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Environmental Impact Study (EIS) for 97 Bower St (Acton)

Town of Halton Hills, Ontario

SLR Project #
243.V24485.00000

Prepared For
Castlegrove Developments Inc.

.

October 31, 2025

October 31, 2025

Rob Bucci
Castlegrove Developments Inc.
211 Westcreek Drive, Suite 200
Woodbridge, Ontario (L4L 9T7)

Dear Bob Bucci:

Re:
Project #: 243.V24485.00000

Palmer (now SLR Consulting Inc., SLR) is pleased to submit the attached Environmental Impact Study (EIS) for the submission of a proposed development of a 5-storey mid-rise residential building located at 97 Bower Street in Acton, Ontario (the “Subject Property”). The EIS has been prepared to characterize the existing natural environmental conditions and identify environmental constraints and opportunities for the Subject Property, which is in the Low Density Residential Area designation in the Town of Halton Hills. The EIS also provides recommendations for mitigation and protection measures as part of the proposed submission.

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 region, as well as the current natural heritage policy requirements. Based on the findings and recommendations of the report, it is our opinion that with the implementation of the mitigation measures provided, that the proposed development is environmentally feasible and will have no net negative impacts to the natural environment. This conclusion is subject to implementation of all the EIS recommendations including the completion and approval of an enhancement and restoration plan, and consultation with the MECP. Please let us know if you have questions or comments on this submission.

Yours truly,

Dirk Janas, B.Sc.,
Technical Director, Terrestrial Ecology

Table of Contents

List of Figures

List of Tables

List of Appendices

1. Statement of Limitations

This report has been prepared by SLR Consulting (Canada) Ltd. (SLR) for Castlegrove Developments Inc. (Client) in accordance with the scope of work and all other terms and conditions of the agreement between such parties. SLR acknowledges and agrees that the Client may provide this report to government agencies, interest holders, and/or Indigenous communities as part of project planning or regulatory approval processes. Copying or distribution of this report, in whole or in part, for any other purpose other than as aforementioned is not permitted without the prior written consent of SLR.

Any findings, conclusions, recommendations, or designs provided in this report are based on conditions and criteria that existed at the time work was completed and the assumptions and qualifications set forth herein.

This report may contain data or information provided by third party sources on which SLR is entitled to rely without verification and SLR does not warranty the accuracy of any such data or information.

Nothing in this report constitutes a legal opinion nor does SLR make any representation as to compliance with any laws, rules, regulations, or policies established by federal, provincial territorial, or local government bodies, other than as specifically set forth in this report. Revisions to legislative or regulatory standards referred to in this report may be expected over time and, as a result, modifications to the findings, conclusions, or recommendations may be necessary.

2. Introduction

Palmer (now SLR) is pleased to provide this Environmental Impact Study (EIS) for 97 Bower Street, Town of Halton Hills, Halton Region (the ”Subject Property” – Figure 1).The Subject Property comprises of approximately 0.96 hectares (ha) and consists of areas of scattered trees, small woodland and anthropogenic lands in a residential area. A watercourse and associated riparian wetland are found off property to the northwest.

The objective of this EIS is to provide a background review, desktop analysis, and field surveys to assess the natural heritage features of the Subject Property, assess potential impacts from the proposed development, and provide mitigation measures were appropriate. It is SLR’s understanding that the project for the Subject Property is a proposed 5-storey mid-rise building (80 units) with underground parking (1-level) and surface parking, and a driveway, roundabout, sidewalks, outdoor greenspace, and landscaped areas.

LEGEND

Subject Property (0.96 ha)

Watercourse[1]

1. Geospatial Ontario (GEO)

Key Map

20 10 0 20 40 60 80

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:2,500
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: GC
Date: Oct 23, 2025

NORTH

Source Notes:
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CLIENT

Castlegrove Developments Inc

PROJECT

97 Bower St, Acton

TITLE

Site Location

SLR

REF. NO. 2402401-1-1

Figure 1

Document Path: G:_Projects\243\243_24485_97_Bower\1_Workspace\Task 2 - Ecology Figures\2402401-Ecology Figures.aprx

3. Policy Framework

Relevant planning policies, legislation, and regulatory requirements pertinent to this assessment are summarized in the following sections. The general relevance of these policies to the Subject Property is also noted. More detailed analysis of policy implications is provided in subsequent sections of this report where relevant.

3.1 Provincial Planning Statement (2024)

The Provincial Policy Statement, 2024 (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). Section 4.1 of the PPS defines ten types of Natural Heritage Features (NHF) and adjacent areas and provides planning policies for each. Of these NHF, 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 Environmental Impact Study (EIS) or similar document, 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 (ANSI);
- 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.

The Subject Property is within Ecoregion 6E (Crins, Gray, Uhlig, & Wester, 2009). As depicted on the Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) mapping (Ministry of Natural Resources, 2023), there is a woodland feature within and adjacent to the Subject Property (**Map A**). There are no designated areas such as Provincially Significant Wetland (PSW), coastal wetlands, or Areas of Natural and Scientific Interest (ANSI) on or adjacent to the Subject Property. The presence of

the other listed features is determined through municipal policy and/or field observations. The Subject Property does fall within the Greenbelt Plan Area.

Map A. NHIC Mapping - Subject Property (red outline) with adjacent woodland (dark green layer) and is within the Greenbelt Plan Area.

3.2 Halton Region Official Plan (2024 Office Consolidation)

The Subject Property occurs within the planning area for Halton Region. As of July 1, 2024, Halton Region is no longer a formal approval authority, rather a commenting agency. According to Map 1 in the OP, Regional Structure, The Subject Property is located within an Urban Area land designation (**Map B**). A railway corridor is north of the Subject Property. As seen in Map 1A, Provincial Plan Areas & Land Use Designations, the Subject Property is located within a Greenbelt Plan Protected Countryside Area. However, no key natural heritage features have been identified (**Map C**).

According to the OP, Regional Natural Heritage Systems:

115.3 *is a systems approach to protecting and enhancing natural features and functions and is scientifically structured on the basis of the following concepts:*

1. *Key Features, which include:*
    a. *Significant habitat of endangered and threatened species*
    b. *Significant wetlands*
    c. *Significant coastal wetlands*
    d. *Significant woodlands*
    e. *Significant valleylands*
    f. *Significant wildlife habitat*

g. Significant areas of natural and scientific interest
h. Fish habitat

2. Enhancements to the Key Features including Centres for Biodiversity
3. Linkages
4. Buffers
5. Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or a significant woodland
6. Wetlands other than those considered significant under section 115.3(1)(b)

139.11 *The purpose of the Key Features within the Greenbelt and Regional Natural Heritage Systems, as identified in Sections 115.3(1) and 139.3.3, and shown on Map 1G, is to assist in the implementation of permitted use policies in the Regional Natural Heritage System and the requirement for Environmental Impact Assessments, as well as to assist the Local Municipalities in developing detailed implementation policies for the Key Features of the Greenbelt Natural Heritage System in accordance with policies of the Greenbelt Plan and this Plan.*

According to Section 276.5 of the OP, "*significant woodlands are a woodland 0.5 ha or larger determined through a Watershed Plan, a Sub-watershed Study, or a site-specific Environmental Impact Assessment to meet one or more of the four following criteria:*

- *The Woodland contains forest patches over 99 years old*
- *The patch size of the Woodland is 2 ha or larger if it is located in the Urban Area, or 4 ha or larger if it is located outside the Urban Area but below the Escarpment Brow, or 10 ha or larger if it is located outside the Urban Area but above the Escarpment Brow*
- *The Woodland has an interior core area of 4 ha or larger, measured 100m from the edge, or*
- *The Woodland is wholly or partially within 50m of a major creek or certain headwater creek or within 150m of the Escarpment Brow"*

Map B. Regionality of Halton Map 1G. The Subject Property (approximate location denoted by the red circle) within the Urban Area land designation. There are no key features or enhancement areas present on the Subject Property (green layers)

Map C. Map 1A from the Halton OP. The Subject Property (approximate location denoted by the red circle) is within the Greenbelt Villages and Towns designation (layer not show). The property does not fall within the Natural Heritage System Area (green hatched layer)

3.3 Town of Halton Hills Official Plan (2024 Office Consolidation)

The Subject Property occurs within the planning area for the Town of Halton Hills and is subject to the policies of its official plan. According to Schedule A6 – Acton Urban Area Land Use Plan, the property is entirely classified as part of the "Low Density Residential Area" (Town of Halton Hills, 2024).

According to the OP, Low Density Residential Areas:

D1.3.1.1 *The main permitted uses for Low Density Residential Areas are:*

- *Single detached dwelling;*
- *Semi-detached dwellings; and*
- *Duplex dwellings.*

Further information with regards to regulations on land use in Low Density Residential Areas can be found within section D1.3.1 of the Towns OP.

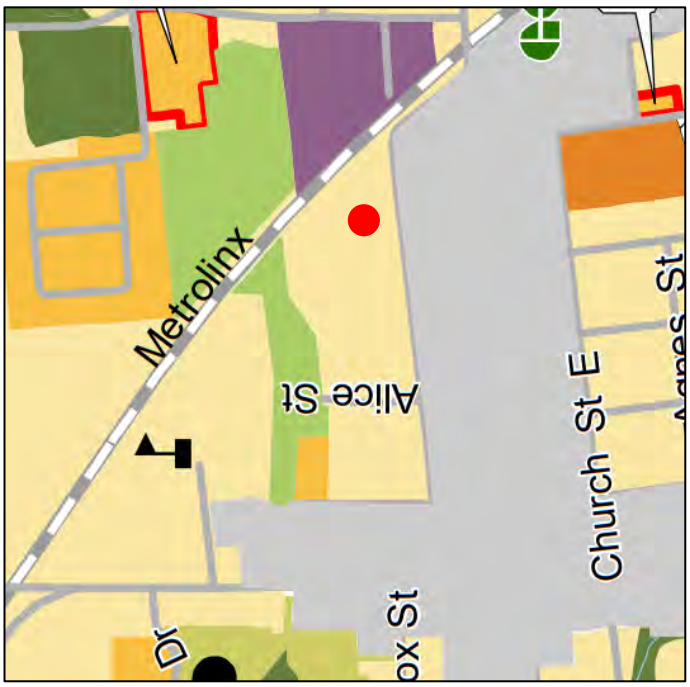
According to the OP:

B1.2.5 *It is the policy of this Plan*

a) Prohibit development within significant wetlands and significant habitat of endangered and threatened species
b) Prohibit development within other significant natural heritage features within the Greenlands System unless it is demonstrated through an EIS approved by the Town and the Region in consultation with the appropriate Conservation Authority, that there will be no negative impacts on the feature or their related ecological function

According to Schedule A6 of the Town's OP, no natural features are present on the Subject Property. However, there is a "Private Open Space Area" located just west of the Subject Property. However, not all natural heritage features are necessarily identified within the OP (Section B1.3.4). Based on air photo review and according to MNRF NHIC mapping (**Map A**), there is a woodland to the north of the property, north of the railway, that in our opinion would not be considered contiguous due to the physical break and separation from the railway. According to Section B1.2.5 of the OP "*All woodlands 0.5 ha or larger, have been identified by the Region to be an important natural heritage feature and candidates for assessment as significant woodlands".* This EIS will assess this feature to determine if it meets the requirements of a significant woodland and present appropriate mitigation measures.

Based on the MNRF NHIC mapping, a watercourse is present in northwest corner of the Subject Property. Watercourses are not explicitly defined within the Town's OP, however, they are mapped within Appendix X1B, and "*the floodplains of watercourses are protected within the Greenlands A designation in section B1 of the policy*", as stated in section C3.1 of the OP. Appropriate setbacks (i.e. 15 m) are recommended from watercourses to protect these resources.



Map D. Schedule A6 from Halton Hills Official Plan – The Subject Property (approximate location denoted by red circle) is within the 'Low Density Residential Area'. The railway (checkered line – Metrolinx) is north of the property, with private open space areas (green) located both north and south of the railway.

While not identified in the Town's OP specifically for Acton, railway buffers are required under the Metrolinx's Adjacent Development Guidelines.

3.4 Credit Valley Conservation Authority (2024)

Credit Valley Conservation Authority (CVCA) regulations and policies include the following:

- Ontario Regulations 41/24: *Prohibited Activities, Exemptions and Permits.* Through this regulation, the CVC regulated activities in natural and hazardous areas (e.g., areas in and near rivers, streams, floodplains, wetlands, and slopes and shorelines) (April 1, 2024)
- Land Use Planning Policy Document
- Note that with the newly passed provincial O. Reg. 41/24, conservation authorities no longer have the role to comment on all natural heritage features.

The Subject Property falls under the jurisdiction of Credit Valley Conservation Authority. CVCA regulates hazard lands including watercourses, valleylands, shorelines, and wetlands, including lands adjacent to these features (**Map E**). A watercourse is identified to the northwest of the Subject Property. According to O.Reg 41/24:

No development or site alteration will be permitted within 15 metres of the stable top of bank. This is under the assumption that the drainage feature has a stable top of bank present. If a stable top of bank is not present the floodplain should be used. Development is also prohibited within 30 m of a wetland.

Map E. Credit Valley Conservation Authority (CVCA) Mapping showing Regulated Area (dark grey) surrounding the watercourse and floodplain hazard associated with the watercourse. The Subject Property is shown with blue outline.

3.5 Greenbelt Plan (2017)

The Subject Property is entirely within the Towns and Villages designation of the Greenbelt Plan area in particular it is within the Protected Countryside Land Designation. However, the property does not fall within the Greenbelt Plan Natural Heritage System Area (NHS) (**Map C**). As mentioned previously, a watercourse has been recorded in the far northwest corner of the Subject Property.

Key Natural heritage features (KHNFs) under this Plan 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 (Ontario Ministry of Municipal Affairs and Housing, 2017).

3.6 Endangered Species Act (2007)

Ontario's Endangered Species Act (ESA) came into effect on June 30, 2008 and replaced the former legislation. Under the ESA there are over 200 species in Ontario that are identified as extirpated, endangered, threatened, or of special concern. Species designated as Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), otherwise known as Species at Risk in Ontario (SAR), and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation and migration) are afforded legal protection under the ESA). The protection provisions for species and their

habitat within the ESA apply only to those species listed as Threatened or Endangered on the Species at Risk in Ontario list (SARO). 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.

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

On 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. The changes are intended to streamline permit applications and approvals and help projects proceed more quickly while continuing to provide important protections for species at risk and their habitat. It remains the proponent's responsibility to ensure conformity with the ESA.

3.7 Migratory Birds Convention Act

The Migratory Birds Convention Act, 1994 (Government of Canada, 1994) and Migratory Birds regulations (Canadian Wildlife Service Waterfowl Committee, 2014) along with the provincial Fish and Wildlife Act (Government of Ontario, 1997), protect most species of migratory birds and their nests and eggs. 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.

4. Study Approach

The approach to the study has been prepared in consideration of existing site conditions and applicable policy.

4.1 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 Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2022). Information gathered is recommended to be balanced and supplemented by the professional ecological review of potential habitats and characteristics of a project site.

Background review for the Study Area included the collection of relevant mapping and reports, including regulations and policies, Official Plans, 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): SAR Records and natural heritage features (Ministry of Natural Resources and Forestry, 2024);
- Land Information Ontario (LIO): certain data types including aquatic resource area (ARA) information is available through these publicly available data layers (Government of Ontario, 2023);
- Ontario Butterfly Atlas (Toronto Entomologists Association, 2023);
- Ontario Breeding Bird Atlas (Bird Studies Canada, 2023);
- Ontario Reptile & Amphibian Atlases (Ontario Nature, 2023);
- Fisheries and Oceans Canada (DFO): The DFO maintains mapping of aquatic species at risk (SAR) habitats, including the critical habitat, occupied, and contributing habitat ranges of SAR and Special Concern species (Fisheries and Oceans Canada, 2024); and
- Aerial Photography, including historical photos: Available on-line mapping sources were reviewed to identify current potential habitat types, biogeography, and terrain.

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

4.2 Agency Correspondence

Agency correspondence as it pertains to the general ecological conditions of the proposed development and associated Subject Property are summarized in the following section.

- A Terms of Reference (TOR) was submitted to the CVCA and Town of Halton Hills on April 1st, 2024. A response was obtained on May 3rd, 2024 from all agencies.
- Palmer (now SLR) met on-site with the CVCA on September 24th, 2024 to discuss the significance of the treed area located on the Subject Property and the delineation of the wetland community in the southwest.
- The TOR and agency responses are provided in **Appendix A**.

4.3 Ecological Surveys

Palmer (now SLR) ecologists conducted field investigations in March, June and September, 2024. Weather conditions are recorded in **Table 1** below. Bat Acoustic monitoring was completed by Myotistar.

Table 1. Field Investigations Summary (2024)

Date	Field Task	Weather Conditions
March 28th, 2024	Ecological Land Classification, Snag Tree Survey, Aquatic Assessment, SAR / Significant Wildlife Habitat Screening	-1°C, 0% cloud cover, 10 km/h winds
June 4th, 2024	Breeding Bird Survey #1	15°C, 50% cloud cover, 3 km/hr winds
June 26th, 2024	Breeding Bird Survey #2	18°C, 50% cloud cover, 10 km/hr winds
September 24th, 2024	Feature Staking, Wetland Boundary Assessment, additional data collection	19°C, 70% cloud cover, 13 km.hr winds

4.3.1 Ecological Land Classification

Ecological field investigations was undertaken on March 28th, 2024. 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 ELC includes dominant species cover and community structure, as well as level of disturbance, presence of indicator species, and other notable features. Botanical surveys were completed by traversing the Subject Property and recording species observed in each vegetation community. Local plant rarity status is based on the Halton Region rankings within Halton Natural Areas Inventory (Dwyer, 2006). Provincial plant status was based on the Rare Flora of Ontario (Oldham & Brinker, 2009) and the Natural Heritage Information Centre databases (Ministry of Natural Resources and Forestry, 2024)

4.3.2 Species at Risk and Significant Wildlife Habitat Screening

Prior to field work, existing SAR records were identified using the NHIC database and other online resources. Habitat opportunities for SAR in the Study Area 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.

4.3.3 Aquatic Assessment

An aquatic habitat assessment was conducted along the watercourse located to the northwest of the property. The aquatic habitat was initially characterized on March 28th, 2024. The assessment was conducted following a modified version of the Ontario Stream Assessment Protocol (Stanfield, 2017). Stream characteristics collected during the survey generally include 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 5.2 of this report.

4.3.4 Breeding Birds

Breeding bird surveys were conducted according to the Ontario Breeding Bird Atlas guidelines. Two site visits were made at least one week apart (June 4th and June 26th, 2024) within the peak breeding season for most bird species in southern Ontario. Surveys were conducted between dawn and 10 am on mornings when the wind speed was not higher than 20 km/h and it was not raining. On each site visit the surveyor walked through all habitat types of the survey site and walked within 100 meters of all points within the survey area. The surveyor recorded all bird species seen and heard within and flying over the survey area on each site visit. The number, breeding evidence, and approximate location of each bird or bird group was recorded on the site map.

4.3.5 Bat Habitat Assessment

To assess bat habitat and determine the presence/absence of roosting SAR bats within the proposed residential development, the Ministry of Natural Resources and Forestry (MNRF) Protocol *Maternity Roost Surveys (Forests/Woodlands)* (MNRF, 2022) was used.

Following the principals of the MNRF protocol, the following survey methods were completed:

- Step 1: Identify Potential Maternity Roost Habitat;
- Step 2: Snag Density Calculations;
- Step 3: Selection of Acoustic Monitoring Locations; and
- Step 4: Acoustic Field Data Collection

4.3.5.1 Phase 1: Identify Potential Maternity Roost Habitat

Based on the 2022 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, forest communities were identified within and directly adjacent to the Subject Property.

On January 28, 2025, three migratory bat species were listed as Endangered under the Endangered Species Act (ESA): Eastern Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), and Silver-haired Bat (*Lasionycteris noctivagans*). Based on communications with MECP there is no formal guidance on these three bat species at this time.

Due to the lack of suitable habitat for Eastern Small-footed Bat (*Myotis leibii*) such as rock outcrops, under bridges, or in caves and mines, this species is not expected to occur within the Subject Property.

4.3.5.2 Phase 2: Snag Density Calculations

A search for potentially suitable maternity roosting trees targeting Little Brown Myotis and Northern Myotis was conducted during leaf-off period on April 18th, 2024. All snags > 25 cm diameter at breast height (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.

4.3.5.3 Steps 3 and 4: Selection of Acoustic Monitoring Locations & Acoustic Field Data Collection

Myotistar was retained to complete acoustic monitoring within the Subject Property. Based on the Myotistar report (2024), two SM4-FS bat detector with one SMM-U2 microphone each were deployed within the HR communities to capture potential SAR bat activity. The detectors recorded activity throughout the night (30 minutes before sunset, 30 minutes after sunrise) for 14 nights with recordings triggered when ultrasonic signals from bats were detected in the vicinity (Myotistar, 2024).

According to the Myotistar report (2024), recordings were analyzed internally using the SonoBat analysis program. Species were identified when possible but due to the complexity and similarity of calls between species, some were only classified to the genus level.

4.3.6 Incidental Wildlife Observations

All incidental observations of wildlife were recorded by Palmer (now SLR) during the preliminary investigation. Incidental observations included direct sightings and indirect evidence such as nests, tracks, scat, and browse.

5. Existing Environmental Conditions

5.1 Vegetation and Flora

5.1.1 Vegetation Communities

The Subject Property consists of culturally influenced lands and natural features. Culturally influenced lands include a lawn and hedgerows. Two natural features recorded within the Subject Property included a forest and a wetland. A watercourse with small riparian wetland was located off property to the northwest.

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 - 10**).

5.1.1.1 Cultural System

Anthropogenic (ANTH)

A large anthropogenic area with a lawn was located in the majority of the Subject Property (**Photo 1**). This community had some trees present with the canopy comprised of some Norway Maple (*Acer platanoides*) and Manitoba Maple (*Acer negundo*) with a few Black Walnut (*Juglans nigra*) and Norway Spruce (*Picea abies*). The subcanopy consisted of the same tree species but also had Balsam Poplar (*Populus balsamifera*), Green Ash (*Fraxinus pennsylvanica*), Common Pear (*Pyrus communis*), apple species (*Malus* sp.) and willow species (*Salix* sp.). The understory was sparse with Riverbank Grape (*Vitis riparia*), Red-osier Dogwood (*Cornus sericea*), some Alternate-leaved Dogwood (*Cornus alternifolia*) and European Buckthorn (*Rhamnus cathartica*). The ground cover was dense with a relatively low diversity and was dominated by Bluegrass (*Poa pratensis*). Other species were present like Wild Carrot (*Daucus carota*), goldenrod species (*Soliago* sp.) and Smooth Brome (*Bromus inermis*). A large concrete pad was noted in the southeastern area, along the entrance to the property (**Photo 2**).

Hedgerow (HR)

Two hedgerow communities were present on the Subject Property. The hedgerow communities consisted of the same species found within the anthropogenic area.

5.1.1.2 Forest System

Fresh – Moist Lowland Deciduous Forest (FOD7)

A moist lowland forest community was present along the western border of the Subject Property (**Photo 3**). This community consisted of deciduous trees like Black Walnut, Manitoba Maple, Sugar Maple (*Acer saccharum*) and White Willow (*Salix alba)* in the canopy and subcanopy. Bot layers were quite patchy and sparse. The subcanopy had a higher species diversity with species like Green Ash, Eastern Cottonwood (*Populus deltoides*), Black Cherry (*Prunus serotina*) and White Mulberry (*Morus alba*) present as well. The understory was similar to the other layers wit similar tree species but shrub species like Staghorn Sumac (*Rhus typhina*) and Red-osier Dogwood were also recorded. The ground cover was

mostly comprised of Smooth Brome and Goldenrod species with other species like Garlic Mustard (*Alliaria petiolata*), Woodland Strawberry and Common Dandelion (*Taraxacum officinale*).

5.1.1.3 Wetland System

Forb Mineral Meadow March (MAM2-10)

During the Feature Staking on September 24th, 2024, a wetland community was noted adjacent to the Subject Property. The boundary was walked by Palmer (now SLR) ecologists and the wetland community was found to be present on the Subject Property on the far southwestern corner (**Figure 2**). This community consisted of meadow species like Reed Canarygrass (*Phalaris arundinacea*) and Panicled Aster (*Symphyotrichum lanceolatum*).

Photo 1. Existing conditions of the anthropogenic area on the Subject Property (photo taken March 28th, 2024).

Photo 2. A large concrete pad was observed in the southeastern area of the anthropogenic (ANTH) community (photo taken March 28th, 2024).

Photo 3. The Lowland Deciduous Forest community is along the western border of the Subject Property. This community had sparse canopy and subcanopy cover (photo taken March 28th, 2024).

LEGEND

- Subject Property (0.96 ha)
- Ecological Land Classification
- Staked Dripline Feature Limit (Sept 24, 2024)
- Delineated Wetland Limit (SLR, Sept 24, 2024)
- Watercourse[1]
- Snag Tree

1. Geospatial Ontario (GEO)

10 5 0 10 20 30 40
METRE SCALE

North American Datum 1983
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Castlegrove Developments Inc

PROJECT
97 Bower St, Acton

TITLE
Existing Environmental Conditions

SLR

REF. NO. 2402401-2-2

Figure 2

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5.1.2 Flora

A total of 39 species of vascular plants were recorded within the Subject Property during the 2024 field survey, including 18 (46%) native species, 15 (38%) species which are non-native to Ontario, and six species (15%) were identified to the genus only due to the limited representation of key characteristics (**Appendix B**). No locally rare vegetation species were observed on the Subject Property during the field investigations. All native plants identified as S4 or S5 ranking, indicating that they are common within Ontario (Ministry of Natural Resources and Forestry, 2023).

5.2 Aquatic Assessment

There is a watercourse that runs adjacent to the Subject Property along the northwestern side. It flows southwest and, despite what was viewed on NHIC mapping (**Map A**), it does not enter the property.

The watercourse flows under the railway via a culvert (**Photo 4**). The channel meanders and has an approximated wetted width of 2-3 m. The water appears clear with sandy substrate. Gravel and cobble are present within the channel. The banks are vegetated and the channel has wood debris present (**Photos 5 and 6**). A groundwater indicator, Watercress (*Nasturtium officinale*), was found in the watercourse. Garbage was found the channel.

Photo 4: Watercourse passes underneath the railway via a culvert (March 28th, 2024).

Photo 5. Upstream area of the watercourse, which is adjacent to the Subject Property. Gravel substrate is shown in this photo (March 28th, 2024).

Photo 6. Downstream portion of the Watercourse. Vegetated banks and sandy substrates were present (photo taken March 28th, 2024).

5.3 Wildlife

5.3.1 Breeding Birds

A total of 14 bird species were documented in the study area, with one SAR observed, two Chimney Swifts (*Chaetura pelagica*), flying overhead. This species is discussed further in Section 6.1. No area sensitive species were identified within the study area. Most of the birds recorded in the study area are considered common to southern Ontario. All bird species, except for Chimney Swift, had possible breeding evidence as males were singing in suitable nesting habitat. The most common species found in the study area included birds have high tolerance live within urban environment, such as American Robin (*Turdus migratorius*). The full survey results are provided in **Appendix C.**

It should be noted that as part of the completion of the tree inventory, a small owl was observed nesting in inventoried tree #160, a Norway Maple that is proposed to be removed.

5.3.2 Bat Habitat

5.3.2.1 Phase 1: Identify Potential Maternity Roost Habitat

A Bat Habitat Suitability Assessment was completed using aerial photography and SLR's ELC mapping. 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). All communities were identified as potentially suitable roosting habitat (**Figure 2**).

5.3.2.2 Phase 2: Snag Density Calculations

A snag assessment was completed in association with the deciduous, coniferous and mixed forest communities within the Subject Property. At the time of the survey, March 28th, 2024, all trees within the communities were surveyed for suitable maternity roost characteristics, resulting in 15 potentially suitable maternity roost trees. Based on the MNRF 2022 protocol, only snags/cavity trees >25 cm DBH in each plot should be considered. Therefore, two formerly suitable maternity roost trees, ash species (*Fraxinus* sp.) (Snag 6 and 9), no longer meet the size criteria. The remaining 13 potentially suitable Maternity Roost trees were observed within hedgerows, forest and a swamp community with DBH ranging from 28 to 80 cm (**Table 2, Figure 2**). The snag attributes consist of cavities and/or cracks. Snags in healthy or early stage of decay (Decay Class 1 - 3) may be preferred by Little Brown Myotis and Northern Myotis (MNRF, 2017). Six of the potential snag trees (46%) were observed in this decay class range. Further acoustic monitoring was completed by Myotistar from June 7th to June 20th, 2024.

Table 2. Potential SAR Bat Maternity Roost Trees

Tree No.	Scientific Name	Common Name	Approx. DBH (cm)	Decay Class	Height Class*	Snag Attributes
1	*Acer plantinoides*	Norway Maple	60, 55	1	2	Cavities at 1 m, 3 m and 6 m height.
2	*Acer negundo*	Manitoba Maple	45	4	2	Dead.
3	*Malus* sp.	Apple species	30, 35	1	2	Cavity at 3 m in height, possible squirrel habitat.
4	*Malus* sp.	Apple species	42	1	2	Cavities at 0.5 m and 2 m height, potentially habitat for squirrel.
5	*Acer negundo*	Manitoba Maple	30, 28, 28	4	2	Dead.
6	*Populus* sp.	Poplar species	25	4	2	Dead, DBH ≤ 25 cm, no longer meets new MNRF criteria
7	*Acer negundo*	Manitoba Maple	34	4	2	Dead.
8	*Acer negundo*	Manitoba Maple	37	4	2	Dead, woodpecker holes present, cavity at 0.5 m height.
9	*Acer negundo*	Manitoba Maple	23	4	2	Dead, DBH ≤ 25 cm, no longer meets new MNRF criteria.
10	*Salix* sp.	Willow species	80	4	1	Dead, cavity at 6 m height.

Tree No.	Scientific Name	Common Name	Approx. DBH (cm)	Decay Class	Height Class*	Snag Attributes
11	*Salix* sp.	Willow species	70, 70	1	1	Cavities at 2 and 12 m height.
12	*Acer negundo*	Manitoba Maple	70, 30	1	2	Cavity at 4 m height.
13	*Salix* sp.	Willow species	80	1	1	Cavity at 20 m height.
14	*Acer negundo*	Manitoba Maple	37	4	2	Dead, peeling bark, two cavities at 0.5 m and 2 m height.
15	*Acer negundo*	Manitoba Maple	30	4	4	Dead, peeling bark, cavity at 0.5 m height, woodpecker holes observed.

*Height Class: 1. Dominant – above canopy; 2. Co-dominant – canopy height; 3. Intermediate – just below canopy; 4. 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. The lowland deciduous forest (FOD7) and the southern hedgerow (HR) both have snag densities > 10 snags/ha (20 and 33 snag/ha, respectively).These communities are therefore considered high quality potential maternity roost habitat (Ministry of Natural Resources and Forestry, 2015). The calculated snag density (using trees with a DBH > 25 cm) for the Subject Property ranges from 6 to 33 snags/ha as outlined in **Table 3** below.

Table 3. Bat Snag Density for the Subject Property

ELC Ecosite	Size (ha)	# of snags	Snag Density (snags/ha)
ANTH	0.65	4	6
FOD7	0.24	5	20
HR (North)	0.03	0	0
HR (South)	0.03	1	33
MAM2-10	-	1	n/a
Off Property	-	2	n/a

5.3.2.3 Selection of Acoustic Monitoring Locations and Acoustic Field Data Collection

A SM4-FS bat detector was deployed in each of the hedgerow communities. A summary of the acoustic data analysis for SAR bat species completed by Myotistar (2024) is provided below in **Table 4**.

Table 4. Total Passes of Myotis Species

Common Name	Scientific Name	Total Bat Passes during Monitoring Period (#)	
		HR (North)	HR (South)
Unknown Myotis	*Myotis* spp.	28	10

Common Name	Scientific Name	Total Bat Passes during Monitoring Period (#)	
		HR (North)	HR (South)
Eastern Small-footed Myotis	*Myotis leibii*	65	7
Little Brown Myotis	*Myotis lucifigus*	102	128
Northern Myotis*	*Myotis septentrionalis*	0	0
Tri-coloured Bat*	*Perimyotis subflavus*	0	0

*Assumed to be non-detected.

Based on the 2024 Myotistar report, the following six species were identified within the vicinity of both bat detectors: Big Brown Bat (*Eptesicus fuscus*), common in Ontario; and five SAR species Eastern Small-footed Myotis (*Myotis leibii*), Little Brown Myotis (*Myotis lucifigus*), Hoary Bat (*Lasiurus cinereus*), Silver-haired Bat (*Lasionycteris noctivagans*), and Eastern Red Bat (*Lasiurus borealis*). A potential additional SAR bat was also recorded. Hoary Bat and Eastern Red Bat prefer to roost in foliage rather than within snag trees like Silver-haired Bat and Myotis species. Tri-colored Bat (*Perimyotis subflavus*) and Northern Myotis (*Myotis septentrionalis*) were not recorded during 2024 acoustic surveys.

Due to the high number of detections, it is expected that SAR species are using this area for foraging and roosting nearby.

5.4 Incidental Wildlife Observations

Many birds, including American Robin (*Turdus migratorius*) Bluejay (*Cyanocitta cristata*), and Black-capped Chickadee (*Poecile atricapillus*) were observed. Evidence of mammal species was also present. Mammal species like Eastern Cottontail (*Sylvilagus floridanus*) and Grey Squirrel (*Sciurus carlinensis*) were also noted during ecological surveys. Indirect evidence of other mammal species was also noted which included dens in the lowland deciduous forest community and a canine skeleton in the anthropogenic community. Due to the location of the Subject Property, within a mixed rural and residential/commercial area, it is likely that other urban-adapted species occupy the landscape.

6. Assessment of Significance

6.1 Species at Risk

Based on available background information and the summer 2024 field investigations, the Subject Property was screened for potential SAR habitat opportunities and assessed through targeted surveys for specific SAR presence through completion of breeding bird and plant surveys, and bat acoustic monitoring. The assessment was conducted by comparing habitat preferences of species deemed to have potential to occur against current site conditions. This SAR habitat assessment can be found in **Appendix C** 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 C**, the following SAR were observed or have potential to occur within the Subject Property:

Reptiles

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

Mammals

- Eastern Small-footed Myotis (*Myotis leibii*) – Endangered (Confirmed)
- Little Brown Myotis (*Myotis lucifugus*) – Endangered (Confirmed)
- Hoary Bat (*Lasiurus cinereus*) – Endangered (Confirmed)
- Silver-haired Bat (*Lasionycterus noctivagans*) – Endangered (Confirmed)
- Eastern Red Bat (*Lasiurus borealis*) – Endangered
- Northern Myotis (*Myotis septentrionalis*) – Endangered (Potential)
- Tri-colored Bat (Eastern Pipistrelle) (*Perimyotis subflavus*) – Endangered (Potential)

Insects

- Gypsy Cuckoo Bumble Bee (*Bombus bohemicus)* – Endangered
- Rusty-patched Bumble Bee (*Bombus affinis*) – Endangered
- Monarch Butterfly (*Danaus plexippus*) – Special Concern
- Yellow-banded Bumblebee (*Bombus terricola*) – Special Concern

Special Concern species are further discussed in Section 6.2.

Chimney Swift

Chimney Swifts were observed overhead. This species is an aerial insectivore and does not perch except at night or when at its nesting site. There is no suitable nesting for this species on-site (generally old large chimneys) and it likely nests in older structures within the town. Habitat is not present on the property (i.e., lacking open chimneys or large, open snag trees).

SAR Mammals (Bats)

Populations of several bat species have been in decline in recent years due to the spread of a fungal pathogen known as white nose syndrome. This includes several species in Ontario, including the Northern Myotis, Little Brown Myotis, Eastern Small-footed Myotis, and Tri-Coloured Bat, which are all

listed as Endangered under the *ESA* (2007). Three migratory bat species were listed as Endangered under the ESA on January 28, 2025: Eastern Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), and Silver-haired Bat (*Lasionycteris noctivagans*). The forest communities on and adjacent to the Subject Property contain large, mature trees near a water source and consequently provides potential habitat for Endangered bats (excluding the Eastern Small-footed Myotis, which prefers rocky crevices). Summer maternal roosting habitat, representing one of the most sensitive life stages for bats, is generally the focus of protection efforts for these species. During the 2024 survey, 13 snag trees that could provide potential bat habitat were recorded on the Subject Property. Eastern Small-footed Myotis, Little Brown Myotis, and three migratory SAR bat species Eastern Red Bat, Hoary Bat, and Silver-haired Bat were recorded during the acoustic monitoring. Thus, in accordance with the *ESA* (2007), habitat protection is afforded through the use of roosting timing windows (e.g., no tree clearing between April 1 and the end of November) should any trees need to be removed. Further consultation with MECP is required.

SAR Insects

The Gypsy Cuckoo Bumble Bee is an endangered species under the ESA and typically uses forests for their nests. Based on incidental observations, no individuals were observed during field surveys, but it has the potential to use the FOD7 forest community present on the Subject Property, which is afforded protection by the 10 m forest setback being applied to the FOD7 forest.

Rusty-patched Bumble Bee is also an endangered species under the ESA and can be found in various habitats, including deciduous forests. Like the above species, based on incidental observations no individuals were recorded during surveys, potential habitat is also protected by the 10 m setback required for the FOD7 community.

6.2 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 Significant Wildlife Habitat. 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.

Significant Wildlife Habitat is considered a significant feature in Provincial, Regional, and City of Pickering 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 D**. Based on the ELC ecosite, habitat screening and field surveys, SLR has confirmed three SWH and the potential for three others on the Subject Property:

Bat Maternity Colonies (Candidate)
The lowland deciduous forest (FOD7) and southern hedgerow (HR) community were found to have a snag density > 10 snags/ha (33 and 20, respectively). SAR bats were also recorded within the acoustic field survey in the southern hedgerow community. These treed areas will be retained.

Special Concern and Rare Wildlife Species (Candidate)
There were multiple Special Concern species that had the potential to utilize the Subject Property and surrounding lands. These species, and the assessment of their potential habitats, are listed below.

Snapping Turtle
While not observed, the Snapping Turtle can be found around water and likes to travel to gravel or sand when laying eggs. No evidence of this species was found along the watercourse or riparian wetland but could represent potential movement corridor habitat and could be considered candidate SWH.

Insects
While SAR insects such as the Monarch Butterfly and Yellow-banded Bumblebee can be found in various habitats including forests and meadows, which contain plants that they may utilize for foraging (i.e., Common Milkweed and other nectaring species), presence of these plants themselves in a landscape where the plants can be very common, (e.g., anthropogenic areas with meadow species), it is SLR's opinion that SWH would not be applicable.

6.3 Woodlands

The portion of the deciduous forest (FOD7) that is on the property, which is about 0.24 ha in size, is located along the north and northwestern border of the Subject Property. This woodland extends beyond the property and is expected to meet the criterion of 0.5 ha and would qualify as a significant woodland as outlined in Section 2. The woodland dripline was therefore delineated and staked on September 24th, 2024. A 10 m variable buffer has been applied to the woodland.

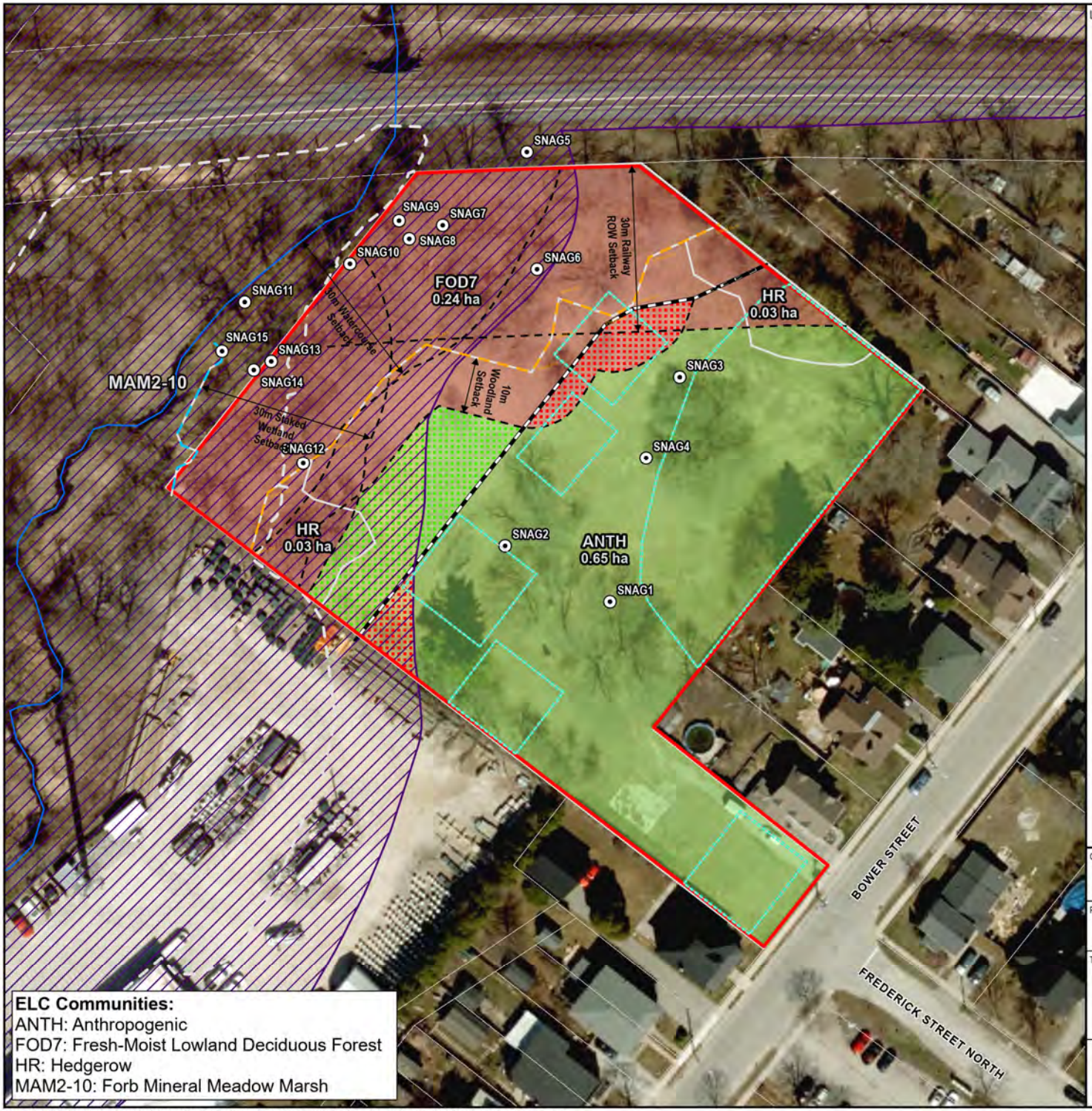
6.4 Wetlands

One small, riparian wetland community was identified and located primarily off the Subject Property along the watercourse. This wetland was delineated along the area facing the development and was identified as a Forb Mineral Meadow Marsh. A 30 m buffer has been applied to the wetland.

6.5 Aquatic Habitat

A watercourse is found along the northwest side of the property and identified as having potential fish habitat and is likely considered cool or cold water. This watercourse has sandy substrate and is

groundwater fed with abundant woody debris and rock for cover. A 30 m buffer has been applied to this watercourse.



LEGEND

- Subject Property (0.96 ha)
- Property Boundary[1]
- Remediation Area
- Regulation Limit[2]
- Ecological Land Classification
- Staked Dripline Feature Limit (Sept 24, 2024)
- Delineated Wetland Limit (SLR, Sept 24, 2024)
- Proposed Development Limit
- Constraint Setback
- Floodplain
- Watercourse[3]
- Snag Tree
- Encroachment Area (313 m²)
- Potential Enhancement Area (627 m²)

Area of Constraint

- High Constraint (0.38 ha)
- Low Constraint (0.53 ha)
- Credit Valley Conservation (CVC) Regulated Lands (0.05 ha)

1. Town of Halton Hills
2. Credit Valley Conservation Authority
3. Geospatial Ontario (GEO)

10 5 0 10 20 30 40
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:1,000
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Date: Oct 23, 2025

NORTH

Source Notes:
Imagery (2023, Halton Region) provided by Esri basemap service. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Castlegrove Developments Inc

PROJECT
97 Bower St, Acton

TITLE
Ecological Constraints

SLR

REF. NO. 2402401-3-3

Figure 3

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7. Proposed Development

The proposed development on the Subject Property consists of a 5-storey mid-rise building (80 units) with underground parking (1-level) and surface parking, and a driveway, roundabout, sidewalks, outdoor greenspace, landscaped areas, at 97 Bower Street in Acton, ON (**Figure 4**). The overall limit of the proposed development is formed by the configuration of the Subject Property and with consideration for the existing transit corridor and natural features (i.e., woodland, watercourse, wetland, wildlife habitat) and their setbacks.

The 10-metre woodland dripline setback, 30-metre railway setback, 30-metre wetland setback as well as the 30-metre buffer and floodplain associated with the tributary to the west of the Subject Property have informed the limit of the development.

The development is proposed to encroach into 313 m^2 of two separate areas consisting of an ecological encroachment within the woodland buffer and into the regulated area of the CVC's Regulated Area (**Figure 3** and **4**). For the primary development footprint (i.e., building, driveway) There is no proposed encroachment into the floodplain, watercourse buffer or wetland buffer. SWM related encroachment is discussed below.

The 2025 Functional Servicing Report (FSR) prepared by Pearson Engineering addresses the stormwater objectives for the site (Pearson Engineering, 2025). As per the FSR, post-development storm drainage for the project will generally follow pre-development conditions. As described in the FSR, stormwater control will be implemented onsite, and stormwater will be conveyed through an Oil-Grit Separator (OGS) before outletting to the offsite watercourse. The stormwater swale is proposed within the southwestern limits of the Subject Property, which will encroach within the edges of existing hedgerow, forest, and wetland communities along the immediate southwestern property boundary (see linework on **Figure 4** and FSR for greater detail). The proposed swale is to be vegetated and naturalized following construction. The limits of encroachment will need to be confirmed through the detailed design in conjunction with mitigation and protection measures established for the construction phase.

During construction, Erosion and Sediment Control (ESC) measures will be implemented to reduce sediment loads in surface runoff (Pearson Engineering, 2025). The report recommends the implementation of Low Impact Development (LID) methods. Quantity control for the development will be provided through the underground storage tank located to northeast corner of the Subject Property (Pearson Engineering, 2025).

8. Impact Assessment

Based on the assessment of environmental constraints and opportunities, the proposed development plan will result in the removal of hedgerow, scattered trees and anthropogenic lawn. To provide natural heritage feature protection associated with the retained woodland, a variable buffer approach will generally be implemented from the staked woodland limit. Encroachment into the woodland buffer is proposed and subject to consultation and proposed enhancement/compensation.

The proposed development has the potential to remove or disturb areas that may provide direct habitat or indirect habitat functions for wildlife. These impacts are identified in detail in the following subsections, including both permanent and temporary impacts, and are subsequently addressed through proposed mitigative steps detailed in Section 9.

8.1 Direct Impacts

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

8.1.1 Vegetation and Wildlife Habitat

The proposed development will result in the removal of individual trees, hedgerow trees, and anthropogenic vegetation on the Subject Property. The 2009 Phase II Environmental Site Assessment prepared by INSPEC-SOL INC. recommends remedial work to be carried out in the area of the soil exceedances, which will require the removal of vegetation (INSPEC-SOL INC., 2009). Vegetation removal will result in the removal of native and non-native species. No SAR plants, nor species listed as regionally or locally rare flora species were observed during the field investigations (Section 5.1.2). These impacts are driven by the requirements for remediation.

8.1.2 Invasive Species

Construction activities have the potential to unintentionally facilitate the spread of invasive plant species (e.g., European Buckthorn, Garlic Mustard) through the moving of equipment, soils, and plant materials within and outside of the Subject Property. The establishment and spread of invasive plant species can have negative impacts on ecosystem function and can incur costs to eradicate or control. Vehicles and machinery should be properly cleaned following the procedures outlined in the Clean Equipment Protocol for Industry (Ontario Invasive Plant Council, 2013) prior to entering and leaving the Subject Property.

8.1.3 Species at Risk

As outlined in Section 6.1 and **Appendix D**, there were several SAR that have the potential to, or were confirmed, to inhabit the Subject Property and general surrounding lands. The following summary identifies the mitigation and protection measures for specific species that have been confirmed on site or have a high potential of occurring on or adjacent to the site. Mitigation measures for Special Concern species are discussed below.

Endangered Bats

SAR bats considered for protection within the Subject Property (i.e., Little Brown Myotis, Northern Myotis, and Tri-colored) typically hibernate in caves and large crevices from late September to early April. One species, the Eastern Small-footed Myotis, is known to have a longer active window, spanning from March 15 and November 30. On January 28, 2025, three migratory bat species were listed as Endangered under the ESA: Eastern Red Bat, Hoary Bat, and Silver-haired Bat. These three SAR were also recorded during 2024 acoustic surveys. Potentially suitable trees (i.e., snags) were documented within the forest community, one of the hedgerows and the anthropogenic community in the Subject Property. SAR species, including the Eastern Small-footed Myotis, were recorded during field surveys and confirmed to use the Subject Property. The five identified snags within the lowland forest community, one snag in the wetland and two off-property snags will be protected by setbacks set by the Region's and Town's OPs as well as setbacks associated with the wetland, watercourse, and floodplain through the Greenbelt Plan.

Four snags within the anthropogenic community are set for removal. Any potential snag trees proposed for removal should be removed between December 1 and March 31 to avoid the roosting timing window for the SAR bats and injuring any potential SAR individuals that are present. Mitigation measures, such as timing windows or bat boxes, are required. Due to this, consultation with MECP is recommended.

8.1.4 Significant Wildlife Habitat

As outlined in Section 6.2 and **Appendix E**, there was one potential SWH on the Subject Property and the general surrounding lands. The following summary identifies the mitigation and protection measures for the Candidate SWH identified on the Subject Property.

Bat Maternity Colonies

The woodland community had one snag present that was considered decay class 4 (dead) and the lowland deciduous forest had six snags present with decay classes of 1 (alive) and 4. As discussed above have has potential SWH candidacy. The woodland will be protected by the woodland 10 m variable dripline setback, the 30 m railway setback and the protection afforded to the floodplain of the tributary adjacent to the Subject Property.

Special Concern and Rare Wildlife Species (Candidate)

As discussed above, the marsh and watercourse may present potential habitat opportunities for the Snapping Turtle as a movement corridor. A 30 m setback is to be applied to the wetland and the watercourse (**Figure 3**). This will, therefore, protect the habitat of this species.

While the Monarch and Yellow-banded Bumblebee are not protected as SWH, mitigation measures could be used to reduce impacts. To mitigate impacts to the meadow community, habitat removal will be limited to the immediate development footprint and future landscape plans to consider incorporating nectaring plant species and milkweed species. Note that typical plant occurs and habitat opportunities for plants that are used by these species are common and widespread across the landscape.

8.1.5 Woodland

The FOD7 woodland was not identified as significant but will be retained and is still protected from development through the 10 m variable dripline setback, the floodplain protection and 30 m setbacks

applied to the watercourse and wetland (**Figure 3**). The development is proposed to encroach into a portion of the overall 313 m^2 combined buffer and regulated areas that include the woodland buffer. A 627 m^2 enhancement area is proposed northwest of the development limits to offset for the buffer and regulated area encroachment. A Landscape Plan (2025) provided by Landscape Planning includes recommended shrub and tree species within the compensation area (Landscape Planning, 2025). Detailed species and planting density recommendations will be provided in a future Enhancement Plan, prepared under a separate cover.

A stormwater swale is proposed within the southwestern limits of the Subject Property, which will encroach within the FOD7 edge. The proposed swale will not fragment the woodland and is to be vegetated and naturalized following construction.

8.1.6 Wetland

The Forb Mineral Meadow Marsh community has a small area present on the Subject Property in association with the riparian area of the watercourse. As a conservative approach, a 30 m staked setback has been applied from the boundary of wetland (**Figure 3**). A stormwater swale is proposed within the southwestern limits of the Subject Property, which will encroach partially within the wetland. The proposed swale is to be vegetated and naturalized following construction.

8.1.7 Watercourse

A watercourse was identified adjacent to the Subject Property on the western side. According to Greenbelt Plan Area, this tributary requires a 30 m setback from stable top of bank. As stated in Pearson Engineering's 2025 FSR, a flood risk map was completed by Amec in 2021. It was determined that the floodline are outside of development (Pearson Engineering, 2025). Therefore, the floodplain of this tributary is also protected (**Figure 3**).

8.1.8 Railway

A Metrolinx principal railway line was present north of the Subject Property. Under the Town's OP, the railway requires an appropriate buffer from the edge of the railway. Under this OP and the "Guidelines for New Development in Proximity to Railway Operations" the buffer required is 30 m (Town of Halton Hills, 2024; The Railway Association of Canads & Federation of Canadian Municipalities, 2013).

8.2 Indirect Impacts

Indirect impacts are not caused by immediate project actions but result from the implementation of the project, typically after project completion or outside of the project footprint. Examples of indirect impacts include increased edge effects on vegetation communities or wildlife habitat following clearing for construction or sedimentation in stormwater runoff following construction activities.

8.3 Cumulative Impacts

The Subject Property is largely comprised of anthropogenic/culturally influenced communities. While encroach into 313 m^2 of the woodland buffer and regulated area, a 627 m^2 enhancement area is proposed

within the property (see **Figure 3** and **4**) to offset for these encroachments. Compensation and enhancement recommendations are provided in the following sections.

9. Mitigation Measures and Enhancement Opportunities

Mitigation measures and enhancement opportunities (including onsite restoration) are recommended in the following sections to minimize potential impacts from the development within the Subject Property on the local landscape level and associated natural features.

9.1 Specific Mitigation and Compensation Measures

9.1.1 Tree Removal

The removal of trees is proposed to be mitigated by conducting vegetation removal during appropriate timing windows to avoid potential impacts to breeding birds and SAR bats (i.e., **vegetation removals to occur between December 1 and March 31**). A Tree Inventory and Arborist Assessment was prepared by Gray Matter Forestry Consulting (2025) and contains an assessment of 163 trees 10 cm in diameter-at-breast (DBH) height and greater within the Subject Property (Gray Matter Forestry Consulting, 2025). A total of 61 trees are recommended for removal as a result of encroachment within their critical root zones (Gray Matter Forestry Consulting, 2025). A total of 139 replacement trees are required to compensate for tree removals (Gray Matter Forestry Consulting, 2025).

It should be noted that as part of the completion of the tree inventory, a small owl was observed nesting in inventoried tree #160, a Norway Maple that is proposed to be removed. It's recommended that a qualified wildlife biologist confirm the presence/absence of any nesting activity prior to removal, which should be done at the appropriate time of year. Agency consultation may be required.

9.2 General Mitigation Measures

During the construction phase of the development there is potential for erosion and offsite transport of sediment to be directed to the surface water features within the Subject Property. Therefore, to avoid potential impacts to the watercourse, the project will implement Best Management Practices (BMPs) related to ESC measures, including a comprehensive ESC plan. These measures will be used by the contractor and should meet guidelines as outlined in the *Erosion and Sediment Control Guideline for Urban Construction* (Toronto and Region Conservation Authority, 2019), or equivalent standards to prevent migration of sediment laden runoff (or other contaminants) from the construction zone to the adjacent hydrologic features and potentially down gradient adjacent waterbodies.

With regards to other construction substances (i.e., fuel, oil, hydraulic fluid), it is recommended that a comprehensive spills action plan be implemented by the proponent or contractor to address any potential release of hydrocarbons or other deleterious substances to the surrounding environment and prevent them from being drawn downstream into the watercourse. All machinery or equipment is recommended to be re-fueled or serviced at least 30 m from any watercourse.

Construction Access, Site Controls and Operational Constraints:

- Any temporarily stockpiled material will be properly contained (e.g., within silt fencing) in areas separated by a minimum of 30 m from any waterbody.

- All construction materials and debris will be removed and appropriately disposed of following construction.
- All activity will be controlled to prevent entry of any petroleum products, debris, or other potential deleterious substances, in addition to sediment as outlined above, to any waterbody. No storage, maintenance, or refuelling of equipment will be conducted near any waterbody.

Recommendations for Construction:

- Tree protection fencing along perimeter of the woodland dripline to be maintained and regularly inspected
- Site level delineation of construction area and careful monitoring and inspection along the proposed SWM conveyance swale along the southwest side of the property.
- Vegetation removal in preparation for site grading and construction should take place outside of sensitive timing windows for wildlife species:
    - Breeding bird season per Environment Canada's (2018) nesting periods for migratory birds: April 1 to August 31
    - Bat maternity season: April 1 to November 31

To protect wildlife in general, no animals are to be knowingly harmed. If wildlife is encountered during construction, work must stop, and animals allowed to disperse on their own. If necessary, the environmental consultant, MECP or GRCA should be contacted for advice.

Construction monitoring by an ecologist/arborist and certified inspector of sediment and erosion control is recommended, where applicable.

9.3 Monitoring

9.3.1 Pre-construction

For non-snag tree vegetation removal that cannot be avoided during the breeding bird season (April 1 to August 31), active nest searches may be conducted by a qualified biologist immediately prior to removal to ensure that no active nests of breeding birds are present. Avoidance windows do not absolve the proponent or their contractors from contravening the MBCA or ESA. Contravention can occur if vegetation removal and construction activities take place during sensitive timing periods for wildlife. Vegetation removal in preparation for Site grading and construction should take place outside of sensitive timing windows for wildlife species:

- Breeding bird season per Environment and Climate Change Canada's (ECCC's) nesting periods for migratory birds: April 1 to August 31

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.

Snag tree removals cannot occur within the period of April 1 to November 31 without MECP consultation.

9.3.2 During Construction

ESC measures should be installed and maintained during construction:

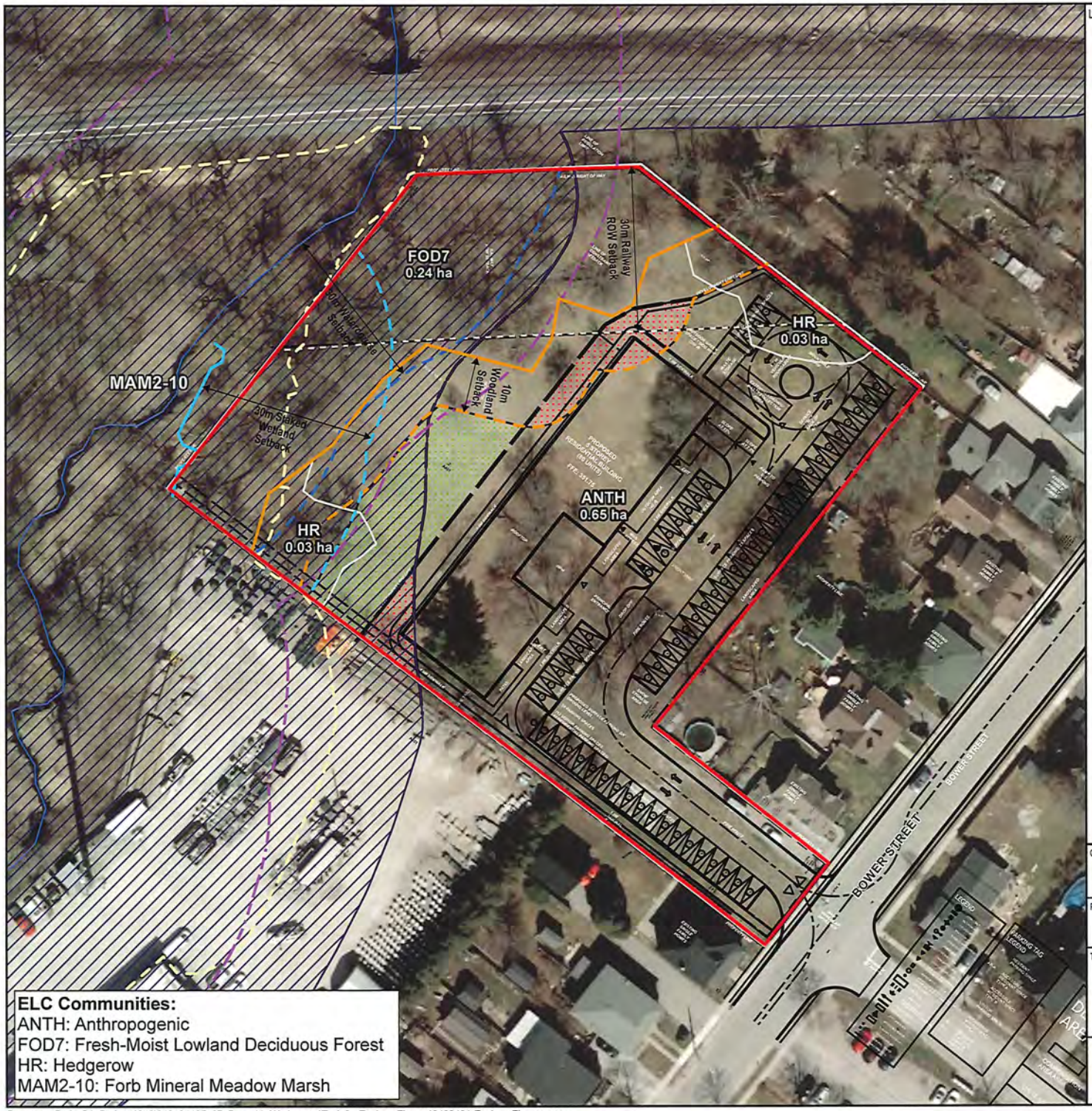
- Assess ESC measures before and after significant rainfall and snowmelt events.

- A double row of sediment control fencing consisting of a non-woven material with staked straw bales shall be installed and maintained, throughout construction, to prevent sediment from entering any part of the naturalized pond or watercourse.
- Effectiveness monitoring will be conducted to ensure that the water quality remains unaltered during the construction works.
- ESC inspections and effectiveness monitoring should be carried out by a qualified inspector and detailed inspection notes should be recorded.

9.3.3 Post-construction

Post-construction, all completed restoration/enhancement works will require monitoring following installation to ensure success of plantings, and invasive species management. SLR recommends a qualified ecologist conduct annual monitoring of restoration areas during the peak growing seasons (i.e., June 1 to August 31) for two years following construction works. Vegetation within any planting and restoration areas should be inventoried to record presence and relative abundance, as well as note any tree or shrub that is dead or poor condition and that should be replaced.

Annual monitoring will be conducted for at least two years following compensation plantings. Planting should be documented and inspected in the first year and an assessment of survivorship should be completed in the fall of the second year. The inspection of plantings in the first year should document the species present, health and vigour, and canopy cover, including photographic records. Recommendations should be provided as required, (e.g., managing competing vegetation, invasive species, etc.). On the last year of monitoring, recommendations will be made regarding the need for additional monitoring.
The enhancement/restoration plan(s) will include details such as the parameters to be monitored, methods/standards/guidelines to be used, schedule and duration of the monitoring program and format/frequency of reporting.



LEGEND

- Subject Property (0.96 ha)
- Encroachment Area (313 m^2)
- Potential Enhancement Area (627 m^2)
- Regulation Limit[2]
- Ecological Land Classification
- Watercourse[1]
- Proposed Development
- Delineated Wetland Limit (SLR, Sept 24, 2024)
- Staked Dripline Feature Limit (Sept 24, 2024)
- 10m Woodland Setback
- 30m Railway ROW Setback
- 30m Watercourse Setback
- 40m Watercourse Setback
- 30m Wetland Setback
- Floodplain[3]

1. Geospatial Ontario (GEO)
2. Credit Valley Conservation Authority
3. Pearson Engineering (March, 2025)

10 5 0 10 20 30 40
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:1,000
Page Size: Letter (8.5 x 11 inches)

Drawn: CV/SM
Checked: JS
Date: Jan 23, 2026

NORTH

Source Notes:
Imagery (2023, Halton Region) provided by Esri basemap service. Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Castlegrove Developments Inc

PROJECT
97 Bower St, Acton

TITLE
Proposed Development, Buffer Encroachment and Enhancement Areas

SLR

REF. NO. 2402401-3-2

Figure 4

Document Path: G:_Projects\243\243_24485_97_Bower\1_Workspace\Task 2 - Ecology Figures\2402401-Ecology Figures.aprx

10. 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 5**. With the implementation of the mitigation, there are no predicted negative impacts to the Natural Heritage Features observed within and surrounding the Subject Property, or their ecological functions.

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 1 and March 31 of any given year. Biologist to screen for nest(s) for any proposed vegetation removal outside of this period.
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).	<u>SAR Bats</u> Five SAR bat species were confirmed during acoustic field data collection. Mitigation measures will be required for these species in areas that are not already protected (i.e. hedgerows). This may include timing windows (i.e., December 1 and March 31 due to the presence of Eastern Small-footed Myotis confirmed on site) and bat boxes. Consultation with MECP is required prior to any tree removal to determine potential permitting and mitigation requirements. <u>SAR Insects</u> Plants that may be utilized by SAR insect species have been identified on the Subject Property. Their potential habitat has been identified as the FOD7 forest.
Provincial Planning Statement	Direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features.	In accordance with the PPS policies, the proposed development will be situated outside of fish habitat (i.e., watercourse and its associated floodplain), with an appropriate setback applied. Habitat for Endangered and Threatened species will be addressed through consultation with the MECP.
Greenbelt Plan	The Greenbelt Plan compliments the PPS to outline urbanization limits and protection for natural heritage features. The Greenbelt Plan Area is divided into different Land Designations.	The Subject Property is within the Protected Countryside Area but is not located within the Natural Heritage System. No natural heritage features are identified on the property using the Greenbelt Plan mapping. However, through completion of this EIS a small area of a MAM2-10 wetland was identified on the

Policy Document	Policy Intent/Objective	Implications and Policy Conformity
		property as a riparian wetland along the watercourse. A watercourse was also identified adjacent to the Subject Property. Watercourses and wetland of an appropriate size are protected by a 30 m setback under this plan.
Region of Halton Official Plan	The Region identifies Key Natural Heritage Features (KNHF) and Key Hydrological Features (KHF).	No KNHFs are present within the Subject Property. However, a small woodland was also present and requires a 10 m setback. A watercourse and riparian wetland were also present adjacent to the property (with the wetland extending slightly into the property). These features were not present on the Region's OP mapping. These features are proposed to be protected.
Town of Halton Hills Official Plan	The Town of Halton Hills has identified KNHFs/KHFs that form the basis of the Town's Natural Heritage System. Town policies require the protection of KNHFs and KHFs from development.	The Subject Property does not fall within the Natural Heritage System identified in the Town's OP. However, under this OP, a 15 m setback is required from the stable top of bank of the watercourse. The watercourse and small riparian wetland will be maintained with a 30 m buffer. The woodland will be retained with a 10 m buffer. Some encroachment into features are proposed for a SWM vegetated swale.
Credit Valley Conservation (CVC)	CVC regulates activities to wetlands, watercourses, drainage features and shorelines as well as areas around them (O Reg 41/24).	The Subject Property falls under the CVC regulated lands. No development or site alteration will be permitted within 15 m of the stable top of bank for minor valley systems. As development ins proposed within Regulated lands, a permit from the CVC will be required.

11. Certification

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

Prepared By:

Carlene Perkin, M.Sc.
Ecologist

Reviewed and Approved By:

Dirk Janas, B.Sc.
Technical Director, Terrestrial Ecology

12. References

Bird Studies Canada. (2023). *Atlas of the Breeding Birds of Ontario*. Retrieved from Atlas of the Breeding Birds of Ontario: http://www.birdsontario.org/atlas/index.jsp?lang=en

Canadian Wildlife Service Waterfowl Committee. (2014). Migratory Birds Regulations in Canada: July 2014. *CWS Migratory Birds Regulatory Report Number 43*.

City of Hamilton. (2010, October). *Tree Protection Guidelines.* Retrieved from City of Hamilton: https://www.hamilton.ca/sites/default/files/2022-05/pedpolicies-tree-protection-guidelines1.pdf

Crins, W. J., Gray, P. A., Uhlig, P. W., & Wester, M. C. (2009). *The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions.* Peterborough, Ontario: Ontario Ministry of Natural Resources. Retrieved from https://www.ontario.ca/page/ecosystems-ontario-part-1-ecozones-and-ecoregions

Dougan & Associates Ecological Consulting & Design. (2019). *Trustwood Industrial Park Scoped EIS.*

Dwyer, J. (2006). *Halton Natural Areas Inventory. Volume 1 Site Summary and Volume 2 Species Checklists.*

Fisheries and Oceans Canada. (2024). *Aquatic Species at Risk Map*. Retrieved from Fisheries and Oceans Canada: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Government of Canada. (1994). Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22). Retrieved from http://laws-lois.justice.gc.ca/eng/acts/m-7.01/

Government of Ontario. (1997). *Fish and Wildlife Conservation Act, 1997, S.O. 1997, c. 41.* Retrieved from ontario.ca: https://www.ontario.ca/laws/statute/97f41

Government of Ontario. (2023). *Land Information Ontario*. Retrieved from ontario.ca: https://www.ontario.ca/page/land-information-ontario

Gray Matter Forestry Consulting. (2025). *Arborist Report.*

INSPEC-SOL INC. (2009). *Phase II Environmental Site Assessment.*

Landscape Planning. (2025). *Landscape/Surface Materials Plan.*

Lee, H. T., Bakowsky, W. D., Riley, J., Bowles, J., Puddister, M., Uhlig, P., & McMurray, S. (1998). *Ecological Land Classification for Southern Ontario: First Approximation and its Application.* Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch.

MHBC Planning Urban Design & Landscape Architecture. (2024). *Arborist Report.*

Ministry of Natural Resources and Forestry. (2015). *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.* Peterborough.

Ministry of Natural Resources and Forestry. (2023). *Natural Heritage Information Centre Species Lists*. Retrieved from Ministry of Natural Resources and Forestry: https://www.ontario.ca/page/get-natural-heritage-information

Ministry of Natural Resources and Forestry. (2024). *Natural Heritage Information Centre*. Retrieved from Ministry of Natural Resources and Forestry: https://www.ontario.ca/page/natural-heritage-information-centre

Myotistar. (2024). *2024 Bat Acouustics Survey Report: Bucci Property.* Myotistar.

Oldham, M. J., & Brinker, S. R. (2009). *Rare Vascular Plants of Ontario, Fourth Edition.* Peterborough, Ontario: Natural Heritage Information Centre, Ministry of Natural Resources.

Ontario Invasive Plant Council. (2013). *Clean Equipment Protocol for Industry.* Retrieved from ontarioinvasiveplants.ca: https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf

Ontario Ministry of Municipal Affairs and Housing. (2017). *Greenbelt Plan (2017)*. Retrieved from Ministry of Municipal Affairs and Housing: http://www.mah.gov.on.ca/Page13783.aspx

Ontario Ministry of Municipal Affairs and Housing. (2024). *Provincial Planning Statement, 2024.* doi:ISBN 978-1-4606-3522-3

Ontario Nature. (2023). *Ontario Reptile and Amphibian Atlas*. Retrieved from Ontario Nature: https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/

Pearson Engineering. (2025). *Functional Servicing Report (FSR).*

Sidney W. Woods Engineering Inc. (2019). *Functional Servicing & Stormwater Management Report.*

Stanfield, L. (2017). *Ontario Stream Assessment Protocol - Version 10.* Retrieved from trca.on.ca: https://trcaca.s3.ca-central-1.amazonaws.com/app/uploads/2019/06/05112225/osap-master-version-10-july1-accessibility-compliant_editfootnoteS1M4.pdf

The Corporation of the Town of Ancaster. (2017, May 24). *Tree Protection By-law.* Retrieved from City of Hamilton: https://live-city-of-hamilton.pantheonsite.io/sites/default/files/2022-02/private-property-ancaster-2000-118-amendments.pdf

The Railway Association of Canads & Federation of Canadian Municipalities. (2013). *Guielines for New Development in Proximity to Railway Operations.* Retrieved from https://proximityissue.wpengine.com/wp-content/uploads/2017/09/2013_05_29_Guidelines_NewDevelopment_E.pdf

Toronto and Region Conservation Authority. (2019). *Erosion and Sediment Control Guide for Urban Construction.* Retrieved from Sustainable Technologies Evaluation Program: https://s3-ca-central-1.amazonaws.com/trcaca/app/uploads/2020/01/30145157/ESC-Guide-for-Urban-Construction_FINAL.pdf

Toronto Entomologists Association. (2023). *Ontario Butterfly Atlas.* Retrieved from https://www.ontarioinsects.org/atlas/part2.html

Town of Halton Hills. (2024). *Town of Halton Hills Official Plan.* Retrieved from https://www.haltonhills.ca/en/business/resources/Documents/OfficialPlan/OfficialPlanConsolidationDec310-2020-Apr30-2024-FINAL-Compressed.pdf

Ware Malcomb. (2024). *Functional Servicing and Stormwater Management Report.*

Appendix A Agency Correspondence

Environmental Impact Study

97 Bower Street, Acton ON

Castegrove Developments Inc.

Palmer Project No.: 2402401

November 11, 2024

Palmer™
PART OF SLR

871 Equestrian Court (Unit #1), Oakville, ON L6L 6L7
Tel: 647-795-8153 | www.pecg.ca

April 1, 2024

John McMulkin
Planner
Town of Halton Hills
1 Halton Hills Drive
Halton Hills, ON (L7G 5G2)

Trisha Hughes
Planner
Credit Valley Conservation Authority
1255 Old Derry Road
Mississauga, ON (L5N 6R4)

Dear John McMulkin and Trisha Hughes:

Re: Proposed Terms of Reference (TOR) for an Environmental Impact Study (EIS) at 97 Bower Street in Acton, Ontario (Palmer #2402401)

Palmer is pleased to provide the following Terms of Reference (TOR) for the property at 97 Bower Street in Acton, Ontario (**Map A**). The Subject Property is located on the north side of Bower Street, approximately 150 m west of Alice Street. The Subject Property occurs within the planning area of the Credit Valley Conservation (CVC) and contains Regulated Lands on the north side of the property. This TOR document outlines the proposed ecological studies to be completed as part of an Environmental Impact Study (EIS) for the Subject Property.

It is Palmer's understanding that the proponent wishes to develop an 8-storey apartment building with an outdoor amenity area and associated parking (above and below grade). The EIS was requested by the Town of Halton Hills during a pre-consultation meeting regarding this development.

Map A: Subject Property (boundaries in red) located on the north side of Bower Street, approximately 150 m west of Alice Street in Acton, Ontario.

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Tel: 647-795-8153 | www.pecg.ca

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:

- There is a mapped watercourse along the north property boundary 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 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 a watercourse (blue line), on and adjacent to the Subject Property (boundaries in red). The Subject Property is also within the Greenbelt Plan boundaries.

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 as part of the study. Documents 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 Town of Halton Hills (the Town), the CVC, and other provincial

agencies regarding any other natural heritage related records (including SAR) pertaining to the Subject Property.

Task 2 – 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 will attend an on-site meeting with CVC and/or the Town (and proponent should they chose to attend) to stake appropriate natural features (e.g., top of bank). It is expected that this meeting will occur in the Spring/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. Limits of natural features will be incorporated into the proposed development plan for the Subject Property and will inform necessary buffers and setback positioning from contiguous natural features.

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. The surveys listed below will be completed in the Spring/Summer of 2024:

- *Ecological Communities Assessment (Spring/Summer 2024)*
    - Ecological and botanical field surveys will be completed. One will occur in the spring of 2024 and the second will occur in the summer of 2024. The on-site ecological communities will be confirmed and refined in accordance with Ecological Land Classification of Southern Ontario (ELC) protocols. Vegetation surveys will be completed to inventory and further delineate existing vegetation communities and will include an inventory of plant species, documentation of ecological features and their functions, and observations of incidental wildlife within these communities.
    - The trees located within or immediately adjacent to the proposed development will be screened for the presence/absence of SAR bat habitat. Palmer will follow Ministry of Natural Resources and Forestry (MNRF) standardized protocol and will complete a snag tree survey to assess the quality of potential maternity roost habitat.
    - Should snag trees be identified, bat acoustic monitoring may be required by the Ministry of Environment, Conservation and Parks (MECP).

- *Aquatic Assessment (Spring 2024)*
    - As it appears that the adjacent watercourse is located mostly off-site, a scoped desktop-based and field observation based aquatic habitat characterization assessment will be completed to document habitat components. This field component will be completed during the snag tree survey in the spring of 2024.

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Tel: 647-795-8153 | www.pecg.ca

- *Breeding Bird Surveys (Spring/Summer 2024)*
    - Two (2) standard breeding birds surveys will be completed in the Spring/Summer of 2024, as per accepted Bird Studies Canada protocols.

- *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. NHIC records indicate historical occurrences of avian and insect SAR.
    - A SWH assessment will be completed using a combination of ELC mapping, appropriate provincial Ecoregion Criteria Schedules, and professional experience.

Task 4 – Impact Assessment and EIS Reporting

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 CVC and the Town of Halton Hills for the preparation of an EIS for the property at 97 Bower Street in Acton, Ontario. Please feel free to contact Jesse Snider at 905-806-3571 or jesse.snider@pecg.ca should you have any question regarding this TOR document.

Yours truly,

Prepared By:

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

871 Equestrian Court (Unit #1), Oakville, ON L6L 6L7
Tel: 647-795-8153 | www.pecg.ca

Approved By:

Erin Donkers, B.Sc., PG[ER]
Senior Ecologist, Arborist

Jesse Snider

From: John McMulkin <jmcmulkin@haltonhills.ca>
Sent: May 3, 2024 4:21 PM
To: Jesse Snider
Cc: trisha.hughes@cvc.ca; Partridge, Shelley; Paudel, Elizabeth; Jeff Markowiak
Subject: RE: Terms of Reference for EIS at 97 Bower Street (Acton)
Attachments: 2402401 - 97 Bower Street - Scoped EIS - TOR.pdf

Importance: High

Good afternoon Jesse,

Further to the below email, please see below Credit Valley Conservation and Halton Region comments regarding their review of the Terms of Reference for the Scoped Environmental Impact Study required in support of the proposed residential development at 97 Bower Street for your review. Please note that Halton Region's review and comments are being provided on behalf of the Town of Halton Hills, which must be addressed to the Town's satisfaction.

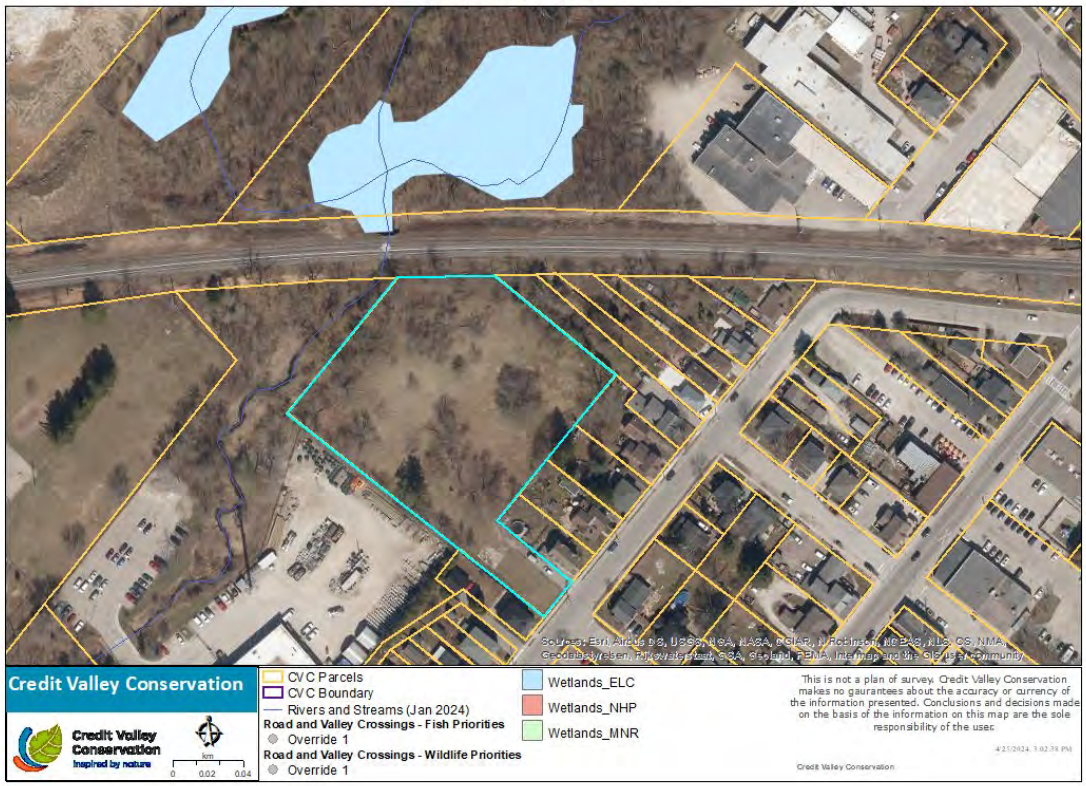
Credit Valley Conservation

CVC staff have had a chance to review the Environmental Impact Study (EIS) Terms of Reference for the proposed residential building at 97 Bower Street in Halton Hills. Further to our review, we provide the following comments.

Regulation
This subject property is subject to Section 28 of the Conservation Authorities Act and Ontario Regulation 41/24, the Prohibited Activities, Exemptions, and Permits Regulation. This regulation prohibits altering a watercourse, wetland or shoreline and prohibits development in areas adjacent to the Lake Ontario shoreline, river and stream valleys, hazardous lands and wetlands, without the prior written approval of Credit Valley Conservation (CVC) (i.e. the issuance of a permit).

Comments
1. The subject property is traversed by flood and meander belt hazards associated with Black Creek, which runs adjacent to the northwest of the property. Additionally, CVC staff have identified via desktop analysis the presence of potential wetland within 30m north of the subject site (see image below).

97 Bower Street



2. A site visit by CVC staff is to be conducted to verify and stake (if required) the limits of the regulated features. The applicant is to reach out to CVC staff to coordinate a site visit.

3. The following information should be included as part of the EIS study:

    a. Preparation of a Constraints and Opportunities figure/map that includes the limits of all CVC regulated features.
        i. These limits should be identified through field staking/ topo surveys/ desktop exercises, and other related studies, and any design concept should clearly demonstrate avoidance first principles.

    b. Descriptions of existing conditions, including a figure that shows the vegetation communities (ELC) of all regulated features on the property, including watercourses and wetlands (based on OWES).

    c. The report should be comprehensive and include important relevant information and discussions from other related studies (e.g., Functional Servicing Report, Stormwater Management, Hydrogeology, etc.) as required. All of this information needs to be integrated to assess the impact on the regulated features.
        i. In this regard, any development should seek to maintain hydrologic function of those regulated features. Please refer to CVC's Stormwater Management Guidelines.

    d. The report should include a risk evaluation which involves a discussion of the potential direct, indirect and cumulative impacts from the proposed development (e.g., site grading, SWM outfall locations, roads, etc.).

    e. Provide site-specific and realistic mitigation options targeted at reducing the intensity, duration, and extent of the identified impacts on the regulated features (e.g., buffers, tree protection fencing, ESC's, construction timing windows, soil conservation, restoration, etc.).

4. Once the development constraints are understood and established, CVC strongly recommends that a Buffer Enhancement Plan be prepared for all buffers associated with CVC regulated features. CVC's Guidelines for Designing Buffer Enhancement Plans should be referenced in the report and used to guide a future restoration plan.

Should you have any questions, please feel free to contact me.

Kind regards,

I'm working remotely. The best way to reach me is by email, mobile phone or Microsoft Teams.

Elizabeth Paudel | MES | she/her/hers
Planner, Planning and Development Services | Credit Valley Conservation
905-670-1615 ext 2360 | M: 437-339-3201
elizabeth.paudel@cvc.ca | cvc.ca

Halton Region (on behalf of the Town of Halton Hills)

Regional staff are in agreement with the scoping proposed. However, we offer the following general comments that we recommend should be included in a revised EIS Terms of Reference, for the Town's review and acceptance.

1. It is recommended that the EIA/EIS should include all content identified in Part 4 of Appendix D-2: Scoping and Terms of Reference Checklist in the Region's EIA Guideline. The EIA Guideline can be found at the following hyperlink: https://www.halton.ca/The-Region/Regional-Planning/Regional-Plans,-Strategies-and-Studies/Environmental-Impact-Assessment-Guide-Update.

2. Consultation with the MECP should be included in the EIA/EIS to demonstrate all matters pertaining to the Habitat of Endangered Species and Threatened Species have been addressed as required by the PPS (section 2.1.7) and for Key Features as per the Regional Official Plan.

3. Through the EIA/EIS process, a woodland and significant woodland assessment should be completed in accordance with policy 295 and 277 of the Regional Official Plan. If determined to be significant, the dripline of the significant woodlands should be staked by the applicant's consultant and confirmed by municipal staff.

Regional staff also note that the Town and Region are in the early stages of evaluating a project to naturalize Bovis Channel, which is just upstream of this site. This is important to note as this section of the channel should not become less naturalized or straightened.

I trust this information to be of assistance. If you have any questions, please let me know.

Sincerely,

TOWN OF HALTON HILLS

John McMulkin, MCIP, RPP
Senior Planner – Development Review
905-873-2600 ext. 2339 | c: 365-355-5367
jmcmulkin@haltonhills.ca
haltonhills.ca

From: Jesse Snider <jesse.snider@pecg.ca>
Sent: Monday, April 1, 2024 9:15 AM
To: trisha.hughes@cvc.ca; John McMulkin <jmcmulkin@haltonhills.ca>
Subject: Terms of Reference for EIS at 97 Bower Street (Acton)

[EXTERNAL EMAIL]

Hi Trisha and John,

Please find attached Palmer's Terms of Reference (TOR) for ecological studies to be carried out at 97 Bower Street in Acton. A preliminary site visit has been conducted and we have confirmed that no potential amphibian breeding habitat is present on or immediately adjacent to the property. Should you have any questions about the TOR, please let me know.

Kind regards,

Jesse Snider
Ecology Project Manager
(He/Him)

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I work with Palmer's east-central team, headquartered on the ancestral lands of the Haudenosaunee, Attiwonderonk, and Treaty 13A lands of the Mississaugas of the Credit First Nation.

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Appendix B Flora List

Environmental Impact Study

97 Bower Street, Acton ON

Castegrove Developments Inc.

Palmer Project No.: 2402401

September 24, 2024

Palmer™
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Family	Scientific Name	Common Name	S Rank	COSEWIC Status	SAR Schedule 1 Status	SARO Status	Coefficient of Conservatism	Coefficient of Wetness	Halton Region Rarity
Aceraceae	*Acer negundo*	Manitoba Maple	S5				0	0	
Aceraceae	*Acer platanoides*	Norway Maple	SNA					5	
Aceraceae	*Acer saccharum*	Sugar Maple	S5				4	3	
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	SNA					0	
Asteraceae	*Arctium minus*	Common Burdock	SNA					3	
Asteraceae	*Aster sp.*	Aster Species							
Poaceae	*Bromus inermis*	Smooth Brome	SNA					5	
Asteraceae	*Cichorium intybus*	Wild Chicory	SNA					5	
Cornaceae	*Cornus alternifolia*	Alternate-leaved Dogwood	S5				6	3	
Cornaceae	*Cornus sericea*	Red-osier Dogwood	S5				2	-3	
Apiaceae	*Daucus carota*	Wild Carrot	SNA					5	
Cucurbitaceae	*Echinocystis lobata*	Wild Cucumber	S5				3	-3	
Rosaceae	*Fragaria virginiana*	Wild Strawberry	S5				2	3	
Oleaceae	*Fraxinus pennsylvanica*	Red Ash	S4				3	-3	
Liliaceae	*Galanthus nivalis*	Common Snowdrop	SNA					5	
Rosaceae	*Geum sp.*	Avens Species							
Lamiaceae	*Glechoma hederacea*	Ground-ivy	SNA					3	
Juglandaceae	*Juglans nigra*	Black Walnut	S4?				5	3	
Lamiaceae	*Leonurus cardiaca*	Common Motherwort	SNA					5	
Caprifoliaceae	*Lonicera sp.*	Honeysuckle Species							
Rosaceae	*Malus sp.*	Apple Species							
Moraceae	*Morus alba*	White Mulberry	SNA					0	
Poaceae	*Phalaris arundinacea*	Reed Canarygrass	S5				0	-3	
Pinaceae	*Picea abies*	Norway Spruce	SNA					5	
Pinaceae	*Picea glauca*	White Spruce	S5				6	3	U
Poaceae	*Poa pratensis*	Kentucky Bluegrass	S5				0	3	
Salicaceae	*Populus balsamifera*	Balsam Poplar	S5				4	-3	
Salicaceae	*Populus deltoides*	Eastern Cottonwood	S5				4	0	
Rosaceae	*Prunus serotina*	Black Cherry	S5				3	3	

Rosaceae	*Pyrus communis*	Common Pear	SNA					5	
Rhamnaceae	*Rhamnus cathartica*	European Buckthorn	SNA					0	
Anacardiaceae	*Rhus typhina*	Staghorn Sumac	S5				1	3	
Rosaceae	*Rubus occidentalis*	Black Raspberry	S5				2	5	
Salicaceae	*Salix alba*	White Willow	SNA					-3	
Salicaceae	*Salix sp.*	Willow Species							
Asteraceae	*Solidago sp.*	Goldenrod Species							
Asteraceae	*Symphyotrichum lanceolatum*	Panicled Aster	S5				3	-3	
Asteraceae	*Taraxacum officinale*	Common Dandelion	SNA					3	
Vitaceae	*Vitis riparia*	Riverbank Grape	S5				0	0	

Appendix C Breeding Bird List

Environmental Impact Study

97 Bower Street, Acton ON

Castegrove Developments Inc.

Palmer Project No.: 2402401

September 24, 2024

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Breeding Birds of Bower Street

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]	CVC status	Area-sensitive (OMNR) [c]	
Mourning Dove	*Zenaida macroura*			S5	yes		1
Chimney Swift	*Chaetura pelagica*	THR	THR	S4	yes		2 overhead
Downy Woodpecker	*Picoides pubescens*			S5	yes		1
Northern Flicker	*Colaptes auratus*			S4	yes		1
American Crow	*Corvus brachyrhynchos*			S5	yes		1
American Robin	*Turdus migratorius*			S5	yes		2
Gray Catbird	*Dumetella carolinensis*			S4	yes		1
Red-eyed Vireo	*Vireo olivaceus*			S5	yes		1
Northern Cardinal	*Cardinalis cardinalis*			S5	yes		1
Song Sparrow	*Melospiza melodia*			S5	yes		1
Red-winged Blackbird	*Agelaius phoeniceus*			S4	yes		2
Common Grackle	*Quiscalus quiscula*			S5	yes		1
House Finch	*Carpodacus mexicanus*			SE	yes		1
American Goldfinch	*Cardeulis tristis*			S5	yes		1

Field Work Conducted On:	Date	Temp (°C)	Wind Speed (km/h)	Cloud Cover (%)	Start time	End time
Site visit 1	4-Jun-24	15	3	50	7:03	7:29
Site visit 2	26-Jun-24	18	10	10	7:13	7:48

Number of Species:14
Number of (provincial and national) Species at Risk: 0 breeding on site
Number of S1 to S3 (provincially rare) Species: 0
Number of Area-sensitive Species: 0

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 Ontari
END = Endangered, THR = Threatened, SC = Special Concern

[u] 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

97 Bower Street, Acton ON

Castegrove Developments Inc.

Palmer Project No.: 2402401

September 24, 2024

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PART OF SLR

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	The Subject Property does not contain any suitable habitat such as vertical faces.	None Expected.
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	N	The Subject Property does not contain any suitable habitat such as man-made structures.	None Expected.
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).	NHIC, OBBA	N	The Subject Property does not contain any suitake habitat such as grasslands.	None Expected.
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	The Subject Property does not contain any suitable forest habitat with a well-developed shrub layer.	None Expected.
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).	NHIC, OBBA	N	This species were obsered overhead during breeding bird surveys, but no suitable nesting habitat (generally old large chimneys) exist on the Subject Property. This species is an aerial insectivore and does not perch except at night or when at its nesting site.	None Expected.
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	The Subject Property does not contain any suitable open habitat with little to no ground vegetation.	None Expected.
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).	NHIC, OBBA	N	The Subject Property does not contain any suitake habitat such as grasslands.	None Expected.
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	N	While the Subject Property does contain deciduous forest habitat, this species was not recorded during breeding bird surveys.	None Espected.

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
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	The Subject Property does not contain any suitake habitat such as grasslands.	None Expected.
Henslow's Sparrow (*Ammodramus henslowii*)	END	END	END	1	S1B	Henslow's Sparrow is found in large fields with tall grass, a dense litter layer, and standing dead vegetation. Continuous patches of grassland of at least 30 hectares are likely required to support Henslow's sparrow populations, which nest and probably feed on the ground. This species is extremely rare in Ontario, and there have been no confirmed breeding occurrences in the province in many years. Habitat management programs have been undertaken in Ontario to increase the area of grassland through shrub removal and mowing. Due to their reproductive cycle, nest habits, and specialized habitat requirements, Henslow's sparrow nests and young are particularly vulnerable to the loss and degradation of moist, grassy habitats (Committee on the Status of Species at Risk in Ontario (COSSARO), 2011).	OBBA	N	The Subject Property does not contain any suitake habitat such as grasslands.	None Expected.
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	The Subject Property does contain forest habitat with dead trees which could be utilized by this species. However,this species was not recorded during breeding bird surveys.	None Expected.
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).	NHIC, OBBA	N	While the Subject Property does contain deciduous habitat, this species prefers older, mature forests.	None Expected.

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
HERPTILES										
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).	NHIC, ORAA	P	This species could be found in the watercourse and wetland adjacent to the Subject Property.	None Expected.
VASCULAR PLANTS										
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	This species was not recorded during the fied surveys.	None expected.
MAMMALS										
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	P	Habitat does exist for this species but it was not recorded during the field surveys. Therefore there is low potential.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and hibernate in caves outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.
Eastern Small-footed Myotis (*Myotis leibii*)	lo Statu	END	o Statu	Sched	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	Y	This species was recorded on the property during bat acoustic monitoring.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and hibernate in caves outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.
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	Y	This species was recorded on the property during bat acoustic monitoring.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and hibernate in caves outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.
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	P	Habitat does exist for this species but it was not recorded during the field surveys. An unidentified Myotis species was recorded during the surveys as well, which could have the potential to be this species.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and hibernate in caves outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
Eastern Red Bat (*Lasiurus borealis*)	S3	END	END	-	-	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	Y	Confirmed through acoustic surveys.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and migrate south outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.
Hoary Bat (*Lasiurus cinereus*)	S3	END	END	-	-	Hoary bats roost solitarily among the foliage of trees, with preferences including maple, oak, ash, elder, hemlock, and redwood trees (Bat Conservation International, 2024). Trees used as maternity roosts tend to be large diameter and tall, reaching or exceeding the height of the surrounding canopy. There is little information regarding roost switching and roost area for Hoary Bats (COSEWIC, 2024).	Professional Experience	Y	Confirmed through acoustic surveys.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and migrate south outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.
Silver-haired Bat (*Lasionycteris noctivagans*)	S3	END	END	-	-	Silver-haired Bats occurs primarily under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available. Silver-haired Bats roost in a variety of large diameter coniferous and deciduous trees. Frequent roost switching is common (COSEWIC, 2024).	Professional Experience	Y	Confirmed through acoustic surveys.	With appropriate mitigation measures, the impact is expected to be low. As SAR bats are typically active between early April and late November, and migrate south outside of that period, tree removal should be carried out between December 1 and March 31. This will avoid harm or impacts to individuals. Minimize impacts of lighting on retained forested areas. Loss of individual trees providing potential roosting habitat should be offset through the installation of bat boxes. Consultation with MECP is required.
FISH										
None										
OTHER										
Monarch Butterfly (*Danaus plexippus*)	END	SC	END	1	S2N,S4E	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	The anthropogenic area had meadow species which could provide habitat for this species. However, due to the anthropogenic nature of the community, the potential is low	Habitat protection does not apply to Special Concern Species. Expected impact is low. Minimize habitat removal during spring season. Habitat compensation could be used.
Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*)	END	END	END	1	S1S2	Gypsy Cuckoo Bumble Bee occurs in diverse habitats, including open meadows, mixed farmlands, urban areas, boreal forest and montane meadows. The species feeds on pollen and nectar from a variety of plant genera. Gypsy Cuckoo Bumble Bee emerges slightly later than host queens, and parasitizes host nests in the spring. Host nests occur in abandoned underground rodent burrows and rotten logs (COSEWIC, 2021).	NHIC	P	The FOD7 community could be potential habitat for this species.	None expected. The habitat for this species is protected by the 10 m setback required for the FOD7 community.
Rusty-patched Bumble Bee (*Bombus affinis*)	END	END	END	1	S1	The rusty-patched bumble bee is a medium to large sized bee that is primarily black and yellow with an entirely black head and face. Makes and workers have a darker, rust coloured spot on the second segment of the abdomen. It resides in open landscapes including farmland, meadows, urban fields, savannahs, and forests with open understories that allow for the growth of sufficient wildflowers for foraging. Nests are created in tree stumps, hollows, or abandoned underground burrows and can generally be located in areas where there is a mix of woodland and open field nearby. The causes of decline for this species are not fully known, but it suspected that widespread pesticide use, disease transfer between colonies, and the loss of suitable nesting and overwintering habitat are the most significant contributors. Although this species was once widespread across southern Ontario, sighting are now restricted to the Greater Toronto Area west to Sarnia and south to Norfolk County (Colla & Taylor-Pinder, 2011).	NHIC	P	The FOD7 community could be potential habitat for this species.	None expected. The habitat for this species is protected by the 10 m setback required for the FOD7 community.
Yellow-banded Bumblebee (*Bombus terricola*)	SC	SC	SC	1	S3S5	Yellow-banded Bumble Bee is a habitat generalist within open coniferous, deciduous and mixed-wood forests, wet and dry meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides,in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas. Like other bumble bees, the Yellow-banded Bumble Bee is a generalist pollen forager and has been collected from a wide variety of plant species. Queens overwinter, typically by burrowing in loose soil or rotting trees (Benton 2006). Yellow-banded Bumble Bees nest underground (Laverty and Harder 1988), often in abandoned rodent burrows located at depths of 15 to 45 cm with downward sloping entrances (Hobbs 1968; Plath 1927). Nest sites have been located in old fields.	NHIC	P	The FOD7 community could be potential habitat for this species.	None expected. The habitat for this species is protected by the 10 m setback required for the FOD7 community.

Notes:

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

SC - Special Concern
THR - Threatened
END - Endangered
S1 - Extremely rare in Ontario
S2 - Very rare in Ontario
S3 - Rare to uncommon in Ontario
S4 - Considered to be common in Ontario
S5 - Species is widespread in Ontario
SH - Possibly extirpated
S#S# - Indicates insufficient information exists to assign a single rank.
S#? - Indicates some uncertainty with the classification due to insufficient data.
S#N - Nonbreeding
S#B - Breeding
Y= Yes, P = Potential, N = No

Appendix E Significant Wildlife Habitat Screening

Environmental Impact Study

97 Bower Street, Acton ON

Castegrove Developments Inc.

Palmer Project No.: 2402401

September 24, 2024

Palmer™
PART OF SLR

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)	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	N	No large fields were present on the Subject Property.
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.	N	One marsh exists adjacent to the Subject Property with a small area going on the Subject Property, but no standing water and no indicator birds were recorded.
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Sewage treatment ponds and storm water ponds **not** SWH.	N	No shorelines were 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.	N	The forest community on the Subject Property does not meet the size criteria and no indicator birds were present during surveys.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites **not** SWH.	N	No caves, crevices, etc. were 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.	P	The southern hedgerow community had large snag densities (> 10 snags/ha). However, the snag recorded in the hedgerow community was dead. The FOD7 community also had a snag density > 10 snags/ha and could be considered as candidate Bat Maternity Colony Habitat.
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.	N	No marshes with standing water were recorded during the surveys.
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.	N	The communities did not have suitable attributes for this SWH.
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).	N	The Subject Property did not have any slopes, cliff faces, etc. present and therefore does not meet the criteria for this SWH.
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.	N	No swamps were recorded on the Subject Property, only a marsh.
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.	N	The Subject Property is located in Acton and therefore, no islands nor peninsulas were present.
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.	N	The Subject Property is in Acton and therefore, not within 5 km of 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.	N	The Subject Property is in Acton and therefore, not within 5 km of Lake Ontario.
Deer Yarding Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	N/A
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	N/A
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	N	No vertical cliff faces or talus slopes were present within the communities.
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.	N	No sand barrens were recorded.
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.	N	No alvar species were noted during the surveys.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)	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.	N	The woodland community is quite small (0.24 ha) and therefore does not meet the size criteria.
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.	N	No savannahs were recorded during the ELC survey.
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	An open Tallgrass Prairie habitat has < 25% tree cover. Less than 50% cover of exotic species.	N	No open tallgrass prairies were recorded during the ELC survey.
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.	N	No provincially or locally rare vegetation was recorded during surveys.
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).	N	A marsh was recorded in a the far southwestern corner (with the majority of the community off property) but this community is not next to a upland habitat and no indicator species were recorded during breeding bird surveys.
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.	N	While an FOD7 community was present on the Subject Property, this community ws not associate with any waterbodies or shorelines.
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.	N	The forest community on the Subject Property does not meet the size criteria and no indicator birds were present during surveys.
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.	N	The meadow marsh (MAM2-10) present on the Subject Property had no standing water an does not meet the criteria for this SWH.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area within the headwaters of a stream/river system. **(2 or more confirms SWH type).**	N	No seeps or springs were recorded during the surveys.
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.	N	No open water wetlands were recorded on the Subject Property during surveys.
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.	N	No open water wetlands were recorded on the Subject Property during surveys.
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.	N	No area-sensitive birds were recorde within the forest communityy. This community was also too small and young.
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.	N	Only a MAM2-10 community was present during the surveys and this community did not have standing water. No indicator species were recorded during any of the surveys.
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.	N	No meadows were recorded o the Subject Property.
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.	N	No thickets or cultural woodlands were recorded during they surveys.
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).	N	Only a MAM2-10 community was present during the surveys and this community did not have standing water.
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.	P	Snapping Turtles could use the marsh community in the southwestern area and the watercourse that runs adjacent to the Subject Property as a movement corridor. No Snapping Turtles were confirmed within the communities, however, the riparian zone and watercourse could be considered Candidate SWH.
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	N	N/A
Deer Movement	White-tailed Deer	all forested ecosites	When Deer Wintering Habitat confirmed	N	N/A
Exceptions for Ecoregion 6E					
Mast Producing: 6E-14	Black Bear	Forested Ecosites	>30 ha w/ mast producing species: Cherry (berries), Oak, Beech (nuts).	N	N/A
Leks: 6E-17	Sharp-tailed Grouse	CUM, CUS, CUT	Grassland/meadow >15 ha adjacent to shrublands, >30 ha adjacent to woodlands. Low agricultural intensity.	N	N/A