife habitat (including habitat of special concern species), sand barrens, savannahs, tallgrass prairies, and alvars. KHFs include permanent and intermittent streams, lakes (and their littoral zones), seepage areas and springs, and wetlands. Under the policies of the Greenbelt Plan, a minimum vegetation protection zone (MVPZ) is to be established to protect KNHFs and KHFs.

Section 3.2.2. of the Greenbelt Plan (*Natural Heritage System Policies*) states:

> *"For lands within the Natural Heritage System of the Protected Countryside, the following policies shall apply:*
>
> *3. New development or site alteration in the Natural Heritage System (as permitted by the policies of this Plan) shall demonstrate that:*
>
> *a) There will be no negative impacts on key natural heritage features or key hydrologic features or their functions:*
>
> *b) Connectivity along the system and between key natural heritage features and key hydrologic features located within 240 metres of each other will be maintained or, where possible, enhanced for the movement of native plants and animals across the landscape;*
>
> *c) The removal of other natural features not identified as key natural heritage features and key hydrologic features should be avoided. Such features should be incorporated into the planning and design of the proposed use wherever possible:*

d) Except for uses described in and governed by the policies of sections 4.1.2 and 4.3.2;

i. The disturbed areas, including any buildings and structures, of the total developable areas will not exceed 25 per cent (40 per cent for golf courses); and

ii. The impervious surface of the total developable area will not exceed 10 per cent: and

e) At least 30 per cent of the total developable areas will remain or be returned to natural self-sustaining vegetation, recognizing that section 4.3.2 establishes specific standards for the uses described there.

4. The Natural Heritage System, including the policies of Section 3.2.5, does not apply within the existing boundaries of settlement areas, but does apply when considering expansions to settlement areas as permitted by the policies of this Plan. Municipalities should consider the Natural Heritage Systems connections within settlement areas when implementing municipal policies, plans and strategies.

5. When official plans are brought into conformity with this Plan, the boundaries of the Natural Heritage System may be refined, with greater precision, in a manner that is consistent with this Plan and the system shown on Schedule 4.

6. Towns/Villages are not permitted to expand into the Natural Heritage System."

Section 3.2.5 further states:

"*For lands within a key natural heritage feature or a key hydrologic feature in the Protected Countryside, the following policies shall apply:*

1. Development or site alteration is not permitted in key hydrologic features and key natural heritage features within the Natural Heritage System, including any associated vegetation protection zone, with the exception of:

a) Forest, fish and wildlife management;

b) Conservation and flood or erosion control projects, but only if they have been demonstrated to be necessary in the public interest and after all alternatives have been considered; or

c) Infrastructure, aggregate, recreational, shoreline and existing uses, as described by and subject to the policies of section 4.

2. Beyond the Natural Heritage System within the Protected Countryside, key hydrologic features are defined by and subject to the policies of section 3.2.5.

3. Beyond the Natural Heritage System within the Protected Countryside, key natural heritage features are not subject to the policies of section 3.2.5, but are to be defined pursuant to, and subject to the policies of, the PPS.

4. In the case of wetlands, seepage areas and springs, fish habitat, permanent and intermittent streams, lakes and significant woodlands, the minimum vegetation protection zone shall be a minimum of 30 metres measured from the outside boundary of the key natural heritage feature or key hydrologic feature.

5. A proposal for new development or site alteration within 120 metres of a key natural heritage feature within the Natural Heritage System or a key hydrologic feature anywhere within the Protected Countryside requires a natural heritage evaluation or a hydrological evaluation which identifies a vegetation protection zone which:

a) Is of sufficient width to protect the key natural heritage feature or key hydrologic feature and its functions from the impacts of the proposed change and associated activities that may occur before, during and after construction and, where possible, restore or enhance the feature and/or its function; and

b) Is established to achieve and be maintained as natural self-sustaining vegetation.

6. A proposal for new development or site alteration within the Natural Heritage System is not subject to section 3.2.5.5 where the only key natural heritage feature is the habitat of endangered species and threatened species."

Regarding infrastructure such as roads, the Greenbelt Plan states :

1.All existing, expanded or new infrastructure subject to and approved under the Canadian Environmental Assessment Act, the Environmental Assessment Act, the Planning Act, the Aggregate Resources Act or the Telecommunications Act or by the National or Ontario Energy Boards, or which receives a similar environmental approval, is permitted within the Protected Countryside, subject to the policies of this section and provided it meets one of the following two objectives:

a) It supports agriculture, recreation and tourism, Towns/Villages and Hamlets, resource use or the rural economic activity that exists and is permitted within the Greenbelt; or

b) It serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban centres and between these centres and Ontario's borders.

And,

2. The location and construction of infrastructure and expansions, extensions, operations and maintenance of infrastructure in the Protected Countryside are subject to the following:

a) Planning, design and construction practices shall minimize, wherever possible, the amount of the Greenbelt, and particularly the Natural Heritage System and Water Resource System, traversed and/or occupied by such infrastructure;
b) Planning, design and construction practices shall minimize, wherever possible, the negative impacts on and disturbance of the existing landscape, including, but not limited to, impacts caused by light intrusion, noise and road salt;
c) Where practicable, existing capacity and co-ordination with different infrastructure services shall be optimized so that the rural and existing character of the Protected Countryside and the overall hierarchy of areas where growth will be accommodated in the GGH established by the Greenbelt Plan and the Growth Plan are supported and reinforced;
d) New or expanding infrastructure shall avoid key natural heritage features, key hydrologic features or key hydrologic areas unless need has been demonstrated and it has been established that there is no reasonable alternative;

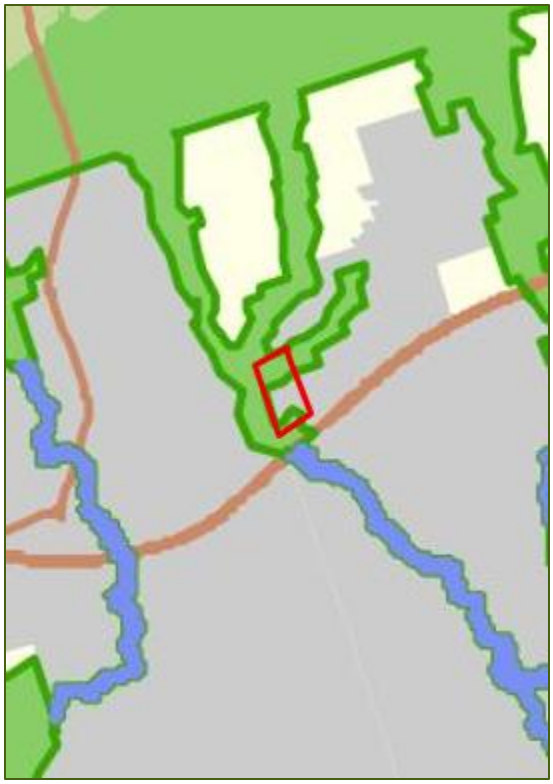
2.4.1 Site-Specific Relevance of the Greenbelt Plan

- The northern and southern portions of the Subject Property are within the Greenbelt Plan Area and have a Protected Countryside Land Designation (**Map B**).
- The northern and southern portions of the Subject Properties are within the Natural Heritage System (NHS)

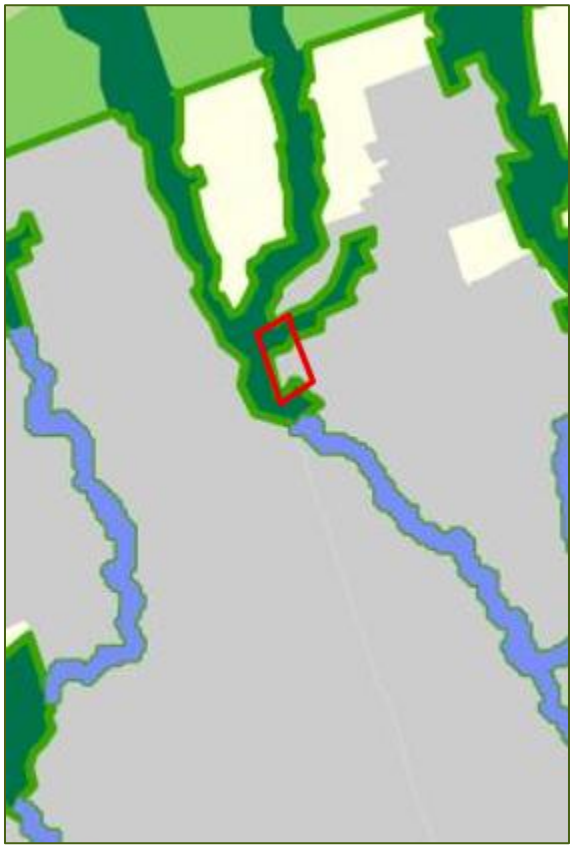
(**Map C**). As such, KNHFs and KHFs within this NHS are protected unless proposed development follows Section 3.2.5.1 of the Greenbelt Plan. Additionally, KNHFs within 120 m of this NHS (but within the Protected Countryside) and KHFs within the Protected Countryside will require a natural heritage evaluation to identify an appropriate vegetation protection zone.

KNHFs within the Subject Properties, but further than 120 m from the NHS do not require a natural heritage evaluation. Such features would, however, be subject to the policies of the PPS, Region and lower tier municipalities.

- All identified wetlands, fish habitat, permanent and intermittent streams, Significant Valleylands, and Significant Woodlands on the Subject Property that are within the Greenbelt Plan NHS Area require a MVPZ of 30 m measured from the outside boundary of the KNHF or KHF.



Map B: Greenbelt Plan Schedule 1: Greenbelt Area – Mapping showing Protected Countryside (light green layer), Greenbelt Boundary (dark green outline), and Urban River Valleys (blue layer) on and adjacent to the Subject Property (approximate boundaries in red).



Map C: Greenbelt Plan Schedule 4: Natural Heritage System – Mapping showing the NHS (dark green layer) and Urban River Valleys (blue layer) on and adjacent to the Subject Property (approximate boundaries in red).

2.5 Durham Region Official Plan, 2020

The Regional Municipality of Durham completed an Office Consolidation of the *Envision Durham Regional Official Plan* (OP) (2024). The Greenlands System has been defined to ensure the ecological health and renewal of the Region. The Greenlands System includes defined KNHF and KHF, which include:

- Habitat of endangered and threatened species;
- Fish habitat;
- Permanent and intermittent streams;
- Wetlands;
- Lakes, and their littoral zones;
- Seepage areas and springs;
- Areas of Natural and Scientific Interest (ANSIs), life science;
- Significant valleylands;
- Significant woodlands;
- Significant wildlife habitat;
- Sand barrens, savannahs and tallgrass prairies; and
- Alvars.

According to *Map 2. Greenlands System* of the Region's OP, the Subject Properties contain KNHFs and KHFs and are within the Greenbelt NHS (**Map D**). The following policies containing relevant provisions associated with the terrestrial environment are provided verbatim:

Section 7.1 General Greenland System Policies

7.1.9 It is the policy of Council to require that development or site alteration within Major Open Space Areas and/or the Greenbelt Natural Heritage System demonstrate that:

a) *here will be no negative effects on key natural heritage features or key hydrologic features or their functions;*
b) *connectivity between key natural heritage features or key hydrologic features located within 240 metres of each other is maintained, or where possible, enhanced;*
c) *the removal of natural features not identified as key natural heritage features or key hydrologic features is avoided and such features are incorporated into the planning and design of the proposed use, wherever possible; and*
d) *the disturbed area of any site does not exceed 25% and the impervious surface does not exceed 10% of the total developable area, except for major recreational uses and aggregate extraction areas. With respect to golf courses, the disturbed area shall not exceed 40% of the site. The use of low impact development, such as permeable pavers and grassed swales is encouraged to achieve this requirement.*

The following definitions relating to key natural heritage features are provided in the Regional Official Plan.

Woodland:

means treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas, and vary in their level of significance at the local, regional and provincial levels. Woodlands may be delineated according to the Forestry Act definition of the province's Ecological Land Classification system definition for "forest".

Significant Woodland:

…e) notwithstanding, for woodlands occurring within the Oak Ridges Moraine or the Greenbelt Natural Heritage System, significant woodlands are based on the provincial criteria developed for the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan.

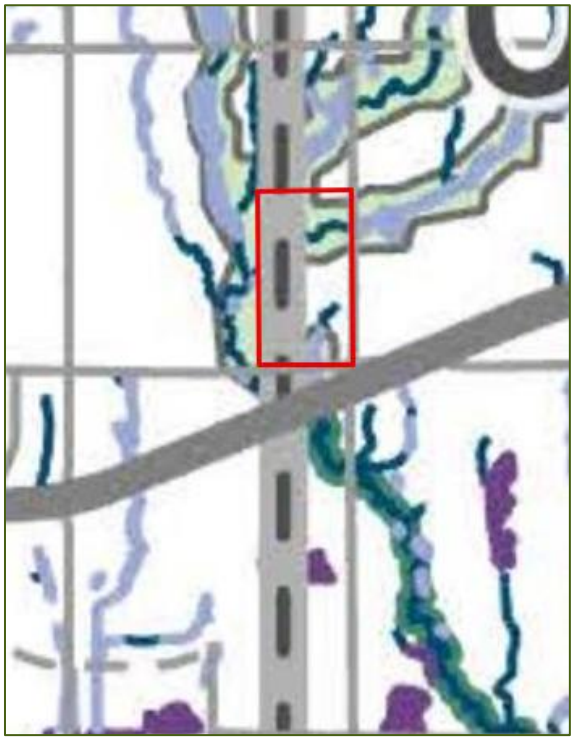
Significant Valleyland:

…c) means an area which is ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. These are to be identified using criteria established by the province;…

2.5.1 Site-specific Relevance of the Regional OP

- According to the Region's OP Map 1, the northern and southern portions of the Subject Property are designated as "Major Open Space Areas" and are within the Greenbelt Boundary under the Greenlands System. The central portion of the Subject Property is an area designated as "Employment Areas" within the Urban System (**Map D**).
- According to the Region's OP Map 2c, the Subject Property includes the Greenbelt Protected Countryside, permanent and intermittent streams, and unevaluated wetlands (**Map E**).

Map D: Region of Durham's OP Map 1 depicts the Subject Property (approximate boundary in red) consisting of Greenbelt (hatched green line), Major Open Space Areas (light green), and Employment Areas (blue layer).



Map E: Durham Region OP Map 2c – depicts Greenbelt Protected Countryside (light green layer), permanent and intermittent streams (blue line), and unevaluated wetlands (purple layer) on and adjacent to the Subject Property (approximate boundaries in red).

2.6 City of Oshawa Official Plan, 2024 Update

The City of Oshawa Official Plan (OP) was approved by the Minister of Municipal Affairs on February 12, 1987. Since then, several amendments have been undertaken with the latest being in April 2024. Among the City's environmental management objectives, it aims to protect, conserve, and enhance natural resources and promote a healthy and sustainable environment for its valuable ecological functions (City of Oshawa 2024).

KNHFs and KHFs identified in the City's OP reflect those identified in the Region's OP; however, these features are specific to those that are found within the Natural Heritage System. As defined in Section 5.1.2. of the City of Oshawa's OP:

> ***"(h). Key hydrologic features are hydrologic features found within the Natural Heritage System and consist of:***
>
> *(m) Permanent and intermittent streams;*
>
> *(ii) Wetlands;*
>
> *(iii) Lakes, and their littoral zones;*
>
> *(iv) Kettle lakes, and their surface catchment areas;*
>
> *(v) Seepage areas and springs; and*
>
> *(vi) Aquifers and recharge areas.*

(i). Key natural heritage features are natural heritage features found within the Natural Heritage System and consist of:

(m) Significant habitat of endangered, threatened, special concern and rare species;

(ii) Fish habitat;

(iii) Wetlands;

(iv) Areas of Natural and Scientific Interest (ANSIs), life science;

(v) Significant valleylands;

(vi) Significant woodlands;

(vii) Significant wildlife habitat;

(viii) Sand barrens, savannahs and tallgrass prairies; and

(ix) Alvars.

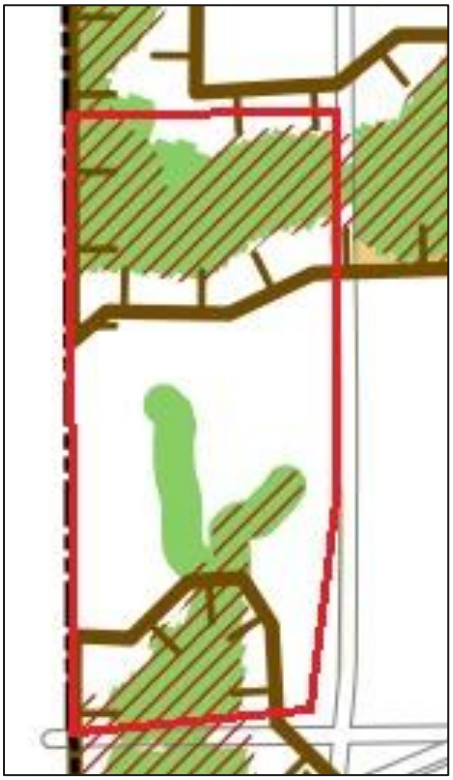
…..

***(m). Natural Heritage System** refers to a connected system of environmental components consisting of key natural heritage features, key hydrologic features, riparian corridors and areas identified for natural cover regeneration/restoration that will improve connectivity and habitat, and is shown on Schedules "D-1" and "F-1A". High volume recharge areas are also an important component of the Natural Heritage System, but for policy implementation, these have been mapped separately from the other components of the Natural Heritage System and are identified on Schedules "D-2" and "F-1B" to this Plan*."

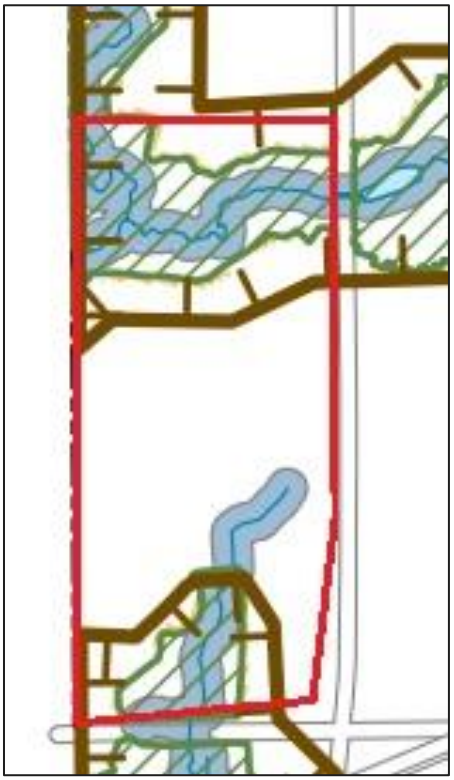
Development or site alteration proposed within the Greenbelt Protected Countryside Area shall meet the requirements of the City's OP, the Zoning By-law, and the Greenbelt Plan, "*Every application for development or site alteration within the Greenbelt Protected Countryside Area shall be subject to relevant policies under Section 5.0 of this Plan, including policies relating to key natural heritage and key hydrologic features, the Natural Heritage System, and Aquifer Vulnerability, as well as under Sections 2.6 and 2.8.*"

2.6.1 Site-specific Relevance of the City OP

- The central portion of the Subject Property is designated as Industrial within Schedule A of the City's OP.
- The forested creek corridors associated with Oshawa Creek and its tributaries on and adjacent to the Subject Property are part of the Natural Heritage System and Hazard lands, as designated by the City of Oshawa Official Plan (**Map F**).
- The Subject Property occurs though agricultural lands, with the exception of the KNHFs/KHFs and Greenbelt Protected Countryside Area associated with Oshawa Creek and tributaries of Oshawa Creek valley corridors (**Map G**).



Map F: City of Oshawa OP Schedule 'D-1': Environmental Management – Mapping showing Natural Heritage System (green layer), Greenbelt Protected Countryside Area Boundary (brown hatched outline), Hazard Lands (red hatching), and Natural Heritage and/or Hydrologic Features Outside of the Natural Heritage System (orange) on and adjacent to the Subject Property (approximate boundaries in red).



Map G: City of Oshawa OP Schedule 'F1-A': Natural Heritage System Components – Mapping showing KNHFs/KHFs (green hatching), Riparian Corridor (blue layer), Waterbody (light blue layer), Watercourse (blue line), Natural Cover Regeneration/ Restoration Areas (orange layer), and Greenbelt Protected Countryside Area Boundary (brown hatched outline) on and adjacent to the Subject Property (approximate boundaries in red).

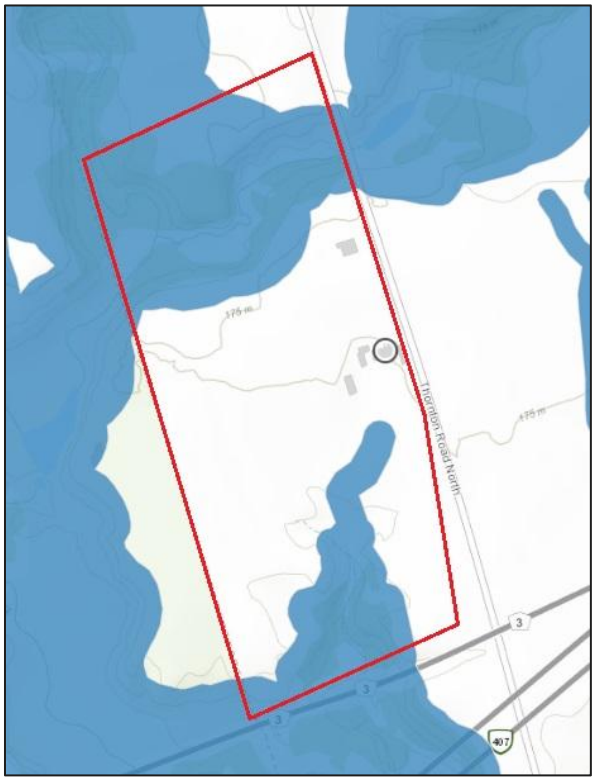
2.7 Central Lake Ontario Conservation Authority (CLOCA)

Central Lake Ontario Conservation Authority (CLOCA) regulations and policies include the following:

- *Ontario Regulation 41/24 – Prohibited Activities, Exemptions and Permits*. Through this regulation, the CLOCA regulates activities in natural and hazardous areas (e.g., areas in and near rivers, streams, floodplains, wetlands, and slopes and shorelines) (Government of Ontario 2024).
- *Policy and Procedural Document for Land Use Planning and Regulation* (CLOCA 2024). These documents present the CLOCA's planning and permit review practices and technical guidelines. Relevant policies will be discussed in applicable sections of this report.
- Note that with the newly passed provincial O. Reg. 41/24, conservation authorities no longer have the ability to comment on certain natural heritage features.

As depicted on **Map H**, CLOCA Regulated Area occurs within the north and south areas of the Subject Property. In addition to this, any watercourses or wetland that are unmapped are also regulated by the CLOCA. Currently, under Ontario Regulation 41/24, a permit is required from CLOCA prior to development within the CLOCA Regulated Area.

However, conservation authority jurisdiction has undergone changes through O. Reg. 41/24. The CLOCA policies for infrastructure are outlined in Section 3.6 of the Policy and Procedural Document for Land Use Planning and Regulation document (CLOCA 2024).



Map H: CLOCA Regulated Area Mapping – mapping showing the CLOCA Regulated Area (blue layer) on and adjacent to the Subject Property (approximate boundaries in red).

3.0 Study Approach

The approach to the study has been scoped in consideration of existing site conditions, applicable policy, and feedback received through ongoing agency liaison.

3.1 Background Review

SLR has reviewed relevant background material to provide a focus to field investigations and ensure compliance with applicable regulations and policy. Background information collection is guided by the Natural Heritage Information Request Guide (Ministry of Natural Resources and Forestry 2018). Current direction from the Ministry of Natural Resources and Forestry (MNRF) and Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the NHIC Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry 2024). Information gathered is recommended to be balanced and supplemented by professional ecological review of potential habitats and characteristics of a project site.

Background review for the Subject Property included the collection of relevant mapping and reports, including regulations and policies, Official Plans, and zoning by-laws; and the NHIC Make-a-Map application for species occurrences and designated area mapping. In addition to these sources, the following data sources were reviewed for the project:

- Natural Heritage Information Centre (NHIC) database (Ministry of Natural Resources and Forestry 2024);
- Land Information Ontario (LIO) database (Government of Ontario 2024);
- Department of Fisheries and Oceans (DFO) Aquatic Habitat and Species at Risk Mapping (2024);
- Ontario Breeding Bird Atlas (Bird Studies Canada 2024);
- Ontario Butterfly Atlas (Toronto Entomologists Association 2019); and
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2019).

Other sources of information, such as aerial photography and topographic maps, were also consulted prior to commencing field assessments. Following the Information Request Guide, MECP advice and direction should be solicited once SAR interactions or potential interactions are identified via field investigation and analysis.

3.2 Agency Correspondence

A Terms of Reference (ToR) was submitted to both the City of Oshawa and CLOCA on July 12, 2024. No response has been received by SLR to date.

Staking of natural features (e.g., woodlands, valleylands, southern watercourse) occurred on the Subject Property on August 14, 2024 with SLR RG Consulting Inc. (project planner), CLOCA, and City staff in attendance. Mandarin Surveyors were also in attendance. It was agreed upon that the northern limit of the north Oshawa Creek tributary would not be staked due to lack of proposed development within that area. Due to active agricultural use of the Subject Property (i.e., corn crop), it was determined that SLR and CLOCA would return to site to complete the staking exercise once the land had been harvested.

A second natural feature staking occurred on October 31, 2024 with SLR, CLOCA, and Mandarin Surveyors in attendance to more accurately stake the Top of Bank feature along the southwestern edge of the north Oshawa Creek tributary corridor.

3.3 Ecological Surveys

The existing conditions comprising the Subject Property were assessed during a total of 12 field visits conducted in 2024. These investigations are summarized in **Table 1**, below.

Table 1: Field Investigations Summary (2024)

Date	Field Task	Weather Conditions
April 30 2024	Headwater Drainage Feature Assessment #1, Breeding Amphibian Survey #1, Snag Survey	11°C temperature, Beaufort wind scale 1, 100% cloud cover
May 29 2024	Headwater Drainage Feature Assessment #2, Breeding Amphibian Survey #2	14-18°C temperature, Beaufort wind scale 3, 50% cloud cover

Date	Field Task	Weather Conditions
June 5 2024	Breeding Bird Survey #1	16°C temperature, Beaufort wind scale 0, 5% cloud cover
June 11 2024	Bat Acoustic Detector Deployment, Bat Exit Survey #1a	15°C temperature, Beaufort wind scale 2, 50% cloud cover
June 14 2024	Ecological Land Classification, Aquatic Assessment	18°C temperature, 0% cloud cover
June 21 2024	Bat Acoustic Detector take down	22°C temperature, Beaufort wind scale 2, 90% cloud cover
June 24 2024	Bat Exit Survey #2a	24°C temperature, Beaufort wind scale 3, 10% cloud cover
June 25 2024	Breeding Bird Survey #2	16°C temperature, Beaufort wind scale 1, 30% cloud cover
June 27 2024	Breeding Amphibian Survey #3	18°C temperature, Beaufort wind scale 2, 5% cloud cover
July 4 2024	Bat Exit Survey #1b	25°C temperature, Beaufort wind scale 2, 100% cloud cover
July 5 2024	Breeding Bird Survey #3, Ecological Land Classification, Aquatic Assessment	23°C temperature, Beaufort wind scale 2, 0% cloud cover
July 8 2024	Bat Exit Survey #2b	25°C temperature, Beaufort wind scale 2, 10% cloud cover
August 14 2024	Natural feature staking with agencies (CLOCA, City of Oshawa)	21-27°C temperature, Beaufort wind scale 3, 10% cloud cover
October 31 2024	Natural feature staking with agencies (CLOCA)	17-19°C temperature, Beaufort wind scale 4, 75% cloud cover
All dates	Species at Risk Assessment, Significant Wildlife Habitat Assessment, Incidental Wildlife	-

3.3.1 Botanical Survey and Ecological Land Classification

Vegetation communities were mapped and described following the Ecological Land Classification (ELC) System for Southern Ontario protocols (Lee, et al. 1998). Vegetation community boundaries were delineated on field maps through the interpretation of recent aerial photographs and refined in the field. Information collected during the ELC includes dominant species cover, community structure, as well as level of disturbance, presence of indicator species, and other notable features. A botanical survey was completed by traversing the Subject Property and recording species observed across, and adjacent to, the property. Local plant rarity status is based on the Greater Toronto Area within The Vascular Plant Flora of the Greater Toronto Area (Varga, et al. 2000). Provincial plant status was based on the Rare Flora of Ontario (Oldham and Brinker 2009) and the Natural Heritage Information Centre (Ministry of Natural Resources and Forestry 2023).

3.3.2 Surface Water Features

3.3.2.1 Aquatic Habitat Assessment

An aquatic habitat assessment was conducted within the Oshawa Creek valleylands, which runs through the northern and southern portions of the Subject Property. The aquatic assessment was completed on June 14 and July 5 2024. The habitat assessment was conducted following a modified version of the Ontario Stream Assessment Protocol (Stanfield 2017).
Stream characteristics collected during the survey included the following:

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

Results of the aquatic habitat assessment are detailed in **Section 4.2** of this report.

3.3.2.2 Headwater Drainage Feature Assessment

To assess the presence and/or classification of potential headwater drainage feature(s) (HDF) on the Subject Property, HDF assessments were conducted on April 30 and May 29, 2024, in accordance with the *Evaluation, Classification and Management of Headwater Drainage Features Guideline* (Toronto and Region Conservation Authority and Credit Valley Conservation 2014).

3.3.3 Breeding Birds

Breeding bird surveys were conducted using a roving survey method whereby the entirety of the site is covered. Thus, the site was walked such that the observer was within 50 m of all parts of the site. SLR conducted two breeding bird surveys for most bird species in southern Ontario, with more than one week between each site visit within the peak breeding season, on June 5 and 25, 2024. A third survey was conducted on July 5, 2024 to focus on grassland Species at Risk species only. Surveys were conducted between 5:30 and 10:00 a.m. to coincide with the dawn chorus. Surveys were conducted under suitable weather conditions when wind speeds were less than 20 km/h and there was no precipitation. The surveyor used a site map to record all bird species and individuals seen and heard in the approximate location observed on each site visit.

3.3.4 Breeding Amphibians

Amphibian breeding surveys were completed in the spring of 2024, following the Environment Canada's *Marsh Monitoring Program* protocol for surveying amphibians (Bird Studies Canada 2009). The goal of the survey(s) is to help inform overall wetland quality. The survey method provides an indication of amphibian abundance during the breeding season. Species were identified by call and by visual observation. An abundance code for each species heard calling were assessed by following the *Amphibian Road Call Counts Participants Manual* protocol (Gartshore, et al. 2004):

- Code 0: No calls heard.
- Code 1: Calls not overlapping or simultaneous, number of individual frogs can be counted.
- Code 2: Calls overlapping or simultaneous, number of individuals can still be distinguished, number of individual frogs cannot be counted, but a reliable estimate of numbers can be made based on location and call voices.
- Code 3: Full chorus calls simultaneous and overlapping, numbers of calling males cannot be reasonably counted or estimated.

3.3.5 Bat Habitat Assessment

Several bat habitat surveys were conducted for the Subject Property including bat exit surveys, snag surveys, and acoustic monitoring.

3.3.5.1 Bat Exit Surveys

A bat roosting survey was conducted following the *Use of Buildings and Isolated Trees by Species at Risk Bats Survey Methodology* produced by the MNRF Guelph District (MNRF 2014). Bat maternity roosting habitat was assessed for the man-made structures (i.e., residential dwellings, barns) present on the Subject Property. The three residential dwellings on the Subject Property were noted as either occupied or not suitable habitat (i.e., no small openings) and therefore, were not considered further for bat exit surveys.

A *Wildlife Acoustics Echo Meter Touch* handheld bat detector (heterodyne) was used in conjunction with visual exit surveys to alert the observers to the presence of bat species for five structures on the Subject Property. Each structure was monitored, by a SLR ecologist, from 30 minutes before dusk until 60 minutes after dusk for evidence of bats exiting on two separate evenings, for a total of four evenings. Bat exit surveys were conducted on June 11, June 24, July 4, and July 8, 2024.

3.3.5.2 Identify Potential Maternity Roost Habitat

Based on MNRF guideline, *Maternity Roost Surveys (Forests/Woodlands)*, Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) may establish maternity roosts in any coniferous, deciduous or mixed wooded ecosite that includes trees at least 25 cm diameter-at-breast height (DBH) and should be considered suitable maternity roost habitat (MNRF, 2022). Based on aerial imagery and ELC field investigations, both treed areas and isolated trees within the proposed development limit (plus 6m) were identified within and directly adjacent to the Subject Property. Due to the lack of suitable habitat for Eastern Small-footed Bat (*Myotis leibii*) such as rock outcrops, bridges, caves and mines, this species is not expected to occur within the Subject Property.

A search for potentially suitable maternity roosting trees targeting Little Brown Myotis and Northern Myotis was conducted during leaf-off period on April 30, 2024. All snags > 25 cm diameter at DBH identified as potential roost trees were recorded. The tree species, DBH, snag attributes (i.e. cavities, loose bark, crack), snag location, height class, and decay class were recorded for each tree. This work was completed to identify suitable areas for the deployment of acoustic monitors.

3.3.5.3 Bat Acoustic Surveys

If maternity roost habitat is identified using ELC, acoustic monitoring is recommended to determine if Little Brown Myotis and/or Northern Myotis are recorded in the Subject Property. MNRF recommends acoustic monitoring stations within 10m of a candidate roost tree. Most broadband acoustic detectors have a microphone range of 20-30m (MNRF, 2022).

Acoustic monitoring methods were based on the *Maternity Roost Surveys (Forests/Woodlands)* (MNRF, 2022). One Song Meter SM3BAT Ultrasonic Detector with two microphones and one Song Meter SM4BAT FS Ultrasonic Detector with one microphone were deployed in order to capture designated snag trees on the Subject Property (**Figure 2**). The microphones were positioned off the ground and angled upwards to maximize bat detection and reduce noise. The microphones were strategically placed near potential snag trees to maximize potential for high-quality bat calls. The detector was programmed to record for approximately 8 hours starting at sunset and ending at sunrise, from June 11 to June 21, 2024 (10 evenings) with recordings triggered when ultrasonic signals from the bats were detected in the vicinity. The firm Glenside Ecological Services Limited (Ltd.) was retained by SLR to provide an analysis of any recorded data.

3.3.6 Species at Risk Habitat Assessment

For the purposes of this report, SAR include species listed as Endangered, Threatened or Special Concern under Ontario's ESA. The protection provisions for species and their habitat within the ESA apply only to those species listed as endangered or threated on the SARO list. Special Concern species may be afforded protection through policy instruments respecting significant wildlife habitat as defined by the Province or other relevant authority, or other protections contained in Official Plan policies.

Prior to field work, existing SAR records were queried with the NHIC database and other background resources. Habitat opportunities for SAR on the site were then assessed by comparing habitat preferences of species deemed to have potential to occur against current site conditions. The species noted during the NHIC search and others known through professional experience to have potential to occur were considered in the assessment.

As Butternut (*Juglans cinerea*; Endangered) have been found in the general study area, the Subject Property was screened for the presence of Butternut.

3.3.7 Significant Wildlife Habitat

SLR has developed a screening tool for Significant Wildlife Habitat (SWH) for Ecoregion 6E, following the relevant criteria established by the Province (Ontario Ministry of Natural Resources 2015). Upon completion of surveys, the screening is reviewed based on observed site characteristics. This is supplemented by additional analysis, field observations, and mapping to determine if candidate SWH types exist and/or can be confirmed for the Subject Property.

3.3.8 Incidental Wildlife Observations

All incidental observations of wildlife were recorded by SLR during the field investigations. Incidental observations included direct sightings and indirect evidence such as nests, tracks, scat, and browse.

LEGEND

Staked Feature (by CLOCA, Aug. 14, 2024)

- Dripline
- Top of Bank
- SLR Approximated TOB (to be amended with Oct. 31, 2024 staking)
- Watercourse
- Tile Drain Outlet

Feature Boundaries

- Watercourse
- Dripline (Significant Woodland)
- Top of Bank (Significant Valleyland)
- Approximate Top of Hazard Slope

Wildlife Feature

- Snag Tree

Point-specific Wildlife Survey Location

- Breeding Amphibian Station
- Bat Acoustic Detector
- Bat Acoustic Microphone
- Bat Exit Survey

Basemap

- Watercourse [1]
- Potential Headwater Drainage Feature (HDF)
- Wetland - Unevaluated as per OWES[1]
- Ecological Land Classification (ELC)
- Subject Property (35.6 ha)

1- Land Information Ontario (LIO)

ELC Legend:

AGR	Agricultural	FOD6	Fresh - Moist Sugar Maple Deciduous Forest
ANTH	Anthropogenic	HR	Hedgerow
CUM1-1	Dry - Moist Old Field Cultural Meadow	MAM2-2	Reed Canarygrass Meadow Marsh
CUW1	Cultural Woodland	MAS2-1	Cattail Mineral Shallow Marsh
FOC2-2	Dry - Fresh White Cedar Coniferous Forest	SWD3-4	Manitoba Maple Mineral Deciduous Swamp
FOD	Deciduous Forest		
FOD5-1	Dry - Fresh Sugar Maple Deciduous Forest		

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,800
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: KT
Date: Jun 20, 2025

NORTH

Source Notes:
Imagery provided by Durham GIS REST services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
407AT7 Centre Inc

PROJECT
2860 Thornton Rd N EIS

TITLE
Existing Environmental Conditions

SLR

REF. NO. 2403801-2-2

Figure 2

Document Path: E:\Shared drives\Projects 2024\24038 - 407AT7 Centre Inc\2403801 - 2860 Thornton Rd N EIS\GIS\1_Workspace\1_Maps\(2024-08) EIS Figures\(2024-08) EIS Figures.aprx

4.0 Existing Conditions

4.1 Vegetation Communities and Flora

4.1.1 Vegetation Communities

The Subject Property largely consisted of culturally influenced lands including agricultural fields containing alfalfa, hay and corn crops, cultural meadow, riparian woodland, hedgerows, a gravel driveway, three residential dwellings, and farm structures. Natural heritage features within the Subject Property include sections of Oshawa Creek, riparian deciduous and coniferous forest communities, and unevaluated wetlands.

Vegetation communities were mapped and described according to the Ecological Land Classification (ELC) system for southern Ontario (Lee, et al. 1998). Existing environmental conditions are shown on **Figure 2**, with a general summary of communities provided below. Representative photos of vegetation communities are also provided (**Photos 1 - 6**).

4.1.1.1 Terrestrial System

Anthropogenic (ANTH)

A large anthropogenic area was observed along the eastern property boundary, associated with three residential dwellings, barn structures, laneways, storage areas, and ancillary farm structures (i.e., sheds) (**Photo 1**)

Agricultural (AGR)

A majority of the Subject Property consisted of active croplands (i.e., corn, alfalfa) and hayfield (**Photo 2**).

Dry – Moist Old Field Meadow (CUM1-1)

Old field cultural meadows were frequent throughout the Subject Property (**Figure 2**). Several fallow agricultural fields have transitioned into cultural meadow (**Photo 3**). Sparse numbers of European Buckthorn (*Rhamnus carthartica*), Eastern White Cedar (*Thuja occidentalis*), and Black Walnut (*Juglans nigra*) were observed throughout the meadow communities. A dense ground cover (100% cover) consisted of Field Bedstraw (*Galium mollugo L*), Smooth Brome (*Bromus inermis*), Orchard Grass (*Dactylis glomerata*), Alfalfa (*Medicago sativa*), Common Milkweed (*Asclepias syriaca*), goldenrod (*Solidago* sp.), and Dog Strangling Vine (*Vincetoxicum rossicum*).

Dry – Fresh White Cedar Coniferous Forest (FOC2-2)

An Eastern White Cedar-dominated coniferous forest was recorded along the valley slopes of both (north and south) Greenbelt corridors on the Subject Property (**Photo 4, Figure 2**). The occasional Green Ash and invasive European Buckthorn were observed in the understory. The ground cover of the community consisted of primarily Ostrich Fern and the invasive Dog Strangling Vine, with the occasional Coltsfoot (*Tussilago farfara*), Swamp Aster (*Symphyotrichum puniceum*), Field Horsetail, Canada Mayapple (*Podophyllum peltatum*), and Yellow Avens, but as is typical in cedar forests the amount of ground cover was very low.

Fresh – Moist Sugar Maple Deciduous Forest (FOD6)

A fresh - moist Sugar Maple (*Acer saccharum*) deciduous forest community was observed along the valley slopes of the Oshawa Creek corridor in the northern portion of the Subject Property (**Photo 5, Figure 2**). The tree canopy was dominated by Sugar Maple with abundant Manitoba Maple (*Acer negundo*), with the occasional Balsam Poplar (*Populus balsamifera*) and American Basswood (*Tilia americana*). A relatively dense (75% cover) understory including Green Ash (*Fraxinus pennsylvanica*), Manitoba Maple, White Cedar, and European Buckthorn was observed. Ground cover within the community was moderately dense (60% cover) and consisted of abundant Jack in the Pulpit (*Arisaema triphyllum*), Field Horsetail (*Equisetum arvense*), and frequent Ostrich Fern (*Matteuccia struthiopteris*).

Dry – Fresh Sugar Maple Deciduous Forest (FOD5-1)

A dry – fresh Sugar Maple deciduous forest community was observed along the eastern boundary of the Subject Property, contiguous with the Oshawa Creek corridor (**Figure 2**). The moderately dense canopy (~75% cover) consisted of Sugar Maple, Norway Maple (*Acer platanoides*), American Elm (*Ulmus americana*), and the occasional Green Ash. The community's dense understory was dominated by European Buckthorn. The ground cover within the community was dense (90% cover) and consisted of Zigzag Goldrenrod (*Solidago flexicaulis*) with abundant Black Raspberry (*Rubus occidentalis*) and Broad-leaf Enchanter's Nightshade (*Circaea lutetiana*), and frequent Yellow Avens (*Geum aleppicum*).

Deciduous Forest (FOD)

A deciduous forest was observed within the southern valleyland feature on the Subject Property (**Figure 2**). The community's canopy was dominated by young Manitoba Maple, Green Ash, and Black Walnut. European Buckthorn and Riverbank Grape (*Vitis riparia*) dominated the understory, with Dog Strangling Vine, Riverbank Grape, Marsh Bedstraw, and European Buckthorn occupying the ground cover.

Hedgerow (HR)

Three hedgerow communities were recorded within the Subject Property, primarily associated with the anthropogenic areas (**Figure 2**). The two southernmost communities were dominated by young Eastern White Cedar in poor condition. The hedgerow along Thornton Road was dominated by maturing, planted Norway Maples.

Mineral Cultural Woodland (CUW1)

A small cultural woodland was observed within the northern Oshawa Creek corridor characterised by the presence of scattered Eastern White Cedar forest (**Figure 2**). The community was dominated by Black Walnut with the occasional Manitoba Maple. European Buckthorn was frequent throughout the understory. Ground cover within the community consisted of primarily Yellow Avens and White Avens (*Geum canadense*). Abundant goldenrod sp. and frequent Ostrich Fern, Black Raspberry, Garlic Mustard (*Alliaria petiolata*), and Reed Canary Grass (*Phalaris arundinacea*) were also observed within the ground cover.

Cultural Thicket/Woodland (CUT1/CUW1)

A cultural thicket/woodland community was observed along the northern tip of the southern valleyland feature (**Figure 2**). The community's canopy was relatively young and sparse, consisting of Manitoba Maple and Black Walnut, with European Buckthorn and Riverbank Grape

in the understory. Dog Strangling Vine, Riverbank Grape, European Buckthorn were commonly recorded within the ground cover.

4.1.1.2 Wetland System

Reed Canary Grass Meadow Marsh (MAM2-2)

Three, small Reed Canary Grass-dominated meadow marsh communities were recorded within the floodplain of the northern Oshawa Creek corridor (**Photo 6, Figure 2**). The occasional Heart-leaved Willow () was observed in the canopy; Multiflora Rose (*Rosa multiflora*) and Black Walnut were occasionally observed within the understory. The ground cover of the community consisted of abundant goldenrod and Eastern Rouge Sedge (*Carex scabrata*).

Cattail Mineral Shallow Marsh (MAS2-1)

A Broad-leaved Cattail (*Typha latfolia*) dominated shallow marsh was observed along the southern property boundary, associated with the tributary of Oshawa Creek (**Figure 2**). Frequent jewelweed (*Impatiens* sp.likley *capensis*) and a pocket of Common Reed (*Phragmites australis*) were also recorded in the community.

Manitoba Maple Mineral Deciduous Swamp (SWD3-4)

A Manitoba Maple deciduous swamp was observed within the southern valleyland feature, associated with the mapped unevaluated wetland (**Figure 2**). A tile drain outlet at the northernmost tip of the valleyland creates intermittent surface flow through the community. The community is dominated by Manitoba Maple, with the occasional young Green Ash. European Buckthorn, and Riverbank Grape dominated the understory, with Dog Strangling Vine, Riverbank Grape, Reed Canary Grass, and Marsh Bedstraw (*Galium palustris*) in the ground cover.

Photo 1: Anthropogenic area along Thornton Road North (photographer facing west) (2024).

Photo 2: Active agricultural land (corn crop) immediately south of the north watercourse corridor (photographer facing southwest) (2024).

Photo 3: Dry-Moist Old field Cultural Meadow (CUM1-1) on the Subject Property (2024).

Photo 4: Dry-Fresh White Cedar Coniferous Forest (FOC2-2) within the Oshawa Creek north valleyland on the Subject Property (2024).

Photo 5: Fresh-Moist Sugar Maple Deciduous Forest (FOD6) within the Oshawa Creek north valleyland of the Subject Property (2024).

Photo 6: Reed Canary Grass Mineral Meadow Marsh (MAM2-2) within the northern Oshawa Creek north valleyland of the Subject Property (2024).

4.1.2 Flora

A total of 101 species of vascular plants were recorded within the Subject Property during the 2024 field surveys, including 55 (54%) native species, 36 (36%) species which are non-native to Ontario and ten species (10%) were identified to the genus only due to the limited representation of key characteristics (**Appendix B**).

Provincial rankings (S-Rank) assist in the determination of protection priorities for rare and uncommon species. All the native species observed have provincial S-Ranks of S4 or S5, indicating they are common and secure in the province (Ministry of Natural Resources and Forestry 2023). Additionally, no SAR plants (i.e., Butternut) were observed within the Subject Property during the 2024 field investigations.

The following two (2) regionally uncommon (U) species were recorded within the Subject Property:

- Black Walnut (*Juglans nigra*)
- Red-tinged Bulrush (*Scirpus microcarpus*)

Black Walnut is a tree that is often planted and the Red-tinged Bulrush was observed in a wetland within the protected valleylands.

4.2 Surface Water Features

4.2.1 Aquatic Habitat Assessment

Two watercourses are present on the property, the larger is Oshawa Creek which flows north to south on the west side of the property (partly on and partly off-property), and a smaller, ‘unnamed tributary’ flows east to west, which flows into Oshawa Creek.

In the south of the property a smaller feature which is referred to as the South Feature was assessed for aquatic habitat. All assessed areas are discussed separately below.

4.2.1.1 Unnamed Tributary

The unnamed tributary receives water from the east side of Thornton Road where a large concrete dam is located. This dam backwaters flow, and releases only overflow into the unnamed tributary. In low water years the dam may restrict flow in the unnamed tributary all together (**Photo 7**). The tributary is connected via box culvert under Thornton Rd (**Photo 8**).

Photo 7: Concrete Dam located to the east of Thornton Road, overflow contributing to Unnamed Tributary headwater.

Photo 8: Box culvert below Thornton Road, looking east toward dam.

The average wetted width of the tributary ranges between 1 m to 3 m and averaged approximately 20 mm to 350 mm in depth. It also contains a typical riffle-run-riffle morphology, with areas of pooling which was observed to be utilized by fish during the survey. Substrate throughout the unnamed tributary is a mixture of cobbles, small boulders, gravel, coarse to fine sands and silt. The banks throughout the reach are defined and often steeply sloped. Riparian vegetation shifts from herbaceous meadow to mature mixed conifer and dense woodland. The tributary has some areas of ground water contribution as noted by indicators such as seeps and Watercress (*Nasturtium* sp.). Aside from the upstream concrete dam, no fish barriers were observed within the tributary.

4.2.1.2 Oshawa Creek

As previously described, Oshawa Creek flows in a north-south direction and is relatively wide compared to the unnamed tributary. The creeks riparian coverage is mostly from herbaceous vegetation with mature deciduous trees. The dominant substrate within the creek is coarse (cobbles, boulder, pebbles) to fine (coarse sand, fine sand and silt). To the north of the confluence, the creek averages between 2.5 m and 3.5 m in wetted width, and has variable water depths between 100 mm to 200 mm. This section contains defined banks, overhanging vegetation, and instream cover is provided by undercut banks and fallen woody material. In this northern section of the creek, the morphology is somewhat faster flow with riffle-run-riffle morphology as well as some pooling areas.

Photo 9: Oshawa Creek south of the confluence.

Photo 10: Groundwater upwelling next to Oshawa Creek.

To the south of the confluence (**Photo 9**), the creek widens quickly and is mostly open with little riparian overhang. The substrate here is mostly fine with silt with coarse sand and associations of cobbles and boulders. The banks contain herbaceous overhang with some mixed conifer stands near by. The water depth south of the confluence is significantly deeper and due to safety reasons could not be accurately measured. This part of the reach is also mostly a flat glide with pooling areas present for refuge. Sloped banks and erosion mark some areas of historical impact from high water events, instream vegetation is minimal although filamentous algae is present.

Throughout the Oshawa Creek watercourse, groundwater inputs were noted such as the presence of ground water upwelling (**Photo 10**), watercress, and/or seeps.

4.2.1.3 South Feature

The feature located to the south of the property has several agricultural pipes outleting into the otherwise dry channel, one pipe is corrugated and releasing clear water, while a white drain releases foul water (**Photo 11**). The foul water is white in colour and consisted of an unpleasant odour. The channel has dense overhanging vegetation and present water alternates between continuous flow and stagnant pooling (**Photo 12**). The channel otherwise is dry, narrow and highly incised with banks over 1.25m from the bottom of the channel. The feature also has steep slopes, herbaceously vegetated with mature deciduous trees throughout. The channel eventually flattens and meets the wetland feature along Winchester Rd where it dissipates into the vegetation with no defined banks (**Photo 13**). Based on our observations, due to low water quality and levels, the feature is not likely to contain fish year-round.

Photo 11: Tile Drainage terracotta pipes, corrugated pipe and stagnant foul water outlet

Photo 12: Water levels and quality within the South Feature (July 5, 2024)

Photo 13: Dry channel entering wetland feature (July 5, 2024)

Fish Community

Oshawa Creek exhibits a cold to cool-water thermal regime with warm water inputs in lower reaches (Palmer 2022). NHIC historical records indicate previous recordings of American Brook Lamprey (*Lethenteron appendix*) and American Eel (*Anguilla rostrata*) in NHIC blocks 17PJ6669, 17PJ6569, 17PJ6570 and 17PJ6571 (MNRF 2024). The Green Belt Foundation lists

Oshawa Creek as having a productive fishery despite degraded water quality and states that no fish species at risk are known to currently exist within the Oshawa Creek Watershed, this suggests that though historical records of American Eel are present, current conditions are not conducive to their needs and therefore are unlikely to be within the watershed (The Greenbelt Foundation n.d.). Additional searches with the DFO Species At Risk Mapping tool (DFO 2024) indicate that there is no critical habitat for species nor any species at risk found or potentially found within the area.

Durham reports sport fishing species such as Rock Bass (*Ambloplites rupestris*), Pumpkinseed (*Lepomis gibbosus*), Rainbow Trout (*Oncorhynchus mykiss*), Chinook Salmon (*Oncorhynchus tshawytscha*), Brown Trout (*Salmo trutta*) and Coho Salmon (*Oncorhynchus kisutch*) as found within Oshawa Creek (Durham Region 2024). Previous studies conducted by Palmer (2022) indicate that an extensive list of fish species may be present within Oshawa Creek such as Bluegill (*Lepomis macrochirus*), Bowfin (*Amia calva*), Brook Trout (*Salvelinus fontinalis),* Brown Bullhead (*Ameiurus nebulosus*), Northern Pike (*Micropterus salmoides*), Largemouth Bass, Smallmouth Bass (*Micropterus dolomieu*), White Sucker (*Catostomus commersonii*) and Yellow Perch (*Perca flavescens*).

The project boundary straddles two sub watersheds, Raglans Windfields (Central Lake Ontario Conservation Authority 2024). The unnamed tributary and north section of Oshawa Creek fall within the Raglans subwatershed, which is considered a cold to cool-water thermal regime (Stantec 2019). Windfields subwatershed cover most of the project boundary and extend south of the 407. The Windfields subwatershed thermal regime within this section of Oshawa Creek may be cold to cool water with warm water sections depending on canopy coverage, flow and groundwater input.

Conclusive data for specific species occurring within the Oshawa Creek and Unnamed Tributary would need to be gathered through fish community assessment field survey methods, if it was deemed necessary, although SLR does not believe this is the case, as protection recommendations can be made based on the existing information. These methods would include electrofishing or seine netting locations along the creek to understand species composition within the reaches.

4.2.2 Headwater Drainage Features

In the eastern half of the Subject Property, immediately south of a farming structure (i.e., cow stalls), a potential HDF was identified draining southwards to the onsite agricultural field (Potential Headwater Drainage Feature, **Figure 2**). The uppermost reach of this feature (here referred to as HDF1) was observed to be piped to accommodate a laneway with an outlet into a deeply incised, man-made channel downstream (**Photo 14**). The man-made channel was short in length (< 10 m), characterized by 1 m high banks, 0.75 m wetted width and dense in-channel and riparian vegetation, notably Reed Canary Grass.

Downstream of the man-made channel, HDF1 opens up into an undefined plain initially dominated by Reed Canary Grass (about 80 m), but for most of its length meandering through the active agricultural field of hay, as an agricultural swale (~ 180 m), before terminating at the northern tip of the CUT1/CUW1 community (**Photo 15 and 16**). No surface water was observed downstream of the Reed Canary Grass pocket during either of SLR's surveys. Garbage and hay were recorded throughout the upstream reach of the feature, as well as a foul odor and white-coloured discharge. In speaking with the tenant of the Subject Property, it was confirmed the feature is primarily used for agricultural runoff from the upstream cow stalls.

Photo 14: Upstream end of deeply incised, man-made channel of HDF1 facing south on the Subject Property (May 29, 2024).

Photo 15: Undefined flat plain of HDF1 facing south on the Subject Property (May 29, 2024).

Photo 16: Agricultural swale of HDF1 facing south on the Subject Property towards the CUT1/CUW1 community (April 30, 2024).

4.3 Wildlife

4.3.1 Breeding Birds

A total of 30 bird species were recorded during breeding bird surveys across the Subject Property (**Appendix C**). The majority of birds observed were disturbance-tolerant species that are frequently found in rural areas (hedgerows, edges, gardens, fields etc.) and are common and widespread in southern Ontario. The three most abundant species in order of abundance were: Song Sparrow (*Melospiza melodia)*, Red-winged Blackbird (*Agelaius phoeniceus*) and American Robin (*Turdus migratorius*). No provincially ranked S1 through S3 (Critically Imperiled through to Vulnerable) species, were recorded in the Subject Property.

Area-sensitive bird species were recorded on the property and while not rare, such species are often associated with higher quality habitats and generally require large areas of continuous habitat for breeding and foraging or are more productive in larger habitat. The specific habitat requirements vary by species. Five of the area-sensitive species recorded were area-sensitive forest species and one was a grassland/agricultural area-sensitive. The following six breeding area-sensitive species were observed:

- American Redstart (*Setophaga ruticilla*) – two territories observed – species of deciduous and mixed forests including edges and small forests
- Black-and-white Warbler (*Mniotilta varia*) – one singing male – species of many forest types often including cedar forests
- Black-throated Green Warbler (*Setophaga virens*) – one singing male – usually in mixed forests
- White-breasted Nuthatch (*Sitta canadensis*) – one singing male – in mixed or coniferous forests; requires tree cavities for nesting

- Magnolia Warber (*Setophaga magnolia*) – one singing male – found in dense stands of young conifer trees; this bird was only recorded once and may not have successfully paired or bred.
- Savannah Sparrow (*Passerculus sandwichensis*) – four territories observed – common species in large active crop fields or old fields

Given the overall size of the Subject Property relatively few forest birds were recorded. Even within deciduous and coniferous woodlands present, only one forest area-sensitive species, American Redstart has probable breeding evidence, while the others are possible breeders or migrants. This is likely in due to the regional agricultural context, as well as the prevalence of dense cedar forests which often have a low diversity of birds. One Bobolink (Dolichonyx oryzivorus) (Threatened and area-sensitive grassland species) was observed flying overhead; it is not considered a breeding species.

Species at Risk recorded are discussed below in Section 5.5.2.

4.3.2 Breeding Amphibians

Breeding amphibian surveys targeted five potentially suitable wetland areas on the Subject Property (**Figure 2**). Four species of amphibians were recorded during the surveys including: American Toad (*Anaxyrus americanus*), Gray Treefrog (*Dryophytes versicolor*), Northern Spring Peeper (*Pseudacris crucifer*), Green Frog (*Lithobates clamitans*). A summary of the surveys is provided in **Table 2**. One Green Frog was incidentally heard calling within the northern Oshawa Creek corridor, as well as within the residential lot along Thornton Road, during daytime field surveys.

Numbers of each species were never higher than 4 individuals in one location, suggesting that amphibian breeding habitat is of low quality. Frogs were only ever heard on the property within the unevaluated shallow marsh (MAS2-1, Station 4) immediately north of Winchester Road West. They were also heard in the off-site unevaluated wetlands and golf course stormwater pond (Stations 1 and 2) both to the west of the Subject Property.

Table 2: Breeding Amphibian Survey Results (2024)

Station	April 30, 2024	May 29, 2024	June 27, 2024
Weather Conditions:	11°C, 100% cloud cover, Beaufort Wind Scale No. 2	14°C, 50% cloud cover, Beaufort Wind Scale No. 3	18°C, 5% cloud cover, Beaufort Wind Scale No. 32
1 (off property unevaluated wetland)	Code 0	Code 0	Green Frog: Code 1-2
2 (off property golf course stormwater pond)	American Toad: Code 1-2	Code 0	Green Frog: Code 1-1
3 (Deciduous Swamp)	Code 0	Code 0	Code 0
4 (Shallow Marsh)	Spring Peeper: Code 1-2	Gray Treefrog: Code 2-4	Code 0
5 (HDF1)	Code 0	Code 0 (Dry)	Code 0 (Dry)

4.3.3 Bat Habitat Assessment

4.3.3.1 Bat Exit Surveys

No bats were observed entering or exiting the man-made structures on site during the four exit surveys completed on June 11, June 24, July 4, and July 8, 2024. On July 4, 2024, one Big Brown Bat individual was detected by the handheld bat detector and visually observed within the pocket of isolated trees south of Bat Exit Survey structure #5. On July 8, 2024, six individual records of Big Brown Bat, one record of Silver-haired Bat, and two records of Hoary Bat were identified by the handheld detector over the fallow lawn immediately south of Bat Exit Survey structure #6. Therefore, the man-made structures on the Subject Property do not provide suitable maternal roosting habitat for SAR bats.

4.3.3.2 Identify Potential Maternity Roost Habitat

A Bat Habitat Suitability Assessment was completed using aerial photography and ELC field investigation of the Subject Property. The ecological communities were assessed and mapped based on the *Ecological Land Classification for Southern Ontario: First Approximation and its Application* (Lee, et al., 1998). Treed areas and isolated trees were identified as potentially suitable roosting habitat (**Figure 2**). The forest communities within the Subject Property may provide maternity roosting habitat for SAR bats however, they will be protected from the proposed development and therefore, were not surveyed.

4.3.3.3 Snag Density Calculations

A snag assessment was completed for the treed areas and isolated trees within the proposed development limit (plus 6 m) on the Subject Property. Based on the MNRF 2022 protocol, only snags/cavity trees >25 cm DBH should be considered. At the time of the survey, April 30, 2024, all trees >25 cm DBH within the proposed development limit were surveyed for suitable maternity roost characteristics, resulting in six potentially suitable maternity roost trees.

The six potentially suitable maternity roost trees ranged in DBH from 25-80 cm (**Table 3, Figure 2**). The snag attributes consist of cavities, knotholes, and loose bark. Snags in healthy or early stage of decay (Decay Class 1 - 3) may be preferred by Little Brown Myotis and Northern Myotis (MNRF, 2017). All six snag trees were observed in this decay class range. Four of the six potential maternity roost trees are located within the development limit and proposed for removal.

Table 3: Potential SAR Bat Maternity Roost Trees

No.	Scientific Name	Common Name	DBH (cm)	Decay Class*	Height Class**	Snag Attributes	Proposed Outcome
SN-1	*Juglans nigra*	Black Walnut	65	2	2	Cavity at 6m and 7m	Remove
SN-2	*Acer saccharinum*	Sugar Maple	70	2	2	Knothole at 6 m	Remove
SN-3	*Fraxinus* sp.	Ash species	70	3	1	Loose bark at 6m and 9m	Remove
SN-4	*Acer saccharinum*	Sugar Maple	50	1	1	Knothole at 3m and 6m	Remove

No.	Scientific Name	Common Name	DBH (cm)	Decay Class*	Height Class**	Snag Attributes	Proposed Outcome
SN-5	*Acer rubrum*	Red Maple	25	1	3	Loose bark at 3.5m	Retain
SN-6	*Acer rubrum*	Red Maple	80	1	1	Loose bark at 4m and 5m	Retain

*Decay Class: 1 – Healthy, live tree; 2 – Declining live tree, part of canopy lost; 3 – Very recently dead, no canopy, bark intact, branches intact; 4 – Recently dead, bark peeling, only large branches intact; 5 – older dead tree, 90% of bark lost, few branch stubs, broken top; 6 – very old dead tree, advanced decay, no branches, parts of stem have rotted away

**Height Class: Dominant – above canopy; Co-dominant – canopy height; Intermediate – just below canopy; suppressed – well below canopy height

There is no minimum threshold in terms of the number of snags/ha for an ELC ecosite to be considered suitable maternity roost habitat for SAR. However, if snag density is calculated to be >10 snags per hectare then an ecosite should be considered high quality. No forest communities were surveyed for treed bat habitat within the Subject Property as all are currently protected from the proposed development. Therefore, snag density is not applicable nor is it considered further within this report, however these non-forest snag trees are discussed later in the report.

4.3.3.4 Selection of Acoustic Monitoring Locations

Provincial and municipal policy has partly designated the Subject Property as Greenbelt Protected Countryside and Natural Heritage System. The forest communities (i.e., FOC2-2, FOD6, FOD5-1, SWD3-4) will be fully retained as part of the proposed development (**Figure 2**). The central area of the Subject Property is proposed for development and would require tree removals. Therefore, two acoustic detectors and three microphones, were placed near to snag trees proposed for removal (**Figure 2**). Note that each microphone has a range of 20-30 m to maximize coverage.

4.3.3.5 Acoustic Field Data Collection

One SM4BAT FS Ultrasonic Detector (SLR Acoustic Detector #2) was deployed within an area of isolated trees, with the microphone directly adjacent to potential Snag 1 (SN-1, **Figure 2**). One SM3BAT Ultrasonic Detector (SLR Acoustic Detector #6) was positioned so that one microphone was deployed nearby potential Snag 2 (SN-2) and Snag 3 (SN-3) and the second microphone was deployed nearby Snag 4 (SN-4). Both the battery life and state of the bat acoustic detectors and microphones were checked halfway through the 10 day survey period. During the acoustic detector retrieval, the microphone associated with Detector #2 had fallen. It is unknown when this occurred (day 5 through day 10) but may have resulted in less detections associated with the SM4BAT Ultrasonic Detector however, calls were recorded throughout the duration of the survey. A summary of the acoustic data analysis completed by Glenside Ecological Ltd. is provided in **Table 4**. Note that all species with the exception of Big Brown Bat are now (since January 2025) are considered provincially Endangered.

Table 4: Summary of Acoustic Data Analysis

Detector	Common Name	Scientific Name	# Files	% Confidence
SM3BAT Ultrasonic Detector (SLR Detector #2)	Big Brown Bat	*Eptesicus fuscus*	139	100
	Eastern Red Bat*	*Lasiurus borealis*	0	0
	Hoary Bat*	*Lasiurus cinereus*	138	100
	Silver-haired Bat*	*Lasionycteris noctivagans*	16	21
	Eastern Small-footed Myotis*	*Myotis leibii*	0	0
	Little Brown Myotis*	*Myotis lucifigus*	0	0
	Northern Myotis*	*Myotis septentrionalis*	0	0
	Tri-coloured Bat*	*Perimyotis subflavus*	0	0
SM4BAT FS Ultrasonic Detector (SLR Detector #6)	Big Brown Bat	*Eptesicus fuscus*	933	100
	Eastern Red Bat*	*Lasiurus borealis*	1	45
	Hoary Bat*	*Lasiurus cinereus*	98	100
	Silver-haired Bat*	*Lasionycteris noctivagans*	100	99
	Eastern Small-footed Myotis*	*Myotis leibii*	0	0
	Little Brown Myotis*	*Myotis lucifigus*	0	0
	Northern Myotis*	*Myotis septentrionalis*	0	0
	Tri-coloured Bat*	*Perimyotis subflavus*	0	0

*Species at Risk Bat in Ontario

To assess presence of bat species, statistical probability requires a sufficient sample size for reliability. For most species, this requires more than 10 accepted decisions (# files). As a rule of thumb, any species decision summary count (# files) numbering less than 10 to require manual vetting to establish presence. Note that one file is roughly equivalent to one series of calls from a bat and is not necessarily equivalent to one individual bat (i.e., 933 Big Brown Bat calls were recorded at one microphone, which could theoretically be equivalent to either one individual bat, or 933 bats, although the latter is unlikely).

Based on the results summarized above, the following bat species were identified within the vicinity of both bat detectors with 100% confidence in the accuracy of detection: Big Brown Bat (*Eptesicus fuscus*) and Hoary Bat (*Lasiurus cinereus*). Silver-haired Bat (*Lasionycteris noctivagans*) and Eastern Red Bat (*Lasiurus borealis*) were also identified within the vicinity of the SM4BAT FS Ultrasonic Detector but with a lower confidence level (99% and 45%, respectively). Silver-haired Bat was also detected within the vicinity of the SM3BAT FS Ultrasonic Detector but with minimal confidence (21%). Eastern Red Bat, Hoary Bat, and Silver-haired Bat were recently classified as Endangered and awarded protections under the ESA. Therefore, all proposed works on the Subject Property will be required to comply with the ESA.

4.3.4 Incidental Wildlife

The following species were incidentally observed during SLR's ecological investigations:

- Eastern Grey Squirrel (*Sciurus carolinensis*) – individual observed on June 5, 2024
- Red Squirrel (*Sciurus vulgaris*) – individual observed on June 5, 2024

- Coyote (*Canis latrans*) – pack calls on July 4 and July 8, 2024, tracks observed in agricultural field on June 25, 2024
- Eastern Cottontail (*Sylvilagus floridanus*) – June 24, 2024
- Eastern Meadow Vole (*Microtus pennsylvanicus*) – individual observed on June 5, 2024
- Skunk (*Mephitis mephitis*) – July 4 and July 8, 2024
- Eastern Chipmunk (*Tamias striatus*) – July 4, 2024
- Snapping Turtle (*Chelydra serpentina*) – roadside mortality on Winchester Road, recorded on July 5, 2024

Due to the location of the Subject Property, within a mixed rural and residential area, it is likely that other urban-adapted species (e.g., deer, racoon) occupy the landscape.

5.0 Assessment of Significance

5.1 Valleylands

Oshawa Creek is situated within a large, well-defined valley system which features steep embankments and erosional scour at various points along the reach on the Subject Property. The Provincial Planning Statement defines significant features, including valleylands, as "ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system" (Ontario Ministry of Municipal Affairs and Housing 2024).

Table 8.1 of the Natural Heritage Reference Manual (NHRM) (Ontario Ministry of Natural Resources 2010) defines Significant Valleylands using a number of criteria including:

- Hydrologic and hydrogeological attributes
- Landform-related functions and attributes
- Ecological Features
- Restored Ecological Functions

5.1.1 North Valleyland

The north valleyland within the Subject Property has met, or potentially met, the following Significant Valleyland criteria as set out by the NHRM:

- Surface water function (significant flow conveyance from a large catchment area, and evidence of valley wall erosion, and general geomorphological processes);
- Distinctive geomorphic landforms (visual presence of valley walls, terraces, bottomlands);
- Groundwater function (confirmed via presence of groundwater indicator flora species);
- Degree of naturalness (despite historical disturbance along the valley area, there is greater than 25% natural vegetation cover within the valleyland area);
- Riparian vegetation is greater than 30 m (on average) on either side of the valley; and
- Natural wildlife movement corridor potential with a continuous natural vegetation corridor with a minimum width of 100 m.

The Subject Property is found within the City of Oshawa, a highly urbanized area with minimal forest cover. The valleyland along the north portion of the Subject Property, associated with Oshawa Creek and its tributary, consists of the Greenbelt Urban River Valley System, the Greenlands System, Core Area, and key natural features. The valleyland also includes candidate SWH attributes (see Section 5.2). Therefore, for the reasons stated above the valleyland feature within the Subject Property is considered significant.

5.1.2 South Valleyland

Despite the observed anthropogenic influence (e.g., tile drainage, foul odour) on the south valleyland water feature, it meets the following Significant Valleyland criteria as set out by the NHRM:

- Surface water function (evidence of valley wall erosion, and general geomorphological processes);
- Distinctive geomorphic landforms (visual presence of valley walls, terraces, bottomlands);
- Degree of naturalness (despite historical disturbance along the valley area, there is greater than 25% natural vegetation cover within the valleyland area); and
- Riparian vegetation is greater than 30 m (on average) on either side of the valley.

The valleyland along the south portion of the Subject Property, associated with Oshawa Creek, consists of the Greenbelt Urban River Valley System, the Greenlands System, Core Area, and key natural features. The valleyland also includes candidate SWH attributes (see Section 5.2). Therefore, for the reasons stated above the valleyland feature within the Subject Property is considered significant.

5.2 Woodlands

The City of Oshawa OP defines Significant Woodlands as the following:

(a) Any woodland having an area equal to or greater than 0.5 hectares (1.24 ac.) in size; or
(b) Any woodland that intersects with another key natural heritage feature; or
(c) Any woodland older than 80 years; or,
(d) Any woodland which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history;

5.2.1 North Woodlands

The northern woodland/forest communities (i.e., FOC2-2, FOD5-1, etc.), as one contiguous unit, are greater than 0.5 ha in size and are adjacent to other key natural heritage features. The northern woodland/forest communities are also within the Greenbelt NHS and are considered Core Area within the City's OP. This is because the woodland is associated with Oshawa Creek, a permanent watercourse; it provides a wildlife linkage corridor along the riparian corridor; may provide habitat for woodland breeding birds and SAR bats; and is comprised of an assemblage of mature native tree species.

Therefore, the north woodland/forest communities on the Subject Property are considered Significant.

5.2.2 South Woodlands

The southern woodland/forest communities (i.e., FOC2-2, FOD, SWD3-4 etc.), as one contiguous unit, are greater than 0.5 ha in size and are adjacent to other key natural heritage features. Note that although survey points 122 to 125 are shown as dripline as determined by CLOCA, SLR does not concur that this is a woodland dripline, because it is primarily dominated by non-native Buckthorn shrub and has a limited tree canopy (CLOCA does not have jurisdiction over woodland delineations). The south woodland/forest communities are also within the Greenbelt NHS and are considered Core Area within the City's OP. This is because the woodland is associated with Oshawa Creek, a permanent watercourse (it is connected off-site); it has the potential to provide a wildlife linkage corridor along the riparian corridor; may provide habitat for SAR bats; and is comprised of an assemblage of mature native tree species.

Therefore, the south woodland/forest communities on the Subject Property are considered Significant.

5.3 Wetlands

Several, small wetlands communities were observed on the Subject Property. The City of Oshawa OP does not provide a minimum size criteria to define a community as a 'wetland'. All wetlands delineated on the Subject Property are unevaluated wetlands, with the majority being less than 0.5 ha in size, and are contiguous with other key natural features (i.e., woodlands, watercourse, valleyland). All wetlands within the Subject Property are also within the Greenbelt Protected Countryside and will be protected from the proposed development.

5.4 Aquatic Habitat

5.4.1 Watercourses

The segment of Oshawa Creek within the Subject Property provides relatively high-quality fish habitat opportunities with visibly clear flows, a variety of aquatic habitat features (i.e., riffles, runs and pools) that promote spawning, nursery, refuge and feeding opportunities for a wide variety of fish.

The majority of the fish species potentially occurring within the Subject Property are intermediately tolerant to intolerant of environmental perturbations and generally require low levels of pollution in order to survive. Most notably, historical records for American Brook Lamprey, Brook Trout, Brown Trout, Rainbow Trout and salmonids such as Coho and Chinook generally reflect a cool to coldwater aquatic environment with good water quality with low thermal fluctuations. Within the southern section of Oshawa Creek, some warm water environments may occur providing habitat opportunities for cool-to warm water tolerant species such as Pumpkinseed.

NHIC records indicate the historical presence of American Eel, an Endangered species in Ontario. Despite these historical records, eel species density is considered very low throughout Ontario, and the species is only considered present in a handful of remaining watersheds including the lower Ottawa River and its tributaries, the lower Trent River, the upper St. Lawrence River, and in Lake Ontario (MECP 2022). To confirm that American Eel is not present within the Subject Property it is recommended that the MECP be consulted.

5.4.2 Headwater Drainage Features

The HDF (HDF1) on the Subject Property is partially (southern-most reach) mapped within the City's OP and the CLOCA's regulated area mapping. Surface water flow was absent from the feature during both of SLR's site visits in 2024 however, pooling of water was observed through its upper reaches. The reach of HDF1 mapped by the City and the CLOCA was observed to be dry during both of SLR's visits in 2024. The tenant on the Subject Property confirmed that the feature was primarily fed by agricultural run-off (i.e., cow stalls) generated upstream. In general, the feature was noted as undefined with the exception of the upstream channelization, presumably constructed by the current tenant.

As indicated in Section 4.2.1, the southern surface water feature (within the south Greenbelt NHS block), south of HDF1, was determined to not likely bare fish year-round due to overall water quality and its intermittent nature. Thus, HDF1 is considered as 'Contributing' fish habitat, 'Limited' riparian function, and 'Limited' terrestrial function. The feature was also identified to have potential subsurface contributions to on-site tile drainage. As such, the HDF is designated as 'Mitigation' in accordance with the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* report (Toronto and Region Conservation Authority and Credit Valley Conservation, 2014).

As the feature is designated 'Mitigation', it is proposed that the hydrologic function and conveyance of flows be maintained through the use of stormwater pond outlets, LID swales, urban swales, or other techniques. Anticipated impacts and recommended mitigation measures are provided in Section 7.

5.5 Species at Risk

The ESA provides protection for species listed as Endangered or Threatened in Ontario, including their habitat. The SARO list also identifies species of Special Concern that may become Threatened or Endangered in the future. Species of Special Concern and their habitats are not protected under the ESA.

Based on available background information and 2024 field investigations, the Subject Property was screened for potential SAR habitat opportunities. The assessment was conducted by comparing habitat preferences of species deemed to have potential to occur against current site conditions, as well as knowledge from field investigations. This SAR habitat assessment can be found in **Appendix D** providing a detailed description of each species' habitat (including those deemed to not have potential habitat), as well as a discussion of habitat suitability within the Subject Property, potential impacts, and mitigation, where applicable.

Based on the rationale provided in **Appendix D**, the following 'short-list' of SAR species or SAR habitat occurs, or has the potential to occur, within the Subject Property:

5.5.1 Vegetation

No SAR plant species such as Endangered species, Butternut or Black Ash (*Fraxinus nigra*) individuals were recorded during SLR 's 2024 ecological surveys.

5.5.2 Birds

- Barn Swallow (*Hirundo rustica*) – Special Concern
- Eastern Wood-Pewee (*Contopus virens*) – Special Concern

Two Special Concern avian SAR were recorded on the Subject Property. One or two Eastern Wood-pewee (*Contopus virens*) individuals were heard singing within the northern forest (FOD/FOC) during the first survey and another was heard just off property in the northwestern forest during the second visit. Despite its status, this species is common in (generally closed-canopy) deciduous and mixed forests of many sizes in southern Ontario.

Several Barn Swallow (*Hirundo rustica*) were observed foraging over the agricultural fields. This species of rural landscapes usually nests on buildings and forages over wetlands, meadow and fields. All of the potentially suitable buildings on the Subject Property which might be used for nesting were assessed. Four to five active Barn Swallow nests were observed or believed to be present based on June 5 and June 25, 2024 observations. One nest was in Building 2 (numbers as per Bat Exit Survey building #2 on Figure 2), two were in in a small metal shed (east of Building 2), and one to two active nests were likely present in Building 3 (based on adults entering).

One Threatened SAR, Bobolink was observed on June 5, 2024 flying over the southeastern field. This species was not observed during any other survey and is expected to be breeding east of the Subject Property and not to breeding on the property. This species preferred habitat is hayfields or meadows.

5.5.3 Herptiles

- Snapping Turtle (*Chelydra serpentina*) – Special Concern

Suitable habitat for Snapping Turtle may be present within the wetlands on the Subject Property. An incident of roadside mortality of a Snapping Turtle was observed along Winchester Road, immediately south of the Subject Property, on July 5, 2024. It is possible that the species utilizes the onsite shallow marsh adjacent to Winchester Road.

5.5.4 Mammals

- Little Brown Myotis (*Myotis lucifugus*) – Endangered (potential to be present)
- Northern Myotis (*Myotis septentrionalis*) – Endangered (potential to be present)
- Tri-colored Bat (Eastern Pipistrelle) (*Perimyotis subflavus*) – Endangered (potential to be present)
- Eastern Red Bat (*Lasiurus borealis*) – Endangered (confirmed present)
- Hoary Bat (*Lasiurus cinereus*) -– Endangered (confirmed present)
- Silver-haired Bat (*Lasionycteris noctivagans*) – Endangered (confirmed present)

Potentially suitable habitat any of the bat species listed above may be present within the forest and swamp communities on the Subject Property however, these communities are protected from the proposed development.

Newly listed Endangered bat species, Hoary Bat, Silver-haired Bat, and Eastern Red Bat were recorded to varying degrees close to snag trees in the agricultural tablelands during SLR's bat exit and acoustic surveys (Section 4.3.3). No other SAR bats were recorded within the Subject Property. Removal of trees with snag attributes is currently proposed. Impacts and mitigation measures are discussed in Section 7.7.1.

5.5.5 Insects

- Monarch Butterfly (*Danaus plexippus*) – Special Concern

No Monarch individuals were observed during the 2024 ecological investigations on the Subject Property. Minimal suitable habitat is present on the Subject Property, largely due to the extensive agricultural activity present. No impacts are anticipated as a result of the proposed development. Special Concern species are not protected under the ESA.

5.6 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) can be difficult to appropriately 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. To help with site level assessments, the MNRF has developed the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (Ontario Ministry of Natural Resources 2015). The planning authorities have the responsibility to identify SWH. Except for wintering deer yards (as mapped by the MNRF), the detailed identification and designation of SWH has not been completed in Durham Region or the City of Oshawa.

SWH is considered a significant feature in Provincial, Regional, and City of Oshawa OP policies. SWH is defined by the MNRF in the *Significant Wildlife Habitat Technical Guide* (Ontario Ministry of Natural Resources 2000) and the *Natural Heritage Reference Manual* (Ontario Ministry of Natural Resources 2010) and includes the following broad categories:

- Habitats of Seasonal Concentration of Animals;
- Rare Vegetation Communities or Specialized Habitats for Wildlife;
- Habitats of Species of Conservation Concern; and
- Animal Movement Corridors.

Criteria for the identification of these features are also provided in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E*. These criteria were used to provide a screening for wildlife habitat within the Subject Property for potential SWH within and immediately adjacent to the proposed development footprint, as detailed in **Appendix E**. SLR has determined that there is Candidate or Confirmed where noted SWH for:

- Seasonal Concentration Areas of Animals
  - Bat Maternity Colonies
  - Turtle Wintering Area
- Specialized Habitats for Wildlife
  - Woodland Raptor Nesting Habitat
- Habitat of Species of Conservation Concern
  - Special Concern and Rare Wildlife Species (Confirmed for Eastern Wood-Pewee, Candidate for Snapping Turtle)

6.0 Proposed Development

The proposed development consists of 20 mixed-use Blocks. Blocks 1 to 13 are proposed for industrial use (**Figure 3**). Blocks 14 to 17 consist of environmental blocks, which correspond to

natural heritage features and their associated MVPZs. Three additional blocks are incorporated into the proposed development as municipal street blocks. A stormwater management pond is currently proposed within Block 9.

Two separate road access points along Thornton Road N are proposed, with another municipal road connecting individual Blocks. This current site plan also considers the Region's proposed road development through Blocks 14 and 17 hence the configuration of the north street (Municipal Street 1). This street along the northern development boundary currently encroaches into the Greenbelt NHS and feature MVPZs. This proposed roadway would be considered a municipal road initially, but our understanding is that the road would become a Regional Road should the road development through the forested valleyland (Block 14) to Whitby be constructed.

The proposed development largely conforms to the ecological constraints present on the Subject Property. The proposed development is entirely located within cultural and anthropogenic areas on the Subject Property. Minimal tree removal is expected as part of the proposed development. The proposed development limit is governed by KNHFs and KHFs including significant woodlands, significant valleylands, and the Greenbelt NHS. The development largely avoids feature MVPZs, with a few minor exceptions. Minor encroachment into the southern significant valleyland 30 m MVPZ is proposed to accommodate a cul-de-sac as part of the municipal road.

It is SLR's understanding that the 'Proposed Block Limit' is largely conceptual and identifies parcel limits to be sold rather than actual development, or construction, limits. For example, Blocks 16 and 17 (environmental blocks) extend beyond the *Development Limit Using Natural Heritage Policy* however, no development, with the exception of infrastructure (i.e., roadways), is currently proposed (**Figure 3**). Similarly, the northwestern corner of Blocks 1 and 10, and west portion of Block 13, encroach into the Greenbelt NHS and/or significant valleyland MVPZ and therefore, are to be protected as part of any future development. Impacts and recommended mitigations measures are discussed in Section 7.

Stormwater management will be through a wet SWM pond in Block 9. The following is from Greck (Greck and Associates Limited 2025):

> *A functional SWM pond design has been provided in Appendix F. Details regarding the SWM pond are to be confirmed during detailed design; however, design components have been summarized below with respect to City and MOECP Guidelines:*
>
> - *Permanent pool depth of 1.0m.*
> - *6:1 side slope shelf at a vertical height of 1m halfway at the permanent pool.*
> - *5:1 side slope above the permanent pool shelf.*
> - *3:1 side slope below the permanent pool shelf.*
> - *Active storage depth of 2.0m (the extended detention and water quantity storage do not overlap)*
> - *Freeboard of 0.3m provided from the top of the facility to the 100-year water surface elevation.*
> - *4.0m wide gravel maintenance access road with a maximum cross fall of 2.5% and a maximum slope of 10%.*
> - *A dedicated sediment drying area is not proposed.*

The proposed permanent pool storage provided will exceed the storage requirements. For water quality calculations, please see Appendix D. Further details regarding wet pond will be provided during detailed design, including main cell and forebay design.

Further details on stormwater and servicing can be found in the Functional Servicing and Stormwater Management Report (Greck 2025).

LEGEND

Staked Feature (by CLOCA, Aug. 14 and Oct 31, 2024)

- Dripline
- Top of Bank
- Watercourse
- Tile Drain Outlet

Feature Boundaries

- Dripline (Significant Woodland)
- Watercourse
- Top of Bank (Significant Valleyland)
- Approximate Top of Hazard Slope (SLR)

Wildlife Features

- Snag Tree

Constraint Area

- Woodland Minimum Vegetation Protection Zone (MVPZ) - 30 m
- Significant Valleyland Minimum Protection Zone (MPZ) - 30 m
- Greenbelt Designation[1]
- Development Limit Using Natural Heritage Policy
- Proposed Block Limit

Basemap

- Watercourse [1]
- Potential Headwater Drainage Feature (HDF) - Mitigation
- Ecological Land Classification (ELC)
- Development Plan
- Subject Property (35.6 ha)

1- Land Information Ontario (LIO)

ELC Legend:

AGR	Agricultural	FOD6	Fresh - Moist Sugar Maple Deciduous Forest
ANTH	Anthropogenic	HR	Hedgerow
CUM1-1	Dry - Moist Old Field Cultural Meadow	MAM2-2	Reed Canarygrass Meadow Marsh
CUW1	Cultural Woodland	MAS2-1	Cattail Mineral Shallow Marsh
FOC2-2	Dry - Fresh White Cedar Coniferous Forest	SWD3-4	Manitoba Maple Mineral Deciduous Swamp
FOD	Deciduous Forest		
FOD5-1	Dry - Fresh Sugar Maple Deciduous Forest		

0 25 50 75 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,800
Page Size: Tabloid (11 x 17 inches)

Drawn: SM/RS
Checked: KT
Date: Oct 2, 2025

NORTH

Source Notes:
Imagery provided by Durham GIS REST services. Contains information licensed under the Open Government Licence – Ontario.

CLIENT: 407AT7 Centre Inc

PROJECT: 2860 Thornton Rd N EIS

TITLE: **Ecological Constraints and Proposed Development**

SLR

REF. NO. 2403801-3-6

Figure 3

Document Path: N:\Granville\Projects\Projects 2024\24038 - 407AT7 Centre Inc\2403801 - 2860 Thornton Rd N EIS\GIS\1_Workspace\1_Maps\(2024-08) EIS Figures\(2024-08) EIS Figures.aprx

7.0 Impact Assessment and Mitigation Measures

Through the finalization of the detailed design and construction, mitigation and protection measures must be implemented. These measures include standard mitigation to be applied across the whole Subject Property, where applicable, as well as site-specific measures (**Figure 3**). Site specific measures in particular include protection of identified natural features and buffers (i.e., MVPZ) to the natural features. Most of the standard mitigations are applied during construction.

Permanent impacts include the removal of potential bat isolated habitat trees and other isolated trees and hedgerows associated with the anthropogenic areas which may provide some other wildlife functions.

Should future Regional Road configuration drive the location of Municipal Street 1, it is our understanding that an appropriate Environmental Assessment would be required.

7.1 Mitigation by Design

7.1.1 Valleylands

Both the north and south valleylands are designated Significant Valleylands, and the proposed development has largely considered and avoided the MVPZs. SLR, CLOCA, and City staff staked the top of bank for both features on August 14 and October 31, 2024. The proposed development considers the 30 m setback to the Top of Bank. These limits also encompass appropriate setbacks to fish habitat and wetlands.

No development is proposed within the significant valleyland features however, there is an encroachment into the north valleyland 30 m MVPZ related to municipal streets 1 and 2 (future Regional road) as well as a very minor encroachment into the south valleyland MVPZ due to the cul-de-sac of municipal street 2 (**Figure 3**). It should be noted that the proposed valleyland MVPZ encroachments are entirely within agricultural and/or anthropogenic lands. Erosion and sediment control measures, as well as restoration plantings within natural heritage feature buffers (i.e., MVPZs) are discussed within Section 7.2.2 and 7.2.3, respectively.

7.1.2 Woodlands

The proposed development does not require the removal of forest communities within the Subject Property.

SLR, CLOCA, and City staff staked the woodland dripline on August 14, 2024. Generally, to protect the forests within the Greenbelt Protected Countryside, a 30 m wide MVPZ is recommended for all proposed development and site alteration (**Figure 3**). This is consistent with Table 6 within the City of Oshawa's OP. However, due mainly to the Greenbelt, resulting Significant Woodland vegetation protection zones are larger – for instance in the northern system, typical buffers are ultimately between about 50-75 m, and in the south system are at least 30 m, but often at least 50 m.

No development is proposed within the significant woodlands or their 30 m MVPZ, except where Municipal Street 1 turns south into Municipal Street 2 there is an encroachment into the MVPZ.

7.1.3 Wetlands

Small pockets of meadow marsh are present in the north valleyland, and a small, combined cattail marsh/deciduous swamp is present in the south valley adjacent to Winchester Road.

None of these wetland areas are close to the proposed development and any MVPZs for these are superseded by woodland and valleyland MVPZs. The FSSMR (Greck 2025) indicates that by using mitigation, infiltration for the entire Subject Property will be increased following development.

7.1.4 Species at Risk

There are no known impacts to SAR flora and fauna except as discussed here for Barn Swallow and SAR bats. See next section for comments on Snapping Turtle.

As part of SLR's bat exit and acoustic surveys, it was determined that there may be maternity roosting treed habitat for SAR bats within the development limits of the Subject Property. There are two potential habitat types: forest and isolated trees within the agricultural lands. The potential for maternity roosting SAR bats within the forest communities remains as these communities are protected from the proposed development, however some habitat may be affected due to the removal of isolated farmland trees.

An Information Gathering Form (IGF) was submitted to the MECP (August 25, 2025) to determine appropriate mitigation measures for this type of SAR bat habitat. SLR received a response from the MECP on September 17, 2025, which confirmed that due to the limited number of suitable habitat trees to be removed, a Letter of Assurance could be issued. Consultation with the MECP is ongoing. As a result of the newly listed migratory SAR bats and the evolving provincial policies surrounding the species, the MECP now requires that tree removals not occur from April 1st to November 30th to minimize impacts to roosting SAR bat species. This is the tree removal timing window provided by MECP in 2025 for sites where Eastern Small-footed Bat is not present, but migratory species such Hoary and Silver-haired Bat are present. It is the responsibility of the proponent to ensure the proposed development is in conformity with the ESA.

Nesting Barn Swallow habitat is discussed under SWH below.

7.1.5 Significant Wildlife Habitat

Candidate SWH exists in the communities on and adjacent to the Subject Property. Within the forest communities, this includes Candidate Bat Maternity Colonies and Woodland Raptor Nesting habitat as well as Confirmed Eastern Wood-Pewee habitat. These communities and associated 30 m buffer will be protected by the proposed development therefore, no impacts are expected, despite Municipal Street 1 encroachment into the MVPZ. SLR recommends a setback/buffer restoration planting plan in Section 7.2.3.

Candidate Turtle Wintering Area SWH and Candidate Snapping Turtle habitat as a Special Concern species is present within the Cattail Shallow Marsh (MAS2-1) on the Subject Property. It is SLR's understanding that there is permanent standing water within this community. A Snapping Turtle mortality was observed in 2024 alongside Winchester Road, indicating potential use of onsite wetlands for overwintering. The MAS2-1 community remains as Candidate SWH and is protected from the proposed development. A 30 m setback is applied to the feature however, the Candidate SWH is not mapped due to superseding constraints (e.g., woodlands, valleylands, Greenbelt).

Due to low numbers, Barn Swallow nesting habitat is not considered SWH, and it is proposed for removal. Removal should take place when the species is not actively nesting in order to be in conformity with the Migratory Bird Convention Act.

7.1.6 Surface Water Features

Generally, to protect the tributaries and riparian corridors of Oshawa Creek, a 30 m wide MVPZ is recommended for all proposed development and site alteration. This is consistent with Table 6 of the City of Oshawa's OP. This watercourse MVPZ has been superseded by other MVPZs associated with the valleylands, woodland dripline, and/or the Greenbelt NHS limit.

7.1.7 Potential Headwater Drainage Feature

For an assigned management recommendation of 'mitigation', as the HDF has been assigned, it is required that ecological functions be maintained or enhanced through site-level design. Specifically, mitigation features should maintain hydrologic function through measures such as enhanced lot level conveyance, Low-Impact Development measures, and other stormwater management designs such as vegetated swales and/or bioswales.

7.1.8 Stormwater Management

The proposed stormwater management (SWM) facility (2.02 ha) is located within the southwestern corner of the Subject Property and adheres to all natural heritage feature limits (Block 9, **Figure 3**). The SWM facility will consider water quantity and quality control, extended detention/erosion control, and water balance for the Subject Property, as per Greck's *Functional Servicing and Stormwater Management Report* (FSSMR).

The Subject Property is considered a high-volume recharge area and an environmentally significant groundwater recharge area. Wetlands are also present within the north and south natural heritage corridors. Thus, a water balance analysis was required for the Subject Property to maintain pre-development water balance post-construction.

Lot level controls (infiltration galleries) and end-of-pipe controls (wet pond, oil and grit separator) will also be utilized within the SWM strategy. Lot level infiltration is currently proposed for Blocks 1, 2, 3 and 10.

To adequately service stormwater runoff post-development, a minor and major drainage system is proposed. Storm sewers, the minor system, are proposed within the municipal right-of-way as per Greck's FFSMR and ultimately, direct flow to the SWM pond. Rear-yard and right-of-way swales, the major system, will convey flows in which exceed the capacity of the minor system. Ultimately, the stormwater will flow directly southward in pipes from the wet pond through what is currently an agricultural field and a sloping old field through to Winchester Road (Greck 2025, Sheets 07 – 10). Specifics related to stormwater management will be discussed during the detailed design stage. Outside of the above management recommendations, general construction mitigations such as the implementation of a comprehensive erosion and sediment control plan (Section 7.2) is recommended to prevent downstream impacts facilitated through the site's existing drainage network.

7.2 Construction Related Mitigation

7.2.1 Vegetation Clearing Timing Windows

To avoid and mitigate impacts to breeding birds and ensure compliance with the federal *Migratory Birds Convention Act* and provincial *Fish and Wildlife Conservation Act*, removal of all types of vegetation should be completed outside of the nesting bird season of approximately early April to late August (i.e. April 1 to August 30).

However, development timing may require clearing within that window. Should this prove to be the case, shortly before vegetation clearing, a qualified biologist should complete a search for actively used nests within the areas of vegetation proposed for removal to ensure that there are no conflicts with these Acts. This survey does not focus on a search for nests but instead uses a variety of information (time of year, habitat present, bird song, bird behaviour etc.) to determine if birds are nesting. If nesting activity is detected, clearing activities should be delayed (potentially weeks or months) until it can be determined that the birds no longer have eggs or young in the nest.

As per SLR's correspondence with the MECP on September 17, 2025, the recommended avoidance window for SAR bat habitat is from April 1st to November 30th . This window applies to tree removal only and not to removal of vegetation in meadows, thickets and other similar habitats.

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.

7.2.2 Erosion and Sediment Control

Site grading will disturb site soils which presents the potential for sedimentation and erosion to the adjacent valley systems. To minimize the potential for erosion and off-site transportation of sediment into surface water features and the natural environment, the project will implement best practices related to Erosion and Sediment Control (ESC) measures. In general, ESC measures should be installed before works commence and be maintained in good condition for the duration of the proposed works. ESC measures are recommended to meet the guidelines outlined in the *Erosion Sediment Control Guide for Urban Construction* (Toronto and Region Conservation Authority, 2019) or similar CLOCA document.

With respect to ESC measures, the contractor should follow these guidelines or as detailed by Greck (2025) through the detailed design phase:

- Isolate work areas with heavy duty silt fence to protect natural features as outlined by Greck through detailed ESC plans;
- All works should be properly isolated from watercourse areas to minimize introduction of sediments or other construction generated materials into the open aquatic environment;
- Retain existing vegetation and stabilize ground with native vegetation, where possible;
- Limit the duration of soil exposure and/or phase construction;
- Maintain overland sheet flow and avoid concentrating flow;
- Store and stockpile soil away from natural drainage features and/or shoreline areas; and,
- Assess ESC measures before and after significant rainfall and snowmelt events.
- All repairs required to ESC measures will be completed within 48 hours of notice unless otherwise agreed by the Contractor, the regulatory authority and the environmental inspector(s). Stockpiles are to be protected immediately and, if placed for longer than 30 days, temporarily stabilized.

7.2.3 Restoration Planting

As the proposed development limits are currently comprised of cultural communities (i.e. primarily agricultural fields), it is recommended that the lands located within the valleyland and woodland MVPZs, and within the Greenbelt NHS designation be planted in order to enhance their buffer/protective functions for the adjacent natural heritage features. It is recommended that plantings ultimately aim to extend the Significant Woodland communities. Should this occur, the woodlands will be widened meaningfully. A complete restoration plan would follow at project detailed design.

It is recommended that these areas be seeded and planted to buffer the valleyland and woodland natural features from the development (**Figure 3**). This includes lands within Blocks 14, 15, 16, 17, and partially within Block 13. It is SLR's understanding that, as of the date of this report, no seed mix guidelines have been produced by CLOCA. The setback could be seeded at a rate of 25 kgs/ha with a native valleyland seed mix that aligns with the TRCA *Seed Mix Guidelines* (Toronto and Region Conservation Authority, 2022). A nurse crop of Common Oats (*Avena sativa*) or Buckwheat (*Fagopyrum esculentu*) at a rate of 25 kgs/ha can also be used. A recommended valleyland seed mix includes:

- Canada Wild Rye (*Elymus canadensis*) – 20%
- Switchgrass (*Panicum virgatum*) – 20%
- Fowl Bluegrass (*Poa palustris*) – 20%
- Big Bluestem (*Andropogon gerardii*) – 10%
- Little Bluestem (*Andropogon scoparius*) – 10%
- Fox Sedge (*Carex vulpinoidea*) – 10%
- Indiangrass (*Sorghatum nutans*) – 10%

Subsequently, following the Enhanced Reforestation Typicals within the *Guideline for Determining Ecosystem Compensation* (Toronto and Region Conservation Authority, 2018) as a guide, the Valley/Woodland setback is to be planted with trees at a density of 2.45 m x 2.45 m (6 m^2), and shrubs at a 1 m x 1 m (1 m^2) spacing. Tree species are recommended be native to CLOCA's watershed, and targeted to provide native, resilient vegetation. Plantings should suit the existing vegetation assemblage and site conditions. Based on existing site conditions, suitable woody species may include (but are not limited to):

- Eastern Hemlock (*Tsuga canadensis*)
- Black Cherry (*Prunus serotina*)
- Sugar Maple (*Acer saccharum*)
- Trembling Aspen (*Populus tremuloides*)
- Alternate-leaved Dogwood (*Cornus alternifolia*)

8.0 Policy Conformity

A summary of applicable natural heritage policies and the manner in which the proposed development plan meets their requirements is provided in **Table 6**. With the implementation of the mitigation, there are negligible predicted negative impacts to the natural heritage features, or their ecological functions, observed within and surrounding the Subject Property.

Table 5: Policy Conformity

Policy Document	Policy Intent/Objective	Implications and Policy Conformity
Migratory Birds Convention Act	*The Migratory Birds Convention Act* (MBCA), 1994 and Migratory Birds Regulations (MBR), 2014 protect most species of migratory birds and their nests	Vegetation removal should be completed between September 1st and March 31st of any given year, or nesting surveys undertaken.
Endangered Species Act	Species designated as Endangered or Threatened by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk in Ontario (SARO). These species at risk (SAR) and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation and migration) are afforded legal protection under the *Endangered Species Act* (ESA).	Based on the initial SAR screening and subsequent field studies, removal of limited SAR bat treed habitat is currently proposed. The timing window outlined in Section 7.1 may be sufficient to avoid potential contravention of the Act. To address all provisions under the ESA, SLR is actively seeking a Letter of Assurance from the MECP. Consultation is ongoing.
Greenbelt Plan	The Greenbelt Plan aims to identify optimal areas for urbanization, while protecting agricultural land use, as well as natural heritage and hydrological features.	No encroachments into KNHFs/KHFs on the Subject Property are proposed. Encroachments into the Greenbelt Natural Heritage System and associated KNHFs/KHFs MVPZs are proposed to accommodate municipal and future regional roadways. Otherwise, the Greenbelt Natural Heritage System largely governs the proposed development limits.
Provincial Planning Statement	Direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features.	There are Significant Woodlands, Significant Valleylands, and Intermittent and Permanent Watercourses found on and adjacent to the Subject Property. MECP will continue to be consulted regarding Threatened and Endangered species.
Region of Durham Official Plan	Greenlands System encapsulates Key Natural Heritage Features (KNHF) and Key Hydrological Features (KHF). Development or site alteration within the Regional Greenlands System shall be accompanied by an Environmental Impact Study (EIS).	The north and south natural heritage blocks include KNHFs/KHFs as part of the Greenlands System. With the implementation of MVPZs to be preserved and mitigation measures recommended in this report, impacts to KNHF/KHFs can be mitigated. Encroachments into feature MVPZs are currently proposed to accommodate municipal roads. Generally, the development plan conforms to the policies of the Durham Regional Official Plan.
City of Oshawa Official Plan	The City of Oshawa has identified KNHFs/KHFs that form the basis of the City's Natural Heritage System.	The Subject Property partially falls within the Natural Heritage System and Hazard lands identified in Schedules D-1 and F1-

Policy Document	Policy Intent/Objective	Implications and Policy Conformity
	City policies require the protection of KNHFs and KHFs from development.	A. Therefore, natural features are considered KNHFs/KHFs and are subject to City policies. MVPZs have been applied to KNHFs/KHFs on the Subject Property. Encroachments within MVPZs are currently proposed to accommodate municipal roads. Mitigations are recommended in Section 7.0.
Central Lake Ontario Conservation Authority (CLOCA)	CLOCA regulates activities to wetlands, watercourses and shorelines as well as areas adjacent lands (O Reg 41/24).	The north and south watercourse corridors on the Subject Property are associated with Oshawa Creek and are within CLOCA regulated lands. Under O. Reg 41/24, a permit will be required prior to development.

9.0 Conclusion

The findings of this EIS are the result of a background review, field investigations and an assessment of ecological data, as well as the current natural heritage policy requirements. We have identified the natural environmental sensitivities which could be associated with future development. The Subject Property consists of primarily anthropogenically influenced vegetation communities. The property is also partially within the Greenbelt Natural Heritage System which in turn contains significant woodland communities, fish habitat, significant valleylands, unevaluated wetlands, an intermittent watercourse, and a permanent watercourse (Oshawa Creek and associated tributary). Appropriate timing windows have been outlined and prescriptive setbacks applied to on-site natural features.

Municipal Street 1 and 2 will encroach into one part of the north Significant Valleyland and Woodland MVPZs, but not the features themselves.

Should the MVPZs and Greenbelt Plan areas be naturally restored, as is our recommendation, the natural features will in time be notably larger.

Based on the findings and recommendations of this study to date, it is our professional opinion that with the implementation of the mitigation measures provided in this report, the proposed development plan is environmentally feasible.

10.0 Closure

This report was prepared, reviewed, and approved by the undersigned.

Regards,

SLR Consulting (Canada) Ltd.

Karisa Tyler, M.Sc.
Ecologist

Rosalind Chaundy, M.Sc.F.
Senior Ecologist

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Appendix A Agency Correspondance

Environmental Impact Study

2860 Thornton Road North, City of Oshawa, Durham Region

407AT7 Centre Inc. c/o RG Consulting Inc.

SLR Project No.: 244.024498.00000

October 2, 2025

July 12, 2024

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Re: Proposed Terms of Reference (TOR) for an Environmental Impact Study (EIS) for 2860 Thornton Road North in Oshawa, ON (Palmer #2403801)

Palmer is pleased to provide the following Terms of Reference for completion of an Environmental Impact Study (EIS) at the above-referenced site (the "Subject Property"), located in Oshawa, Ontario (**Map A**). The Subject Property is located at the northwest corner of Thornton Road North and Winchester Road West. The Subject Property occurs within the planning area of the Central Lake Ontario Conservation Authority (CLOCA) and contains Regulated Lands in the northern and southern portions of the property.

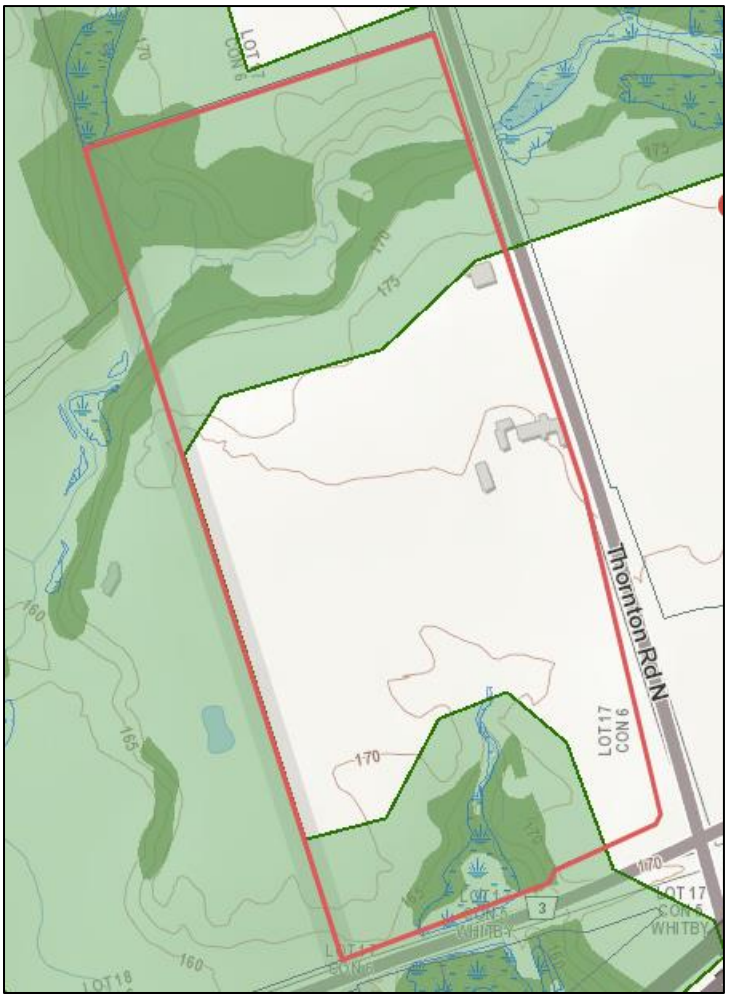
It is Palmer's understanding that the EIS is required as part of a Plan of Subdivision submission.

Map A: Subject Property (boundaries in red) at the northwest corner of Thornton Road North and Winchester Road West in Oshawa, Ontario.

Following a preliminary review of regulatory agency mapping and background information, Palmer has identified the following natural heritage features on and adjacent to the Subject Property:

- Woodland areas on the Subject Property, which will need to be assessed (**Map B**);
- Wetland areas on the Subject Property that will need to be assessed (**Map B**);
- Watercourses on the Subject Property that will need to be assessed (**Map B**);
- Initial screening for Species at Risk (SAR) identified potential species on and/or adjacent to the Subject Property that are considered *Endangered* and *Threatened* under *the Endangered Species Act* (2007).

The EIS and will be completed to confirm and refine existing natural features and will assess the potential impacts of the proposed development on the natural heritage features.



Map B: Natural Heritage Information Centre (NHIC) – Mapping showing woodlands (dark green layer), unevaluated wetlands (blue patterned layer), and watercourses (blue lines) on and adjacent to the Subject Property (boundaries in red). A portion of the Subject Property is also within the Greenbelt Natural Heritage System (light green layer with dark green boundary).

Scope of Work

The proposed work plan for completion of the EIS consists of the key task items, as described below.

Task 1 – Background Review

A thorough background review will be conducted to initiate the study. Documents to review will include background information relating to the Subject Property's biological and physical resources, including records for SAR. Natural heritage mapping and associated environmental policies at the provincial, regional, and local levels will be identified. We will also consult with the City of Oshawa (the City), CLOCA, and other provincial agencies regarding any other natural heritage related records (including SAR) pertaining to the Subject Property.

Task 2 – Project Specific Terms of Reference (TOR) & Agency Consultation (including Feature Staking)

This TOR represents the initiation of agency consultation for this project. Review of this TOR will ensure that the scope will meet the review requirements of the applicable agencies.

As part of the agency consultation process, Palmer proposes to attend one on-site meeting with the agencies (and proponent should they chose to attend) to stake appropriate natural features (i.e., woodland driplines, wetlands, top of bank). This meeting will occur in the summer of 2024 and will provide an opportunity for an on-site discussion of the proposed development and potential issues to address in advance of the EIS submission. Policy requirements and limits of natural features will inform necessary buffers and setback positioning from these features which will in turn be incorporated into the proposed development plan for the Subject Property.

Task 3 – Field Investigations

The objective of the field investigations is to provide site-specific information as part of the assessment of the feasibility of the proposed development configuration. The scope of field surveys will cover all the natural features on and adjacent to the Subject Property but will focus on the areas noted as requiring further study identified through background review. Due to the seasonality of ecological fieldwork surveys, and the breeding timing windows for various species, many of the surveys listed below have already been completed in the spring/summer of 2024:

- *Bat Habitat (Snag) Survey (Early Spring024)*
  - Isolated trees were screened for the presence/absence of SAR bat habitat, as were all structures on the Subject Property. Palmer followed Ministry of Natural Resources and Forestry (MNRF) standardized protocol and completed a snag tree survey to assess the quality of potential maternity roost habitat. This screening was completed during leaf-off conditions so that the tree features could be examined.
  - Bat acoustic monitoring and bat exit surveys were completed on identified snag trees and structures that could be potential bat habitat. These surveys were completed in June and early July, as per approved protocols, and results will be provided to the Ministry of Environment, Conservation and Parks (MECP).

- *Ecological Communities Assessment (Spring/Summer 2024)*
  - Two ecological and botanical field surveys have been scheduled; one was completed during the spring of 2024 and the other will be completed during the summer of 2024. The on-site ecological communities were confirmed and refined in accordance with Ecological Land Classification of Southern Ontario (ELC) protocols. Vegetation surveys were completed to inventory and further delineate existing vegetation communities. These surveys included an inventory of plant species, documentation of ecological features and their functions, and observations of incidental wildlife within these communities.

- *Breeding Bird Surveys (Spring/Summer 2024)*
  - Three standard early morning breeding bird surveys were completed between late May and early July of 2024. Two surveys are the standard protocol for EIS' and a third was required as per provincial requirements for potential grassland SAR birds (i.e., Bobolink).

- *Amphibian Surveys (Spring/Summer 2024)*
  - Due to the presence of a wetlands on the Subject Property, amphibian surveys were carried out following Marsh Monitoring Program protocols. Surveys were completed in April, May, and June respectively.

- *Headwater Drainage Feature (HDF) Assessment (Spring 2024)*
  - CLOCA Regulated Lands mapping and historical aerial photographs of the Subject Property were indicative of an HDF between the residence and the southern woodland/wetland. Consequently, this feature was assessed according to standard protocol (Evaluation, Classification and Management of Headwater Drainage Features Guidelines (CVC and TRCA, 2014)), in which two seasonally appropriate field visit surveys were conducted.

- *SAR Habitat and Significant Wildlife Habitat (SWH) Screening and Assessments*
  - A SAR assessment for potential habitat opportunities or occurrences of the species within or adjacent to the Subject Property will be completed. Assessments will be completed using the vegetation community data collected during field visits and by noting suitable habitat or indications of potential habitat opportunities recorded during the site visits.
  - A SWH assessment will be completed using a combination of ELC mapping, appropriate provincial Ecoregion Criteria Schedules, and professional experience.

<u>Task 4 – Impact Assessment and EIS Reporting</u>

The following components will be addressed as part of the EIS:

- Documentation of existing conditions and associated constraints and opportunities.
- Review and summary of applicable environmental policies and regulatory requirements.
- Confirmation of the development limits and appropriate setbacks.
- Impact assessment in relation to the proposed development.
- Identification of appropriate mitigation measures; and
- Project conformity with applicable environmental policies and regulatory requirements.

An impact assessment of the proposed development will be completed in the context of the ecological constraints and applicable environmental policies.

Closing

We trust that this TOR document, as outlined above, meets the requirements of the CLOCA and the City of Oshawa for the preparation of an EIS for the property at 2860 Thornton Road North in Oshawa, Ontario. A response to this TOR is respectfully requested so the that reporting of the EIS can proceed with confidence that it will address your concerns for the Subject Property. Please feel free to contact Jesse Snider at 905-806-3571 or jesse.snider@pecg.ca should you have any questions regarding this TOR document.

Yours truly,

Prepared By:

Jesse Snider, B.Sc., EPt
Project Manager, Ecology & Biodiversity

Approved By:

Austin Adams, M.Sc., EP
Technical Director, Arboriculture and Sr. Ecologist

Appendix B Flora List

Environmental Impact Study

2860 Thornton Road North, City of Oshawa, Durham Region

407AT7 Centre Inc. c/o RG Consulting Inc.

SLR Project No.: 244.024498.00000

October 2, 2025

Family	Scientific Name	Common Name	S Rank	COSEWIC Status	SAR Schedule 1 Status	SARO Status	Coefficient of Conservatism	Coefficient of Wetness	Durham Rarity
Aceraceae	*Acer negundo*	Manitoba Maple	S5				0	0	
Aceraceae	*Acer platanoides*	Norway Maple	SNA					5	
Aceraceae	*Acer rubrum*	Red Maple	S5				4	0	
Aceraceae	*Acer saccharum*	Sugar Maple	S5				4	3	
Anacardiaceae	*Rhus typhina*	Staghorn Sumac	S5				1	3	
Apiaceae	*Cryptotaenia canadensis*	Canada Honewort	S5				5	0	
Apiaceae	*Daucus carota*	Wild Carrot	SNA					5	
Apocynaceae	*Asclepias syriaca*	Common Milkweed	S5				0	5	
Apocynaceae	*Vincetoxicum rossicum*	European Swallowwort	SNA					5	
Araceae	*Arisaema triphyllum*	Jack-in-the-pulpit	S5				5	-3	
Asteraceae	*Achillea millefolium*	Common Yarrow	SNA					3	
Asteraceae	*Arctium lappa*	Great Burdock	SNA					3	
Asteraceae	*Arctium minus*	Common Burdock	SNA					3	
Asteraceae	*Aster sp.*	Aster Species							
Asteraceae	*Cirsium arvense*	Canada Thistle	SNA					3	
Asteraceae	*Erigeron philadelphicus*	Philadelphia Fleabane	S5				1	-3	
Asteraceae	*Eutrochium maculatum*	Spotted Joe Pye Weed	S5				3	-5	
Asteraceae	*Leucanthemum vulgare*	Oxeye Daisy	SNA					5	
Asteraceae	*Solidago flexicaulis*	Zigzag Goldenrod	S5				6	3	
Asteraceae	*Solidago gigantea*	Giant Goldenrod	S5				4	-3	
Asteraceae	*Solidago sp.*	Goldenrod Species							
Asteraceae	*Symphyotrichum cordifolium*	Heart-leaved Aster	S5				5	5	
Asteraceae	*Symphyotrichum ericoides*	White Heath Aster	S5				4	3	
Asteraceae	*Symphyotrichum firmum*	Glossy-leaved Aster	S4?				4	-3	
Asteraceae	*Symphyotrichum lateriflorum*	Calico Aster	S5				3	0	
Asteraceae	*Symphyotrichum novae-angliae*	New England Aster	S5				2	-3	
Asteraceae	*Symphyotrichum puniceum*	Purple-stemmed Aster	S5				6	-5	
Asteraceae	*Taraxacum officinale*	Common Dandelion	SNA					3	
Asteraceae	*Tussilago farfara*	Coltsfoot	SNA					3	
Balsaminaceae	*Impatiens capensis*	Spotted Jewelweed	S5				4	-3	
Berberidaceae	*Podophyllum peltatum*	May-apple	S5				5	3	
Boraginaceae	*Myosotis scorpioides*	True Forget-me-not	SNA					-5	
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	SNA					0	
Brassicaceae	*Hesperis matronalis*	Dame's Rocket	SNA					3	
Brassicaceae	*Nasturtium officinale*	Watercress	SNA					-5	
Caprifoliaceae	*Lonicera sp.*	Honeysuckle Species							
Caprifoliaceae	*Viburnum opulus*	Cranberry Viburnum	S5				5	-3	
Cornaceae	*Cornus alternifolia*	Alternate-leaved Dogwood	S5				6	3	
Cucurbitaceae	*Echinocystis lobata*	Wild Cucumber	S5				3	-3	
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar	S5				4	-3	
Cyperaceae	*Carex hystericina*	Porcupine Sedge	S5				5	-5	
Cyperaceae	*Carex sp.*	Sedge Species							
Cyperaceae	*Schoenoplectus tabernaemontani*	Soft-stemmed Bulrush	S5				5	-5	
Cyperaceae	*Scirpus microcarpus*	Red-tinged Bulrush	S5				4	-5	U
Dryopteridaceae	*Cystopteris bulbifera*	Bulblet Bladder Fern	S5				5	-3	
Dryopteridaceae	*Matteuccia struthiopteris*	Ostrich Fern	S5				5	0	
Dryopteridaceae	*Onoclea sensibilis*	Sensitive Fern	S5				4	-3	
Equisetaceae	*Equisetum arvense*	Field Horsetail	S5				0	0	
Fabaceae	*Amphicarpaea bracteata*	American Hog-peanut	S5				4	0	
Fabaceae	*Lotus corniculatus*	Garden Bird's-foot Trefoil	SNA					3	
Fabaceae	*Medicago sativa*	Alfalfa	SNA					5	
Fabaceae	*Trifolium pratense*	Red Clover	SNA					3	
Fabaceae	*Trifolium repens*	White Clover	SNA					3	
Fabaceae	*Vicia cracca*	Tufted Vetch	SNA					5	
Juglandaceae	*Juglans nigra*	Black Walnut	S4?				5	3	U
Lamiaceae	*Glechoma hederacea*	Ground-ivy	SNA					3	
Lamiaceae	*Lycopus americanus*	American Water-horehound	S5				4	-5	
Liliaceae	*Allium tricoccum*	Wild Leek	S4				7	3	
Liliaceae	*Maianthemum sp.*	Solomon's Seal Species							

Family	Scientific Name	Common Name	S Rank	COSEWIC Status	SAR Schedule 1 Status	SARO Status	Coefficient of Conservatism	Coefficient of Wetness	Durham Rarity
Oleaceae	*Fraxinus pennsylvanica*	Red Ash	S4				3	-3	
Onagraceae	*Circaea canadensis*	Broad-leaved Enchanter's Nightshade	S5				2	3	
Onagraceae	*Oenothera biennis*	Common Evening-primrose	S5				0	3	
Pinaceae	*Picea abies*	Norway Spruce	SNA					5	
Plantaginaceae	*Plantago major*	Common Plantain	SNA					3	
Poaceae	*Bromus inermis*	Smooth Brome	SNA					5	
Poaceae	*Dactylis glomerata*	Orchard Grass	SNA					3	
Poaceae	*Lolium arundinaceum*	Tall Ryegrass	SNA					3	
Poaceae	*Phalaris arundinacea*	Reed Canarygrass	S5				0	-3	
Poaceae	*Phleum pratense*	Common Timothy	SNA					3	
Poaceae	*Phragmites australis*	Common Reed	S4?				0	-3	
Poaceae	*Poa compressa*	Canada Bluegrass	SNA					3	
Poaceae	*Poa pratensis*	Kentucky Bluegrass	S5				0	3	
Polygonaceae	*Rumex crispus*	Curled Dock	SNA					0	
Polygonaceae	*Rumex obtusifolius*	Bitter Dock	SNA					-3	
Primulaceae	*Lysimachia nummularia*	Creeping Yellow Loosestrife	SNA					-3	
Ranunculaceae	*Actaea rubra*	Red Baneberry	S5				6	3	
Ranunculaceae	*Anemonastrum canadense*	Canada Anemone	S5				3	-3	
Ranunculaceae	*Ranunculus acris*	Common Buttercup	SNA					0	
Rhamnaceae	*Rhamnus cathartica*	European Buckthorn	SNA					0	
Rosaceae	*Crataegus sp.*	Hawthorn Species							
Rosaceae	*Geum aleppicum*	Yellow Avens	S5				2	0	
Rosaceae	*Geum canadense*	Canada Avens	S5				3	0	
Rosaceae	*Malus pumila*	Common Apple	SNA					5	
Rosaceae	*Malus sp.*	Apple Species							
Rosaceae	*Prunus serotina*	Black Cherry	S5				3	3	
Rosaceae	*Prunus sp.*	Cherry Species							
Rosaceae	*Rosa multiflora*	Multiflora Rose	SNA					3	
Rosaceae	*Rubus idaeus*	Red Raspberry	S5				2	3	
Rosaceae	*Rubus occidentalis*	Black Raspberry	S5				2	5	
Rubiaceae	*Galium mollugo*	Smooth Bedstraw	SNA					5	
Salicaceae	*Populus balsamifera*	Balsam Poplar	S5				4	-3	
Salicaceae	*Salix sp.*	Willow Species							
Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade	SNA					0	
Tiliaceae	*Tilia americana*	Basswood	S5				4	3	
Typhaceae	*Typha latifolia*	Broad-leaved Cattail	S5				1	-5	
Ulmaceae	*Ulmus americana*	White Elm	S5				3	-3	
Urticaceae	*Urtica dioica ssp. gracilis*	Slender Stinging Nettle	S5				2	0	
Verbenaceae	*Verbena hastata*	Blue Vervain	S5				4	-3	
Violaceae	*Viola sp.*	Violet Species							
Vitaceae	*Parthenocissus quinquefolia*	Virginia Creeper	S4?				6	3	
Vitaceae	*Vitis riparia*	Riverbank Grape	S5				0	0	

LEGEND	
SRANK	**Provincial Status:** Provincial ranks are used by the NHIC to set protection priorities for rare species and natural communities. These ranks are not legal generally uncommon to common in the province. Species ranked S1-S3 are considered to be rare in Ontario. designations. S4 and S5 species are generally uncommon to common in the province. Species ranked S1-S3 are considered to be rare in Ontario.
S1 Critically Imperiled	Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
S2 Imperiled	Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
S3 Vulnerable	Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 Apparently Secure	Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 Secure	Common, widespread, and abundant in the nation or state/province.
SU Unrankable	Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA Unranked	A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
SX Presumed Extirpated	Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SH Possibly Extirpated (Historica	Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered.
SE# Exotic Status	
S#? Rank Uncertain	

Ontario Ministry of Natural Resources (OMNR). 2018. Natural Heritage Information Centre Species Lists. Last updated January 30, 2018. https://www.ontario.ca/page/get-natural-heritage-information

COSSARO	
END Endangered	A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.
THR Threatened	A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
SC Special Concern	A species with characteristics that make it sensitive to human activities or natural events.
DD Data Deficient	
EXP Extirpated	A species that no longer exists in the wild in Ontario but still occurs elsewhere.

Ontario Ministry of Natural Resources and Forestry (2018). Species Risk in Ontario. Last updated UNE 28, 2018. https://www.ontario.ca/environment-and-energy/species-risk-type

COSEWIC	
END Endangered	A wildlife species facing imminent extirpation or extinction.
THR Threatened	A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
SC Special Concern	A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
VUL Vulenerable	
NAR Not at Risk	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
DD Data Deficient	A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
NA Non-active	
XT Extirpated	A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

Committee for the Status on Endangered Wildlife in Canada (COSEWIC). 2018. Canadian Wildlife Species at Risk. Last updated February 22, 2018. http://www.sararegistry.gc.ca/sar/index/default_e.cfm

Coefficient of Conservation

'Higher values of the coefficients of conservatism, on the scale of 1–10, indicate species that are more "conservative" (or ecologically sensitive), including those least associated with anthropogenic disturbance, least aggressive, least able to spread, and most confined to particular natural habitat' (Catling

Catling, Paul M. 2013. Using Coefficients of Conservatism and the Floristic Quality Index to assess the potential for serious and irreversible damage to plant communities. Canadian Field-Naturalist 127(3): 285–288.

Coefficient of Wetness

5 - Almost always occur on upland; 3 - Usually occur on uplands; 0 - Found on uplands and in wetlands; -3 Usually occur in wetlands; -5 Almost always occur in wetlands

Floristic Assessment System for Southern Ontario (Oldham et al, 1995).

Appendix C Breeding Bird List

Environmental Impact Study

2860 Thornton Road North, City of Oshawa, Durham Region

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SLR Project No.: 244.024498.00000

October 2, 2025

Breeding Season Birds of 2860 Thornton Road North

Common Name	Scientific Name	Status				Number of Pairs/Territories		
		National Species at Risk COSEWIC [a]	Species at Risk in Ontario Listing [a]	Provincial breeding season SRANK [b]	Area-sensitive (OMNR) [c]	Forest	Wetland	Cultural
Killdeer	*Charadrius vociferus*			S5				1
Northern Flicker	*Colaptes auratus*			S4		1		
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4		2		
Great Crested Flycatcher	*Myiarchus crinitus*			S4		1		
Barn Swallow	*Hirundo rustica*	SC	SC	S4				4 - 5 nests
Blue Jay	*Cyanocitta cristata*			S5		1	1	
American Crow	*Corvus brachyrhynchos*			S5		2		1
Black-capped Chickadee	*Poecile atricapillus*			S5		3		
White-breasted Nuthatch	*Sitta carolinensis*			S5	A	1		
American Robin	*Turdus migratorius*			S5				7
Cedar Waxwing	*Bombycilla cedrorum*			S5				1
European Starling	*Sturnus vulgaris*			SE				4
Red-eyed Vireo	*Vireo olivaceus*			S5		2		
Magnolia Warbler	*Setophaga magnolia*			S5	A	1		
Black-throated Green Warbler	*Setophaga virens*			S5	A	1		
Black-and-white Warbler	*Mniotilta varia*			S5	A	1		
American Redstart	*Setophaga ruticilla*			S5	A	2		
Common Yellowthroat	*Geothlypis trichas*			S5			1	
Northern Cardinal	*Cardinalis cardinalis*			S5			1	1
Rose-breasted Grosbeak	*Pheucticus ludovicianus*			S4		1		
Indigo Bunting	*Passerina cyanea*			S4				1
Savannah Sparrow	*Passerculus sandwichensis*			S4	A			4
Song Sparrow	*Melospiza melodia*			S5			1	12
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4	A			1 (x)
Red-winged Blackbird	*Agelaius phoeniceus*			S4			3	9
Common Grackle	*Quiscalus quiscula*			S5				1
Brown-headed Cowbird	*Molothrus ater*			S5				1
Baltimore Oriole	*Icterus galbula*			S4		1		
American Goldfinch	*Spinus tristis*			S5			1	4
House Sparrow	*Passer domesticus*			SE				2

x = individual flying over and not considered a breeding species

Field Work Conducted On:	Date	Temp (°C)	Wind Speed (km/h)	Cloud Cover (%)	Start time	End time
Site visit 1	5-Jun-24	16	<5	5	5:50	8:30
Site visit 2	25-Jun-24	16	5	50	6:45	9:30
Site visit 3	5-Jul-24	23	8	0	7:30	8:20

Location 1 - Tree habitats including deciduous and coniferous forest
Location 2 - Wetland habitats including marsh and swamp communities
Location 3 - Cultural habitats including agriculture, meadow and anthropogenic

Number of Species: 30
Number of (provincial and national) Species at Risk: 3 total: 2 species foraging and 1 species with probable breeding evidence
Number of S1 to S3 (provincially rare) Species: 0
Number of Area-sensitive Species: 7

KEY
a COSEWIC = Committee on the Status of Endangered Wildlife in Canada
a Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)
END = Endangered, THR = Threatened, SC = Special Concern

[b] SRANK (from Natural Heritage Information Centre) for breeding status if:
S1 (Critically Imperiled), S2 (Imperiled),S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)
SZB (breeding migrants or vagrants) and SR (reported as breeding, but no persuasive documentation) .
SE (exotic, i.e. non-native)

c Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

Appendix D Species at Risk Screening

Environmental Impact Study

2860 Thornton Road North, City of Oshawa, Durham Region

407AT7 Centre Inc. c/o RG Consulting Inc.

SLR Project No.: 244.024498.00000

October 2, 2025

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AVIFAUNA										
Bank Swallow (*Riparia riparia*)	THR	THR	THR	1	S4B	The Bank Swallow is threatened by loss of breeding and foraging habitat, destruction of nesting habitat and widespread pesticide use. Bank swallows are small songbirds with brown upperparts, white underparts and a distinctive dark breast band. It averages 12 cm long and weighs between 10 and 18 grams. The swallow can be distinguished in flight from other swallows by its quick, erratic wing beats and its almost constant buzzy, chattering vocalizations. They nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposit, including banks of rivers and lakes, active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	No large, vertical faces (i.e., cliffs or steep riverbanks) are noted on the Subject Property.	NA
Barn Swallow (*Hirundo rustica*)	THR	SC	SC	1	S4B	The Barn Swallow is a threatened species, is found throughout southern Ontario, and can range into the north as long as suitable nesting locations can be found. These birds prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud; they are typically attached to horizontal beams or vertical walls underneath an overhang. A significant decline in populations of this species has been documented since the mid-1980s, which is thought to be related to a decline in prey. Since the Barn Swallow is an aerial insectivore, this species relies on the presence of flying insects at specific times during the year. Changes in building practices and materials may also be having an impact on this species (Ministry of Natural Resources and Forestry, 2015).	OBBA	Y	Active nests were observed were observed within one shed on the Subject Property.	Special Concern species are not protected under the ESA, but may be protected as SWH. In this case, not considered SWH, but nest removal must be in conformity with MBCA.
Bobolink (*Dolichonyx oryzivorus*)	THR	THR	SC	1	S4B	The Bobolink is found in grasslands and hayfields, and feeds and nests on the ground. This species is widely distributed across most of Ontario; however, are designated at risk because of rapid population decline over the last 50 years (Ministry of Natural Resources and Forestry, 2014). The historical habitat of the bobolink was tallgrass prairie and other natural open meadow communities; however, as a result of the clearing of native prairies and the post-colonial increase in agriculture, bobolinks are now widely found in hayfields. Due to their reproductive cycle, nesting habits, and use of agricultural areas, bobolink nests and young are particularly vulnerable to loss as a result of common agricultural practices (i.e. first cut hay).	OBBA, NHIC	N	Species observed flying overhead and species not considered a breeding species.	NA
Canada Warbler (*Cardellina canadensis*)	THR	SC	SC	1	S5B	The Canada Warbler is found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. This species can also be locally abundant in regenerating forests following natural or anthropogenic disturbances. Nests are usually located on or near the ground on mossy logs, and along stream banks. In Canada, habitat loss due to conversion of swamp forests, agricultural activities and road development have contributed to the species' significant long-term decline, and its special concern designation. A reduction in forests with a well-developed shrub-layer has also likely impacted Canada warblers throughout their breeding range in Ontario (Committee on the Status of Endangered Wildlife in Canada, 2008).	OBBA	N	Species not recorded within the forested communities on or adjacent to the Subject Property.	NA
Chimney Swift (*Chaetura pelagica*)	THR	THR	THR	1	S3B	The Chimney Swift is a threatened species which breeds in Ontario and winters in northwestern South America. It is found mostly near urban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow tress. The Chimney Swift initially benefitted from human settlement; however, recent declines in flying insects and the modernization of chimneys are factors attributed to their current population declines. As a threatened species, the Chimney Swift receives protection for both species and habitat under the ESA (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	Suitable structures are not present on the Subject Property.	NA
Common Nighthawk (*Chordeiles minor*)	SC	SC	SC	1	S4B	The Common Nighthawk is an extremely well camouflaged bird that inhabits gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailings areas, cultivated fields, urban parks, gravel roads, and orchards. As an insectivore, the primary threat to this species is the widespread application of pesticides (Ministry of Natural Resources and Forestry, 2015). Special concern species do not receive habitat protection under the ESA.	OBBA	N	Suitable gravel beach, rock outcrops, and burned woodland communities were not noted on or adjacent to the Subject Property.	NA
Eastern Meadowlark (*Sturnella magna*)	THR	THR	THR	1	S4B,S3N	The Eastern Meadowlark is a bird that prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields and human use areas such as airports and roadsides. Eastern meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses. The decline in population of these species is thought to be at least partially related to habitat destruction and agricultural practices (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	Species not observed during breeding bird surveys.	NA

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Wood-Pewee (*Contopus virens*)	SC	SC	SC	1	S4B	The Eastern Wood-pewee is classified as a species of special concern by COSSARO. Their population has been gradually declining since the mid-1960's (The Cornell Lab of Ornithology, 2015). The Eastern Wood-pewee is a "flycatcher", a bird that eats flying insects, that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation. Threats to the population are largely unknown; however, causes may include loss of habitat due to urban development and decreases in the availability of flying insect prey (Ministry of Natural Resources and Forestry, 2014).	OBBA, NHIC	Y	Two individuals were recorded within the forested communities on the Subject Property and one individual on adjacent lands.	Special Concern species are not protected under the ESA,, but may be protected as SWH..
Evening Grosbeak (*Coccothraustes vespertinus*)	SC	SC	SC	1	S4	The Evening Grosbeak nests in coniferous-dominated forests across northern Ontario, as far south as the Georgian Bay. It depends heavily on Spruce Budworm as its main food source. Potential threats to this species include window strikes, habitat loss from forestry, climate change impacts on habitat, collisions with vehicles, and budworm control measures.	OBBA	N	Species not recorded within the forested communities on or adjacent to the Subject Property.	NA
Grasshopper Sparrow (*Ammodramus savannarum*)	SC	SC	SC	1	S4B	Grasshopper Sparrow are specialized to open relatively short grassland habitat, preferably grasslands with relatively sparse cover such as those in areas of poor soils, including alvars, moraines, and sand plains and generally does not favour tall grass moist meadows. It will also breed in manmade hayfields and occasionally in cereals such as Rye (*Secale cereale*).	OBBA	N	Suitable habitats (dry fields ,alvar, moraines, and sandy plains) are not present on or adjacent to the Subject Property.	NA
Least Bittern (*Ixobrychus exilis*)	THR	THR	THR	1	S4B	The Least Bittern prefers marshes and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. The smallest member of the heron family, least bitterns nest in marshes south of the Precambrian Shield in Ontario. Due to the location of the nests close to the water surface, least bittern nests are susceptible to damage as a result of wakes cast by recreational boats (Government of Canada, 2015).	OBBA	N	Suitable habitat not present and species not recorded within the wetland communities on or adjacent to the Subject Property.	NA
Louisiana Waterthrush (*Parkesia motacilla*)	THR	THR	THR	1	S2B	The Louisiana Waterthrush is a large member of the wood warbler family, and it typically found along fast moving streams and creeks, in deeply forested ravines. It nests along stream banks, in the roots of fallen trees, and under logs and other large woody debris. Although less frequently, the Louisiana waterthrush has been known to inhabit heavily wooded, deciduous swamps and open water areas. Male and female individuals of this species are indistinguishable from each other in appearance, both having dull brown uppers with cream coloured lowers that are streaked with dark brown through the breast and flank. There is a prominent white stripe through and just above the eye, which is a distinguishing feature of this species. When walking, the waterthrush will flick its tail in a bobbing motion. Populations of this species in Ontario are at the northern extent of their range, found typically along the Niagara escarpment and in deep woodlands off the shores of Lake Erie. The most serious threat to this species is deforestation, and degraded water quality given their specific habitat requirements. Although never likely common in Ontario, populations overall are in a steady-state scenario, despite local declines in this province (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	Species not recorded within the wetland communities on or adjacent to the Subject Property.	NA
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	END	END	END	1	S3	The Red-headed Woodpecker is a medium-sized bird, with black and white colouring and a bright red head, neck, and breast. Adults often return to the same nesting site year after year. Between May and June, adults often return to the same nesting site and females lay from three to seven eggs. Habitat for the birds includes open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. The red-headed woodpecker is widespread across southern Ontario but rare (Ministry of Natural Resource and Forestry, 2014).	OBBA	N	Species not recorded within the forested communities on or adjacent to the Subject Property.	NA
Wood Thrush (*Hylocichla mustelina*)	THR	SC	THR	1	S4B	The Wood Thrush is a species of Special Concern because of habitat degradation or destruction by anthropogenic development. The Wood Thrush is a medium-sized songbird, generally rusty-brown on the upper parts with white under parts and large blackish spots on the breast and sides, and about 20 cm long. The Wood Thrush forages for food in leaf litter or on semi-bare ground, including larval and adult insects as well as plant material. They seek moist stands of trees with well-developed undergrowth in large mature deciduous and mixed (conifer-deciduous) forests. The Wood Thrush flies south to Mexico and Central America for the winter (Ministry of Natural Resources and Forestry, 2014).	OBBA	N	Species not recorded within the forested communities on or adjacent to the Subject Property.	NA
HERPTILES										

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Blanding's Turtle (*Emydoidea blandingii*)	END	THR	END	1	S3	Blanding's turtles are threatened in Ontario primarily as a result of habitat loss and fragmentation. Blanding's turtles spend the majority of their life cycle in the aquatic environment, using terrestrial sites for travel between habitat patches and to lay clutches of eggs. These turtles prefer shallow nutrient rich water with organic sediment and dense vegetation. Blanding's turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (Government of Canada, 2015).	ORAA	N	Species not recorded. Watercourse within the Subject Property does not provide suitable habitat.	NA
Snapping Turtle (*Chelydra serpentina*)	SC	SC	SC	1	S4	The snapping turtle is a species of special concern in Ontario due to the potential for the species to become threatened or endangered as a result of biological factors or other identified threats. While not presently protected by law, the snapping turtle has been recognized as a species of special concern by COSSARO. Snapping turtles spend the majority of their lives in water and travel slightly upland to gravel or sandy embankments or beaches to lay their eggs (Ontario Ministry of Natural Resources and Forestry, 2014).	ORAA, NHIC	P	Dead individual recorded on Winchester Road. Suitable habitat may be present within the swamp and marsh communities on the Subject Property, however the wetland communities will be protected with no impacts.	No direct impacts are anticipated. Increase in road kill may result from the proposed development and urbanization of the general area.
VASCULAR PLANTS										
Black Ash (*Fraxinus nigra*)	-	END	THR	-	S4	Found throughout Ontario in moist ecosystems; commonly found in northern swampy woodlands (MNRF 2018). This species typically grows on mucky or peaty soils and is considered a facultative wetland species (Reznicek et al. 2011).	Professional Experience	N	No individuals were observed on the Subject Property.	NA
Butternut (*Juglans cinerea*)	END	END	END	1	S2?	The butternut is designated as endangered by COSSARO and is tracked by the NHIC as a species at risk. The tree is federally regulated by the Species at Risk Act (2002). Butternut belongs to the walnut family and produces edible nuts which are a preferred food source for wildlife. The range of butternut trees is south of the Canadian Shield on soils derived from calcium rich limestone bedrock. Butternut trees, which at one time were much more common to the south extending to the northern aspect of zone 6E, have been declining due to factors including forest loss and disease. Butternut trees suffer from a highly transmissible fungal disease called butternut canker. Butternut canker is causing very rapid decline in this tree species across its native range. The fungal disease is easily transmitted by wind and is very difficult to prevent. Trees often die within a few years of infection by butternut canker (Ministry of Natural Resource and Forestry, 2014).	Professional Experience	N	No individuals were observed on the Subject Property.	NA
MAMMALS										
Eastern Red Bat (*Lasiurus borealis*)	-	END	END	-	S3	Eastern red bats roost in the foliage of deciduous or sometimes evergreen trees and occassionally in shrubs (Bat Conservation International, 2024; COSEWIC, 2024). Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. Their solitary roosting behaviour and well-camouflaged fur results in roosts being highly cryptic. Roost sites that have overhead foliage for cover and open flight space below are selected. Eastern red bats typically uses several trees during the breeding season (COSEWIC, 2024).	Professional Experience	P	Species was recorded with <50% confidence during the 2024 Bat Acoustic Detector survey.	Vegetation clearing (tree removals) should not occur between April 1 to September 30, to avoid the maternity roosting period for Endangered Bats. Further consultation with MECP is ongoing through submission of an IGF.
Hoary Bat (*Lasiurus cinereus*)	-	END	END	-	S3	Hoary bats roost solitarily among the foliage of trees, with preferences including maple, oak, ash, elder, hemlock, and redwood trees (Bat Conservation International, 2024). Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. There is little information regarding roost switching and roost area for Hoary Bats (COSEWIC, 2024).	Professional Experience	Y	Species was recorded with 100% confidenea during the 2024 Bat Acoustic Detector survey.	Vegetation clearing (tree removals) should not occur between April 1 to September 30, to avoid the maternity roosting period for Endangered Bats. Further consultation with MECP is ongoing through submission of an IGF.
Silver-haired Bat (*Lasionycteris noctivagans*)	-	END	END	-	S3	Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available. Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees. Frequent roost switching is common (COSEWIC, 2024).	Professional Experience	Y	Species was recorded with 100% confidenea during the 2024 Bat Acoustic Detector survey.	Vegetation clearing (tree removals) should not occur between April 1 to September 30, to avoid the maternity roosting period for Endangered Bats. Further consultation with MECP is ongoing through submission of an IGF.
Tri-colored Bat (*Perimyotis subflavus*)	END	END	END	1	S3?	Tri-colored Bat is a small bat that is widely distributed in eastern North America and whose range extends north to southern Ontario. Tri-colored Bat is rare in this region of Ontario which is at the northernmost limit of the natural range for the species. These bats prefer to nest in foliage, tree cavities and woodpecker holes, and are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bat feed primarily on small insects and prefer an open forest habitat type in proximity to water (University of Michigan Museum of Zoology, 2004).	Professional Experience	N	Species was not recorded during the 2024 Bat Acoustic Detector survey.	NA

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Small-footed Myotis (*Myotis leibii*)	-	END	-	-	S2S3	The eastern small-footed myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Eastern small-footed myotis' fur has black roots and shiny light brown tips, giving it a yellowish-brown appearance. Its face mask, ears and wings are black, and its underside is grayish-brown, about 8 cm long in size and weighs 4-5 grams. In the spring and summer, eastern small-footed myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects to eat, including beetles, mosquitos, moths, and flies. They hibernate in winter, often in caves and abandoned mines. They can be found from south of Georgian Bay to Lake Erie and east to the Pembroke area, and choose colder and drier sites (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	N	Species was not recorded during the 2024 Bat Acoustic Detector survey. Habitat for this species thought not to be present.	NA
Little Brown Myotis (*Myotis lucifugus*)	END	END	END	1	S3	Little brown myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Little brown myotis have glossy brown fur and usually weigh between four and 11 grams. Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown myotis hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing – an ideal environment for the fungus to grow and flourish. The syndrome affects bats by disrupting their hibernation cycle, so that they use up body fat supplies before the spring when they can once again find food sources (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	N	Species was not recorded during the 2024 Bat Acoustic Detector survey.	NA
Northern Myotis (*Myotis septentrionalis*)	END	END	END	1	S3	Northern myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Northern myotis have dull yellow-brown fur with pale grey bellies. They are approximately eight cm long, with a wingspan of about 25 cm, and usually weigh six to nine grams. Northern myotis can be found in boreal forests but occurs throughout southern Ontario to the north shore of Lake Superior and occasionally as far north as Moosonee. roosting under loose bark and in the cavities of trees. Northern Myotis roosts within tree crevices, hollows and under the bark of live and dead trees, particularly when trees are located within a forest gap. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	N	Species was not recorded during the 2024 Bat Acoustic Detector survey.	NA
FISH										
American Eel (*Anguilla rostrata*)	-	END	THR	-	S1S2	The American eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. American eel spawn in the Sargasso Sea and the larva drift up the eastern seaboard of North America before undergoing metamorphosis into glass eels and then elvars. At this stage the juveniles swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for eight (8) to 23 years before migrating back to their spawning grounds. In Ontario the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible. The greatest threat to this species is the density and design of hydro power facilities along migration routes. American eels are affected during migration by the inability to pass these barriers while travelling upstream, and the high rates of mortality experienced by individuals pulled into turbines while heading downstream (Government of Canada, 2016).	NHIC	N	Watercourse within the Subject Property does not provide suitable habitat.	NA
OTHER										
Monarch Butterfly (*Danaus plexippus*)	END	SC	END	1	S2N,S4B	The monarch is an orange and black butterfly with small white spots and is classified as a species of special concern by COSSARO. The monarch relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers. The greatest threat to the monarch is loss of overwintering habitat in Mexico. Other threats include use of pesticides and herbicides throughout its range (Ministry of Natural Resources and Forestry, 2014).	OBA	P	Minimal suitable habitat is present on the Subject Property given the extent of active agricultural communities.	None (Special Concern species are not protected under the ESA, but may be protected as SWH)

Notes:
SC - Special Concern
THR - Threatened
END - Endangered
S1 - Extremely rare in Ontario
S2 - Very rare in Ontario
S3 - Rare to uncommon in Ontario

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION

S4 - Considered to be common in Ontario
S5 - Species is widespread in Ontario
SH - Possibly extirpated
S#S# - Indicates insufficient information exists to assign a single rank.
S#? - Indicates some uncertainty with the classification due to insufficient data.
S#N - Nonbreeding
S#B - Breeding
Y= Yes, P = Potential, N = No
NHIC - Natural Heritage Information Centre
OBBA - Ontario Breeding Bird Atlas #2
ORAA - Ontario Reptile and Amphibian Atlas
OBA - Ontario Butterfly Atlas

Appendix E Significant Wildlife Habitat Screening

Environmental Impact Study

2860 Thornton Road North, City of Oshawa, Durham Region

407AT7 Centre Inc. c/o RG Consulting Inc.

SLR Project No.: 244.024498.00000

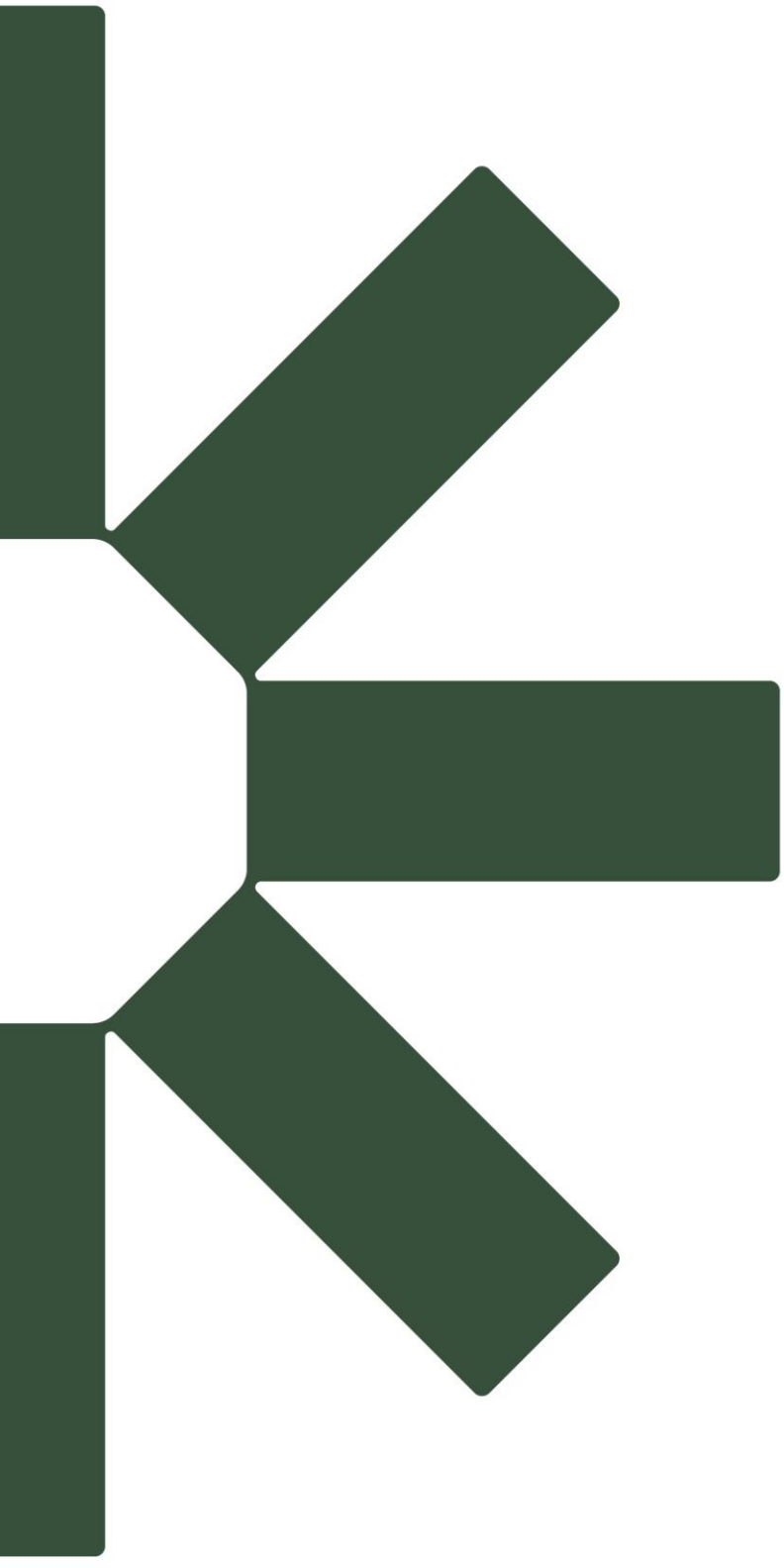
October 2, 2025

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Confirmed/Candidate/No)	Additional Notes and Species Observations
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Ducks	CUM + CUT ecosites	Fields with sheet-water flooding mid-March to May	No	Suitable habitat is not present.
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Ponds, Lakes, Inlets, Marshes, Swamps, Shallow Water Ecosites	Sewage & SWM ponds **not** SWH. Reservoir managed as a large wetland or pond/lake qualifies.	No	Suitable habitat is not present.
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Sewage treatment ponds and storm water ponds **not** SWH.	No	Shorelines are not present.
Raptor Wintering Area	Eagles, Hawks, Owls	**Hawks/Owls:** Combination of both Forest and Cultural Ecosites **Bald Eagle:** Forest or swamp near open water (hunting ground)	**Raptors:** >20ha, with a combo of forest and upland. Meadow (>15ha) with adjacent woodlands. **Eagles:** open water, large trees & snags for roosting.	No	Meadow habitat too small to be considered SWH
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, crevices, mines, karsts	Buildings and active mine sites **not** SWH.	No	Suitable habitat not present.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	Candidate	Potential habitat may be present within the natural heritage system corridors along the north and south property boundaries. These corridors and potential bat maternity habitat are protected from the proposed development.
Turtle Wintering Area	**Turtles** (Midland, N. Map, Snapping)	SW, MA, OA, SA, FEO, BOO (requires open waters)	**Free water beneath ice.** Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO.	Candidate	Potential habitat may be present within the shallow marsh along the southern property boundary. A Snapping Turtle mortality was observed along Winchester Road during SLR's 2024 surveys. The marsh community is protected from the proposed development.
Reptile Hibernaculum	Snakes	**Snakes:** Any ecosite (esp. w/ rocky areas), other than very wet ones. **Five-lined Skink:** FOD and FOM, FOC1, FOC3 - with rock outcrops	**Access below frost line:** burrows; **rock** crevices, piles or slopes, **stone** fences or foundations. Conifer/shrubby swamps/swales, poor fens, depressions in bedrock w/ accumulations of sphagnum moss or sedge hummock ground cover.	No	No direct or indirect evidence of reptile hibernacula was observed during the 2024 ecological investigations.
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, N. Rough-winged Swallow	Banks, sandy hills/piles, pits, slopes, cliff faces, bridge abutments, silos, barns.	Exposed soil banks, **not** a licensed/permitted aggregate area or new man-made features (2 yrs).	No	No suitable habitat present on the Subject Property.
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned NightHeron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 - 15 m from ground, near tree tops.	No	No colonies of herons or egrets observed; Green Heron not observed during breeding bird surveys/
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	**Gulls/Terns:** Rocky island or peninsula in lake or river. **Brewer's Blackbird:** close to watercourses in open fields or pastures with scattered trees or shrubs.	**Gulls/Terns:** islands or peninsulas with open water or marshy areas. **Brewers Blackbird colonies:** on the ground in low bushes close to streams and irrigation ditches.	No	No suitable habitat present on the Subject Property.
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, **Special Concern:** Monarch	Combination of open (CU) and forested (FO) ecosites (need one from each).	≥10 ha, located within 5 km of Lake Ontario. Undisturbed sites, with preferred nectar species.	No	Lack of sufficient meadow habitat and greater than 5 km from Lake Ontario.
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest (FO) and Swamp (SW) ecosites	Woodlots >10 ha within 5 km of Lake Ontario. If multiple woodlands are along the shoreline, those <2 km from L. Ontario are more significant.	No	Subject Property is greater than 5 km from Lake Ontario.
Deer Yarding Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	No	No habitat mapped by MNRF on the Subject Property.
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	No	No habitat mapped by MNRF on the Subject Property.
Rare Vegetation Communities					
Cliffs and Talus Slopes		TAO, TAS, CLO, CLS, TAT, CLT e.g., Niagara Escarpment (contact NEC)	**Cliff:** near vertical bedrock >3m **Talus Slope:** coarse rock rubble at the base of a cliff	No	Habitat not present on the Subject Property.
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to tree covered, but <60%. <50% vegetation cover are exotic species.	No	Habitat not present on the Subject Property.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Confirmed/Candidate/No)	Additional Notes and Species Observations
Alvar	*Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum,* Loggerhead Shrike	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. **Need 4 of the 5 Alvar Inidcator Spp**. <50% vegetation cover are exotic species.	No	Habitat not present on the Subject Property.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Confirmed/Candidate/No)	Additional Notes and Species Observations
Old Growth Forest	Trees >140 yrs; heavy mortaily = gaps. Multi-layer canopy, lots of snags and downed logs	FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas ≥30 ha with a≥10 ha interior habitat, assuming a 100 m buffer at edge of forest.	No	Habitat not present on the Subject Property.
Savannah	Prairie Grasses w/ trees	TPS1, TPS2, TPW1, TPW2, CUS2	A Savannah is a tallgrass prairie habitat that has tree cover of 25 – 60%. <50% cover of exotic species.	No	Habitat not present on the Subject Property.
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	An open Tallgrass Prairie habitat has < 25% tree cover. Less than 50% cover of exotic species.	No	Habitat not present on the Subject Property.
Other Rare Vegetation Communities		Provincially Rare S1 - S3 veg. comm. are listed in Appendix M of SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	No	Habitat not present on the Subject Property.
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4 (>0.5 ha open water wetlands, alone or collectively).	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40 cm dbh).	No	Suitable habitat of sufficient size is not present. No waterfowl observed on site.
Bald Eagle & Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water.	No	Unsuitable habitat (no large rivers or lakes) and neither species observed.
Woodland Raptor Nesting Habitat	Barred Owl. **Hawks:** N. Goshawk, Cooper's, Sharp-shinned, Red-shouldered, Broad-winged.	Forests (FO), swamps (SW), and conifer plantations	>30 ha with > 10 ha interior habitat.	Candidate	While forests are not large and none of the listed species observed (can be easily missed), there is potential for some species to occur.
Turtle Nesting Areas	Midland Painted Turtle **Special Concern:** Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches.	No	Suitable habitat not present. Habitat may be present along Winchester Road, however, just south of the Subject Property.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. (2+ seeps/springs is SWH)	No	Seeps and springs not present.
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders	FOC, FOM, FOD, SWC, SWM, SWD	Open water wetlands, pond or woodland pool of >500 m^2 within or adjacent to wooded areas. Permanent ponds or holding water until mid-July preferred.	No	Criteria for numbers of amphibian species not met.
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Open water wetland ecosites >500m^2 isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	No	Criteria for numbers of amphibian species not met.
Woodland Area-Sensitive Bird Breeding Habitat	Birds (area-sensitive species)	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands/woodlots >30 ha. Interior forest habitat >200m from forest edge.	No	Does not meet criteria (only one of the Ecoregion Criteria species is present).
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	Wetland Birds	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 **Green Heron**: SW, MA and CUM1	Wetlands with shallow water and emergent vegetation. Gr. Heron @ edges of these types w/ woody cover.	No	Does not meet criteria (none of the listed species are present, likely due to small size of marshes on site)
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, N. Harrier, Savannah Sparrow, **Short-eared Owl (SC)**	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	No	Does not meet criteria (only Savannah Sparrow is present (a species found in agricultural lands.
Shrub/Early Successional Bird Breeding Habitat	**Brown Thrasher + Clay-coloured Sparrow (indicators),** Field Sparrow, Black-billed Cuckoo, E. Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	No	None of liste Ecoregion Criteria are present and negligible shrublands.
Terrestrial Crayfish	Chimney or Digger Crayfish; Devil Crayfish or Meadow Crayfish	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM. CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish (typc. protected by wetland setbacks).	No	No evidence of species presence (i.e., chimneys) were observed during Palmer/SLR surveys.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Confirmed/Candidate/No)	Additional Notes and Species Observations
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species	Any ELC code.	Presence of species of concern or rare wildlife species.	Candidate or Confirmed depending on Species	Evidence of potential Snapping Turtle habitat within the southern natural heritage system corridor (Candidate). This is also covered under Turtle Wintering Habitat Two to three Eastern Wood-Pewees were recorded on and adjacent to the north woodland so is considered Confirmed SWH, despite being relatively common throughout Southern Ontario. All above suitable habitat is protected from the proposed development. Four to five active Barn Swallow nests in 3 structures are not considered either Candidate or Confirmed SWH.
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	No	Amphibian Breeding Habitat (Wetlands) not met.
Deer Movement	White-tailed Deer	all forested ecosites	When Deer Wintering Habitat confirmed	No	Deer Wintering Habitat is absent from the Subject Property.
Exceptions for Ecoregion 6E					
Mast Producing: 6E-14	Black Bear	Forested Ecosites	>30 ha w/ mast producing species: Cherry (berries), Oak, Beech (nuts).	No	Subject Property is out of range.
Leks: 6E-17	Sharp-tailed Grouse	CUM, CUS, CUT	Grassland/meadow >15 ha adjacent to shrublands, >30 ha adjacent to woodlands. Low agricultural intensity.	No	Subject Property is out of range.



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