

Report

Environmental Impact Study

Proposed High-Rise Development, 683-685 Warden Avenue Toronto, ON

Submitted to:

Choice Properties Limited Partnership

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1.0 INTRODUCTION

Golder Associates Ltd. (Golder) has been retained by Choice Properties Limited Partnership to prepare an Environmental Impact Study (EIS) for the proposed residential development, including six mid-rise to high-rise buildings (the Project) at 683-685 Warden Avenue Toronto, Ontario (the site) (Figure 1). For the purposes of this report, and based on the policies of the Provincial Policy Statement (PPS), adjacent lands within 120 m of the site (the study area) were also included as part of the assessment.

1.1 Site and Study Area Description

The site is located at 683-685 Warden Avenue Toronto, Ontario and is approximately 2.5 ha in area. The site is currently vacant, undeveloped land covered primarily with grasses and shrubs with treed areas on the northeast portion. The site is rectangular in shape, and only accessible from Warden Avenue having no internal street network. Based on the topographic survey of the site provided by Speight, Van Nostrand and Gibson Limited, the ground surface is relatively flat in grade with a gentle slope downward from the east to Warden Avenue and Taylor-Massey Creek with geodetic elevations ranging from approximately 144 m to 148 m. It is expected that surface water runoff at the site discharges to the municipal storm sewer system within the surrounding road network (Golder 2021).

The west side of the site is bordered by Warden Avenue. The north and south sides of the site are bordered by one and two storey strip mall shopping centers with associated paved parking lots and treed landscape areas. The eastern boundary of the site is bordered by a residential area with one and two storey dwellings, associated paved driveways and treed landscape areas (i.e., Birchmount Park neighbourhood). Notably, Warden Woods and Taylor- Massey Creek (Natural Heritage System and Environmentally Significant Area) are located approximately 100 m west of the site on the other side of Warden Avenue.

2.0 ENVIRONMENTAL POLICY CONTEXT

Identification of significant natural heritage features was determined through the following regulations and policies:

- Provincial Policy Statement (PPS; MMAH 2020a)
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe (MMAH 2020b)
- City of Toronto Official Plan (2019)
- Ontario Reg. 166/06: Toronto and Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses
- Fisheries Act (Canada 1985)
- Migratory Birds Convention Act (MBCA; Canada 1994)
- Fish and Wildlife Conservation Act (FWCA; Ontario 1997)
- Species at Risk Act (SARA; Canada 2002)
- Endangered Species Act (ESA; Ontario 2007)

An overview of the above noted legislation and policy documents are discussed in sections 2.1 to 2.8.

2.1 **Provincial Policy Statement**

The PPS was issued under Section 3 of the Planning Act.

The natural heritage policies of the PPS indicate that:

- 2.1.1 Natural features and areas shall be protected for the long-term.
- 2.1.2 The diversity and connectivity of natural features in an area, and the long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features and areas*, *surface water features* and *ground water features*.
- 2.1.3 Natural heritage systems shall be identified in Ecoregions 6E and 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.
- 2.1.4 Development and site alteration shall not be permitted in:
 - a) significant wetlands in Ecoregions 5E, 6E and 7E; and
 - b) significant coastal wetlands.
- 2.1.5 Unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted in:
 - a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
 - b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
 - significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
 - d) significant wildlife habitat;
 - e) significant areas of natural and scientific interest; and
 - f) coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b).
- 2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.
- 2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.
- 2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.



2.2 Fisheries Act

The purpose of the *Fisheries Act* (Canada 1985) is to maintain healthy, sustainable and productive Canadian fisheries through the prevention of pollution and the protection of fish and their habitat. All projects planning to undertake in-water or near-water work must comply with the provisions of the *Fisheries Act*.

All projects where work is being proposed that cannot avoid impacts to fish or fish habitat require a Fisheries and Oceans Canada (DFO) project review (DFO 2019). If it is determined through the DFO review process that the project will result in death of fish or harmful alteration, disruption or destruction (HADD) of fish habitat, an authorization is required under the *Fisheries Act*. This includes projects that have the potential to obstruct fish passage or affect flows.

Proponents of projects requiring a *Fisheries Act* Authorization are required to also submit a Habitat Offsetting Plan, which provides details of how the death of fish and/or HADD of fish habitat will be offset, and outlines associated costs and monitoring commitments. Proponents also have a duty to notify DFO of any unforeseen activities during the project that cause harm to fish or fish habitat, and outline the steps taken to address them.

2.3 A Place to Grow: Growth Plan for the Greater Golden Horseshoe

The Growth Plan for the Greater Golden Horseshoe was issued under the *Places to Grow Act, 2005* (MMAH 2020b). The Growth Plan is intended, in coordination with other provincial plans, to establish a unique land use planning framework for the Greater Golden Horseshoe that supports the achievement of complete communities, a thriving economy, clean and healthy environment and social equity (MMAH 2020b). A Natural Heritage System (NHS) for the Greater Golden Horseshoe has been mapped under the Growth Plan to support planning for the protection of the region's natural heritage and biodiversity. However, the provincial mapping does not apply until it has been implemented in the applicable municipal official plan(s).

The site and study area are not within the Growth Plan NHS. Outside of the Growth Plan NHS, the municipality protects other natural heritage features consistent with the PPS (MMAH 2020b).

2.4 City of Toronto Official Plan

The site is within the municipal jurisdiction of the City of Toronto (the City) and is therefore subject to the policies of the official plan (OP) developed by this municipality. Municipal policies may be more restrictive than provincial plans so long as they do not conflict with the policies of the provincial plans. Where there is conflict between the regional and local OPs, the more restrictive policies apply.

The City's natural heritage system is shown on Map 9 of the OP (Toronto 2019), which overlaps Warden Woods off site, in the western portion of the study area. The natural heritage system contains the City's significant natural heritage features and functions, where development is generally not permitted. All proposed development in or adjacent to the natural heritage system must be evaluated to assess any impacts on the natural heritage system and identify measures to mitigate negative impacts on and/or improve the natural heritage system. In addition, Warden Woods is designated as a local Environmentally Significant Area as shown on Map 12A of the City OP. An impact study is required for any proposed development adjacent to these areas.

2.5 Toronto and Region Conservation Authority

The study area is located within the jurisdiction of the Toronto and Region Conservation Authority (TRCA). Any development or activities proposed within the regulation limit as governed by O. Reg. 166/06 TRCA: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses under the *Conservation*



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Authorities Act (Ontario 1990) may require a permit. According to available mapping (TRCA 2021), the site is not located within the regulated limits and no permit or further consultation with the TRCA is required. However, in the event the proposed development footprint is relocated within TRCA regulated limits, consultation with the TRCA is recommended to confirm if a permit is required for the proposed development.

The TRCA's Living City Policies (TRCA 2014) also recommends minimum setbacks for development adjacent to natural features including significant valleys. However, alternative setbacks may also be considered in urbanized areas of the watershed as recommended by appropriate studies (e.g., natural heritage assessment) (TRCA 2014).

2.6 Migratory Birds Convention Act

Most birds in Canada are protected by the federal MBCA, which prohibits the disturbance or destruction of migratory birds, their eggs and nests on all lands in Canada from harm and exploitation, even incidentally. The MBCA also prohibits hunting, trafficking, and commercialization of migratory birds, their eggs or nests.

There are currently no permits available to exempt development, such as the Project. Environment and Climate Change Canada (ECCC) advises that proponents schedule activities outside of the migratory bird nesting season to avoid incidental take. Proponents can apply for a damage or danger permit to remove or actively deter migratory birds from structures if it can be clearly demonstrated that the bird activity is causing damage to the structure or poses a health and safety concern for people (e.g., large nesting gull colonies generating waste in public places).

2.7 Fish and Wildlife Conservation Act

The FWCA governs the protection, ownership and possession, sale, trafficking, hunting, trapping and fishing of wildlife. It protects species and their habitats from damage or destruction, outside the context of hunting, trapping, or fishing, including for furbearer dens (occupied or un-occupied); beaver dams or lodges (unless to protect personal property); and the destruction or removal of a bird nest or eggs (some nuisance species are exempt and excludes migratory birds protected by the MBCA).

2.8 Species at Risk

2.8.1 Species at Risk Act

At a federal level, species at risk (SAR) designations for species occurring in Canada are initially determined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment and Climate Change, species are added to the federal List of Wildlife Species at Risk (Canada 2002).

It is prohibited to kill, harm, harass, capture, possess, collect, buy, sell, or trade individuals, as well as damage or destroy the residence of a species listed as extirpated, endangered or threatened on Schedule 1 of SARA. Furthermore, species that are included on Schedule 1 as extirpated, endangered or threatened are afforded protection of species-specific critical habitat on federal lands, once critical habitat is defined in a recovery strategy. Any alterations to critical habitat on federal lands require a permit under Section 73(3) of SARA.

Although species listed as special concern are not afforded the same degree of legal protection, Section 65 of SARA requires that a management plan be developed that includes measures for the conservation of the species and their habitats, and it is expected that federal landowners will implement these measures on their lands.



On private or provincially-owned lands, only migratory birds and aquatic species listed as endangered, threatened, or extirpated are protected under SARA, and critical habitat protection on non-federal lands is afforded only to aquatic species, unless ordered by the Governor in Council.

2.8.2 Endangered Species Act

SAR designations for species in Ontario are initially determined by the Committee on the Status of Species at Risk in Ontario (COSSARO). If approved by the provincial Minister of Environment, Conservation and Parks, species are added to the ESA.

Subsection 9(1) of the ESA prohibits the killing, harming, or harassing of species identified as 'endangered' or 'threatened' in the various schedules to the Act. Subsection 10(1) (a) of the ESA states that "No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario (SARO) list as an endangered or threatened species". As of June 30, 2008, the SARO list is contained in Ontario Regulation (O. Reg.) 230/08.

The ESA also provides general habitat protection to all species listed as threatened or endangered under the Act. Species-specific habitat protection is only afforded to those species for which a habitat regulation has been prepared and passed into law as a regulation of the ESA. The ESA has a permitting process to allow alterations to the habitats of protected species. In addition, the ESA allows for a registration approach for projects meeting specific conditions.

3.0 DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed mixed-use development will consist of six mid-rise to high-rise buildings ranging from 13 storeys to 36 storeys. Two common below grade parking levels are proposed below the buildings which are anticipated to extend approximately 11 m below finished grade. The proposed development also includes construction of a new public street system around the edges of the site, along with a private pedestrian and vehicular laneway running mid-way through the site. A large public space will also run mid-way through the site, featuring private amenity and Privately Owned Public Space.

Based on the Tree Inventory and Preservation Plan Report prepared for the Project (Kuntz Forestry Consulting Inc. 2021), 38 trees are proposed to be removed on the site, seven of which require a permit for removal under the City's Private Tree By-Law. Four trees that require a permit for removal will also require permission from the neighbouring property owners, while an additional seven trees do not require a permit for removal but do require permission from the neighbouring property owners. Replacement plantings are required for the removal of the permit-sized trees, the details of which will be included in a landscape plan for the site.

4.0 METHODS

4.1 Background Review

The investigation of existing conditions for the site and study area included a desktop background information search and literature review to gather data about the site and study area and provide context for the evaluation of the natural features, including:



- Natural Heritage Information Centre (NHIC) database, maintained by the Ministry of Natural Resources and Forestry (MNRF) (NHIC 2021)
- Land Information Ontario (LIO) geospatial data (MNRF 2021a)
- Species at Risk Public Registry (ECCC 2021)
- Species at Risk in Ontario (SARO) List (MNRF 2021b)
- Breeding Bird Atlas of Ontario (OBBA) (Cadman et al. 2007)
- Atlas of the Mammals of Ontario (Dobbyn 1994)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2021)
- Bat Conservation International (BCI) range maps (BCI 2021)
- Ontario Butterfly Atlas (Jones et al. 2021)
- eBird species maps (eBird 2021)
- iNaturalist occurrence maps (iNaturalist 2021)
- MNRF LIO Aquatic Resources Area Layer (MNRF 2021c)
- MNRF Fish On-Line (MNRF 2021d)
- DFO Aquatic SAR Maps (DFO 2021)
- Vascular Plants at Risk in Ontario (Leslie 2018)
- City of Toronto Official Plan (Toronto 2019)
- Existing aerial photography

To develop an understanding of the ecological communities, wildlife habitat and potential natural heritage features in the study area, MNRF LIO data were used to create base layer mapping for the study area. A geographic query of the NHIC database was conducted to identify element occurrences of any natural heritage features, including wetlands, areas of natural and scientific interest (ANSI), rare plant communities, provincially rare species (ranked S1-S3 by the NHIC) and other natural heritage features within 1 km of the site.

4.2 Species at Risk Screening

SAR considered for this report include those species listed in the ESA and SARA. An assessment was conducted to determine which SAR had potential habitat in the study area. A screening of all SAR that have the potential to be found in the vicinity of the study area was conducted as a desktop exercise using the sources listed in Section 4.1. Species with ranges overlapping the study area, or recent occurrence records in the vicinity, were screened by comparing their habitat requirements to habitat conditions in the study area as assessed through a review of aerial imagery.

The potential for the species to occur was determined through a probability of occurrence. A ranking of low indicates no suitable habitat availability for that species in the study area and no specimens identified. Moderate probability indicates more potential for the species to occur, as suitable habitat appeared to be present in the



study area, but no occurrence of the species has been recorded. Alternatively, a moderate probability could indicate an observation of a species, but there is no suitable habitat in the study area. High potential indicates a known species record in the study area (as determined through the background review or sit reconnaissance) and good quality habitat is present. Because species-specific surveys have not been completed to confirm habitat use, the results of this screening are conservative.

4.3 Site Reconnaissance

A site reconnaissance was completed on May 12, 2021 to characterize the existing conditions on the site and within the study area, where accessible. The site reconnaissance included a high-level plant community assessment using the Ecological Land Classification (ELC) System for southern Ontario (Lee et al. 1998), and identification of dominant plant species, where possible. Wildlife habitat on the site and with the study area was characterized, with a focus on potential habitats for SAR identified during the desktop SAR screening. The SAR screening was refined based on the habitat assessment during the site reconnaissance. Any habitat identified during ground-truthing with potential to provide suitable conditions for additional SAR not already identified through the desktop screening was also assessed and recorded.

4.4 Analysis of Significance and Sensitivity and Impact Assessment

An assessment was conducted to determine if any significant natural heritage features, SAR, or other species of conservation concern exist, or have moderate or high potential to exist, on the site or in the study area and assess whether the proposed development would negatively impact surrounding significant natural heritage features or SAR. Preventative, mitigative, and remedial measures were considered in assessing the net effects of the proposed development on the surrounding ecosystem.

5.0 EXISTING CONDITIONS

5.1 Regional Context

The study area is located in Ecoregion 7E (Lake Erie-Lake Ontario) which covers 2.2% of Ontario. Ecoregion 7E is underlain by silurian and devonian limestone bedrock and is characterized by flat topography with deep undulating deposits of ground moraine. Soils are primarily calcareous mineral based and dominated by gray brown luvisols and gleysols. The majority of the region is covered by cropland or pasture (78%), with 7% developed land and the remaining region with deciduous forest covers. The study area is located within the Great Lakes Watershed (Crins et al. 2009).

5.2 Vegetation

5.2.1 Plant Communities

Based on the desktop mapping and results of the site reconnaissance, the site is characterized by two communities: a cultural meadow throughout the majority of the site, and a narrow area of cultural woodland in the eastern portion of the site. Off-site, there are two anthropogenic communities overlapping the majority of the study area, defined as residential and commercial/industrial, with areas of manicured lawn. There is also one natural community type off-site in the western portion of the study area, which was characterized as deciduous forest. The ELC communities are shown on Figure 1 and briefly described in Table 1.

Table 1: Plant Communities on the Site and in the Study Are

Plant Community	Description	SRANK ^a								
TERRESTRIAL										
CUM Cultural Meadow	A highly disturbed cultural meadow on the site dominated by garlic mustard (<i>Alliaria petiolate</i>), dandelion (<i>Taraxacum spp.)</i> , bitter wintercress (<i>Barbarea vulgaris</i>), and clover spp. (<i>Trifolium spp.)</i> . Small trees dominated by Manitoba Maple (<i>Acer negundo</i>) were observed throughout the site. Soil and rock/rubble stockpiles were scattered throughout the eastern portion of the site, with numerous mammal burrows (i.e., groundhog) within the soil stockpiles.	n/a								
CUW Cultural Woodland	A highly disturbed cultural woodland in the eastern portion of the site with immature trees dominated by Manitoba maple and Siberian elm (<i>Ulmus pumila</i>). The ground was covered by invasive garlic mustard and garbage.	n/a								
FOD5-2 Fresh-Moist Sugar Maple-Beech Deciduous Forest	Off-site, a deciduous forest associated with the Taylor-Massey Creek valleyland in the western portion of the study area. Trees in the canopy and subcanopy were dominated by sugar maple (<i>Acer saccharum</i>), beech (<i>Fagus spp.</i>), northern red oak (<i>Quercus rubra</i>), and white birch (<i>Betula papyrifera</i>), with associations of balsam fir (<i>Abies balsamea</i>), eastern hemlock (<i>Tsuga canadensis</i>), eastern white cedar (<i>Thuja occidentalis</i>), white spruce (<i>Picea glauca</i>), and red maple (<i>Acer rubrum</i>). The understorey was dominated by shrubs including Tartarian honeysuckle (<i>Lonicera tatarica</i>), alternate-leaved dogwood (<i>Cornus alternifolia</i>), redosier dogwood (<i>Cornus sericea</i>), and common buckthorn (<i>Rhamnus spp.</i>). Ground cover was sparse and included colt's-foot (<i>Petasites frigidus</i>), yellow trout lily (<i>Erythronium americanum</i>), and sensitive fern (<i>Onoclea sensibilis</i>). There were occasional trees that ranged between 50 and 70 cm diameter at breast height (DBH), and rarely up to 100 cm DBH. Occasional snags from ash trees (<i>Fraxinus</i> sp.) affected by emerald ash borer were observed. The topography was undulating and gently sloped to the west toward Taylor-Massey Creek.	S5								
ANTHROPOGENIC										
RES Residential	Off-site, residential properties throughout the study area, occupied residential neighbourhoods and mid-rise buildings, paved parking areas, and landscaped areas.	n/a								
COM/IND Commercial	Off-site, a commercial complex in the northern portion of the study area with one and two storey strip mall shopping centers with associated paved parking lots and treed landscape areas. Further north is hydro lands with associated infrastructure and manicured lawn.	n/a								
3 SRANK is a provincial level rank indication the conservation status of a species or plant community and is assigned by the NHIC in Optario										

^a SRANK is a provincial –level rank indicating the conservation status of a species or plant community and is assigned by the NHIC in Ontario (NHIC 2015). SRANKs are not legal designations but are used to prioritize protection efforts in the Province. SRANKs for plant communities in Ontario are defined in the Significant Wildlife Habitat Technical Guide (MNR 2000). Ranks 1-3 are considered extremely rare to uncommon in Ontario; Ranks 4 and 5 are considered to be common and widespread. n/a indicates a community that has not been ranked, which often applies to anthropogenic, culturally-influenced or high-level ELC communities (i.e., FOD).



5.3 Fish and Fish Habitat

There are no aquatic features or fish habitat located on the site or within the study area. The closest surface water feature, Taylor-Massey Creek, is located 180 m to the west of the site.

5.4 Species at Risk

Based on the results of the desktop SAR screening and site reconnaissance twelve SAR were assessed to have moderate potential to occur on the site and/or within the study area based on the presence of potential suitable habitat (Appendix A): monarch (*Danaus plexippus*), Canada warbler (*Cardellina canadensis*), chimney swift (*Chaetura pelagica*), common nighthawk (*Chordeiles minor*), eastern wood-pewee (*Contopus virens*), red-headed woodpecker (*Melanerpes erythrocephalus*), wood thrush (*Hylocichla mustelina*), eastern small-footed myotis (*Myotis leibii*), little brown myotis (*Myotis lucifugus*), northern myotis (*Myotis septentrionalis*), tri-coloured bat (*Perimyotis subflavus*), and milksnake (*Lampropeltis Triangulum*) (Appendix A).

One species is designated as threatened under the ESA (chimney swift) and four species are designated as endangered under the ESA (eastern small-footed myotis, little brown myotis, northern myotis, tri-coloured bat). Species designated as threatened or endangered under the ESA receive individual and habitat protection by the ESA. These five species are discussed further in Section 6.4.

Six species are designated as special concern under the ESA (monarch, Canada warbler, common nighthawk, eastern wood-pewee, red-headed woodpecker, wood thrush). These species are collectively referred to as species of conservation concern (SOCC) and do not receive individual or habitat protection under the ESA. However, SOCC must still be considered under the policies of the PPS and municipal policies, where applicable (i.e., significant wildlife habitat). These five species are discussed further in Section 6.5.

One species (milksnake) is designated not at risk under the ESA, special concern under SARA and provincially rank S4 by NHIC, and does not receive individual or habitat protection under any applicable legislation Habitat requirements are presented in Appendix A, but this species is not discussed further in this report.

6.0 ASSESSMENT OF SIGNIFICANT NATURAL HERITAGE FEATURES

This section assesses the natural heritage features and functions (as outlined in Section 2.0) located within the study area. The following sources were used during the assessment of features:

- Natural Heritage Reference Manual (NHRM; MNR 2010)
- Significant Wildlife Habitat Technical Guide (SWHTG; MNR 2000)
- Significant Wildlife Habitat Mitigation Support Tool (SWHMiST; MNRF 2014)
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (MNRF 2015)

Based on the desktop assessment and site reconnaissance, four significant natural heritage features were identified to occur, or have potential to occur, on the site and/or in the study area: significant woodlands, significant valleylands, significant wildlife habitat (species of conservation concern), and local Environmentally Significant Areas. The following significant natural heritage features were assessed and identified not to occur on the site or in the study area: provincially significant wetlands, other wetlands, fish habitat, or ANSIs.



6.1 Significant Woodlands

Woodlands can vary in their level of significance at the local, regional and provincial levels. Significant woodlands are areas which are ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to their contribution to the broader landscape because of their location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history (MMAH 2020). Where local municipalities have not defined or mapped significant woodlands, these features are to be identified using criteria established by the MNRF as included in the NHRM for Policy 2.3 of the PPS (MNR 2010).

Significant woodlands are not specifically mapped by the City (Toronto 2019) but may be included as part of the City's natural heritage system. The City's natural heritage system overlaps the deciduous forest (FOD5-2) associated with Warden Woods off-site, in the western portion of the study area (Figure 1).

The deciduous forest (FOD5-2) is also considered significant by the province for meeting the following criteria in the NHRM:

- Size (20 ha or larger)
- Proximity to other habitats (within 30 m of fish habitat receiving ecological benefit)
- Linkages (located within a defined natural heritage system)
- Water protection (within 30 m of water course or fish habitat)

Development is generally not permitted within the City's natural heritage system (Toronto 2019). In addition, the deciduous forest is protected by the City's Ravine and Natural Feature Protection By-Law which requires a permit for any alteration activities. The proposed development footprint is not expected to intersect with Warden Woods and is expected to be limited to the undeveloped areas of the site (Figure 1). The site is also separated from the deciduous forest by developed areas including Warden Avenue, an existing mid-rise residential building (i.e., 682 Warden Avenue) and its associated paved parking lot and treed landscape areas (Figure 1). Given the distance between the site and significant woodland and intervening developed areas, no direct or indirect impacts on the significant woodland are anticipated. Further analysis is not warranted.

6.2 Significant Valleylands

Significant valleylands should be defined and designated by the planning authority. General guidelines for determining significance of these features are presented in the NHRM for Policy 2.3 of the PPS (MNR 2010). Recommended criteria for designating significant valleylands under the PPS include prominence as a distinctive landform, degree of naturalness, importance of its ecological functions, restoration potential, and historical and cultural values.

Significant valleylands are not specifically mapped by the City (Toronto 2019) but may be included as part of the City's natural heritage system. The City's natural heritage system overlaps the valleyland associated with Taylor-Massey Creek located off-site, in the western portion of the study area (Figure 1).

The valleyland is also considered significant by the province for meeting the following criteria as defined in the NHRM:

- Surface water functions (holds water for at least 2 months/year)
- Landform prominence (areas with well-defined valley morphology)

Development is generally not permitted within the City's natural heritage system (Toronto 2019). The valleyland is also protected by the City's Ravine and Natural Feature Protection By-Law, which requires a permit for any alteration activities located within or adjacent to the feature. Development is required to be setback at least 10 m from the stable top-of-bank of valleys, ravines and bluffs, or more if warranted by the severity of existing or potential natural hazards (Toronto 2019). The TRCA also recommends a 10 m setback from the stable top-of-slope of valleylands (TRCA 2014).

The proposed development footprint is located approximately 100 m away from the significant valleyland with intervening developed areas and no adverse direct or indirect impacts are expected. Further analysis is not warranted.

6.3 Environmentally Significant Areas

According to City mapping (Toronto 2021), there is a local Environmentally Significant Area identified as "Warden Woods" overlapping the western portion of the study area. Environmentally Significant Areas are located within the City's natural heritage system, where development is generally not permitted. In addition, the Environmentally Significant Area is located within the Ravine and Natural Feature Protection By-Law Area, which requires a permit for any alteration activities.

The proposed development footprint is located approximately 100 m away from the Environmentally Significant Area with intervening developed areas and no adverse direct or indirect impacts are expected. Further analysis is not warranted.

6.4 Habitat of Endangered or Threatened Species

General habitat protection is provided by the ESA to all threatened and endangered species. General habitat is defined as the area on which a species depends directly or indirectly to carry out life processes, including reproduction, rearing, hibernation, migration or feeding. Species-specific habitat protection is only afforded to those species for which a habitat regulation has been prepared and passed into law as a regulation of the ESA. A habitat regulation outlines specific habitat features and associated buffers that are protected, and also specifies the geographic area(s) of the province where the habitat regulation applies. In some cases, a General Habitat Description (GHD) may also be prepared to help define and refine the area of protected habitat in advance of a habitat regulation.

Based on the desktop SAR screening, five species designated threatened or endangered under the ESA were assessed to have moderate potential to occur on the site and/or within the study area based on availability of potential suitable habitat: chimney swift, eastern small-footed myotis, little brown myotis, northern myotis and tri-coloured bat. No other species designated threatened or endangered under the ESA were assessed to have moderate or high potential to occur on site or within the study area (Appendix A).

Chimney Swift

The GHD (MNR 2013) for chimney swift defines habitat by one category:

Category 1 – human-made nest/roost, or a natural nest/roost cavity and the area within 90 m of the natural cavity



There is potential for residential chimneys off-site within the study area to provide suitable nesting or roosting habitat for chimney swift. Potential suitable habitat is off-site and will not be altered, and chimney swift is not expected to be adversely impacted by the proposed Project. Further analysis is not warranted.

Eastern Small-Footed Myotis

There is no GHD for eastern small-footed myotis, therefore the habitat is defined as the specific features that support critical life processes for this species (i.e., maternity roosting or hibernacula). The rubble piles throughout the site may provide suitable roost habitat. Eastern small-footed myotis is carried forward to the impact assessment (Section 7.1)

Little Brown Myotis, Northern Myotis and Tri-Coloured Bat

There is no GHD for little brown myotis, northern myotis or tri-colored bat, therefore the habitat is defined by the ELC feature that supports critical life processes for these bat species (i.e., maternity roosting or hibernacula). The deciduous forest (FOD5-2) off-site, in the western portion of the study area may provide suitable roosting habitat for all three species. Potential suitable habitat is off-site and will not be altered, and little brown myotis, northern myotis and tri-colored bat are not expected to be adversely impacted by the proposed Project. Further analysis is not warranted.

6.5 Significant Wildlife Habitat

Significant wildlife habitat (SWH) is one of the more complicated natural heritage features to identify and evaluate. The NHRM includes criteria and guidelines for designating SWH. There are four general types of significant wildlife habitat: seasonal concentration areas, rare or specialized habitat, habitat for SOCC, and migration corridors. The specific habitats considered in this report are evaluated based on the criteria outlined in the Ecoregion 7E Criteria Schedules (MNRF 2015).

According to the Ecoregion 7E Criteria Schedule (MNRF 2015), an area of habitat must be easily mapped and contribute to an important life stage component for the species in order to be considered SWH. The area of habitat considered to be SWH is defined by the ELC community. Based on the desktop review and site reconnaissance, there is potential for two types of SWH on the site and within the study area: seasonal concentration areas and habitat for SOCC.

6.5.1 **Seasonal Concentration Areas of Animals**

Seasonal concentration areas of animals are considered to be areas where large numbers of a species gather together at one time of the year, or where several species congregate on an annual basis. The Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF 2015) identify the following 14 types of seasonal concentration areas of animals that may be considered SWH:

- waterfowl stopover and staging areas (terrestrial)
- waterfowl stopover and staging areas (aquatic)
- shorebird migratory stopover areas
- raptor wintering areas
- bat hibernacula
- bat maternity colonies



- turtle wintering areas
- reptile hibernacula
- colonially-nesting bird breeding habitat (bank and cliff)
- colonially-nesting bird breeding habitat (tree/shrubs)
- colonially-nesting bird breeding habitat (ground)
- migratory butterfly stopover areas
- landbird migratory stopover areas
- deer winter congregation areas

Based on the site reconnaissance, several burrows located throughout the eastern portion of the site could provide habitat for reptile hibernacula. The observed burrows were dug in soil mounds, likely by a mammal (i.e., groundhog) as they were 20 cm to 60 cm in diameter. However, the rubble piles and semi-developed nature of the site suggests that the area is likely too disturbed to provide high quality hibernacula for reptiles. There is abundant higher quality habitat within the study area located 100 m west of the site in Warden Woods. No snakes were observed during the site reconnaissance. Further analysis is not warranted.

6.5.2 Habitat for Species of Conservation Concern

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF 2015) defines five habitats of SOCC that may be considered SWH:

- marsh bird breeding habitat
- open country bird breeding habitat
- shrub/early successional bird breeding habitat
- terrestrial crayfish habitat
- habitat of special concern and rare wildlife species

Special concern and rare wildlife species include species listed as special concern under the ESA; species identified as endangered or threatened by COSEWIC; species that are rare, whose populations are significantly declining, or have a high percentage of their global population in Ontario (i.e., ranked S1-S3 by NHIC); and species designated as rare by municipalities (MNR 2000). This category excludes species listed as endangered or threatened under the ESA (see Section 6.4).

Based on the desktop assessment and site reconnaissance, candidate SWH for six SOCC was identified on the site and within the study area: Canada warbler, common nighthawk, eastern wood-pewee, red-headed woodpecker, wood thrush, and monarch (Appendix A). All of these species are listed as special concern under the ESA. Canada warbler, common nighthawk, olive-sided flycatcher, and wood thrush are listed as endangered under the SARA, while red-headed woodpecker is listed as threatened under the SARA. Monarch is listed as special concern under the SARA (Appendix A).

The deciduous forest (FOD5-2) off-site, in the western portion of the study area (Figure 1) may provide suitable habitat for Canada warbler, eastern wood-pewee, red-headed woodpecker, wood thrush and monarch. The deciduous forest is part of the City's natural heritage system in which development is generally not permitted (Toronto 2019). As discussed in Section 6.1, no adverse direct or indirect impacts associated with the proposed Project on the deciduous forest are anticipated. Further analysis is not warranted.

The cultural meadow (CUM) on the site (Figure 1), which may provide habitat for common nighthawk, is proposed to be removed. The flat topped commercial buildings (COM-IND) off-site, in the northern and southern portions of the study area (Figure 1) may also provide suitable habitat for common nighthawk. The meadow on site is relatively small and unlikely to support a large concentration of bird individuals. Additionally, the flat-topped commercial buildings (COM-IND) in the northern and southern portions of the study area may also provide suitable habitat for common nighthawk. Loss of potential habitat on the site is not expected to impact the regional breeding population of common nighthawk. Best management practices are recommended to avoid potential adverse impacts to individuals (Section 8.1).

7.0 IMPACT ASSESSMENT

Construction impacts have the potential to negatively affect the natural features on the site and in the study area, including loss of overall biodiversity on the site through removal of vegetation and wildlife habitat. Activities related to site preparation and development such as grading, filling, and presence of heavy machinery can cause soil erosion and compaction, while machinery can destroy over-hanging vegetation. Encroachment into the natural areas can also occur by machinery, foot traffic, and discarding or storage of construction materials outside the construction envelope.

The distance of the site from adjacent sensitive natural heritage features (i.e., 100 m) will provide sufficient buffering from potential construction impacts; however, standard best management practices (e.g., sediment/erosion control fencing) will also be employed during construction to mitigate any potential effects to the adjacent natural features, as outlined in Section 8.1.

Generally, noise generated by construction activities represents a short-term disturbance to wildlife using the adjacent natural areas. It is expected that with the completion of construction, wildlife will return to their normal use patterns within the natural areas adjacent to the development. Temporary and short-term loss of biodiversity at the site due to construction (i.e., site clearing) can be mitigated through naturalized plantings wherever possible in the development.

Many of the chronic impacts that can occur in urban natural areas are not a result of degradation of the edge, but an increase in human use through the entire system. Commercial developments may result in a marginal increase in potential disturbance to the adjacent natural features through increased noise and light pollution.

7.1 Threatened and Endangered Species

Eastern Small-Footed Myotis

The rubble piles throughout the site may provide suitable roosting habitat for this species and are proposed to be removed. Additional surveys are recommended to confirm habitat use on the site. If habitat is confirmed to be in use, an authorization under the ESA may be required to remove habitat.



8.0 MITIGATION

8.1 Best Management Practices

Standard best management practices to be followed during construction activities to mitigate damage to natural features include the following:

- Implement sediment/erosion controls adjacent to natural features during site preparation.
- As per the MBCA, avoid removal of vegetation during the migratory bird nesting period (April 5 August 31; ECCC 2017). If vegetation removal during this period cannot be avoided, conduct a pre-clearing nesting survey by a qualified biologist. If active nests are identified during pre-clearing nesting surveys, nests must be protected until the young have fledged.
- Avoid activities resulting in major noise and vibration levels during the migratory bird nesting period (April 5 August 26; ECCC 2017), where feasible.
- Ensure all equipment is cleaned prior to transportation and use on the site to avoid the spread or introduction of invasive species on the site.

8.2 Eastern Small-footed Myotis

To confirm the use of potential habitat on site, it is recommended that both acoustic surveys and exit surveys are conducted:

- Deploy stationary acoustic detectors on site for a minimum of 10 nights in June (the maternity roosting period for bats).
- Conduct two exit surveys in June, one at the time of acoustic detector deployment, and one at the time of acoustic detector collection.

8.3 Landscaping and Planting

Standard best management practices to consider when planning landscaping and planting activities include the following:

- Use organic gardening products. Avoid chemical pesticides. Landscaping with native species reduces the need for pesticides and fertilizers because native species are adapted to the local climate, insects and diseases.
- Dispose of yard and garden waste in appropriate receptacles to avoid the spread of invasive species.
- Consider using natural landscaping techniques on the property: Natural landscaping involves the use of plants that are native to a region to replicate a natural landscape that reflects indigenous vegetation communities. Native plants are adapted to the local environment and typically require less maintenance and are less likely to be invasive than non-native species traditionally sold at garden centres. Native plants are also more likely to provide wildlife habitat.
- Avoid species that are known to escape garden settings and colonize adjacent natural areas (often referred to as 'invasive species'). A good source for learning what species to avoid planting is the Ontario Invading Plant Species Awareness Program's website (<u>http://www.invadingspecies.com/plants/</u>).

9.0 CONCLUSIONS AND RECOMMENDATIONS

The Project has been assessed for potential ecological impacts under the PPS, the policies of applicable municipal OPs and provincial plans, as well as other relevant legislation, including the ESA.

Based on these analyses and the implementation of appropriate mitigation measures, it is expected that there will be no residual negative impacts to the significant natural features and functions on the site or off-site, in the study area.

These conclusions are based on the following recommendations:

- Implement standard best management practices, as described in Section 8.1
- Conduct species-specific surveys to confirm the use of potential habitat on the site by eastern small-footed myotis. If habitat use is confirmed, authorization under the ESA may be required and consultation with the MECP is recommended.

10.0 LIMITATIONS

The results of this report are based on information available to Golder at the time of the review, and the status of species listed in the noted Acts and Regulations effective as of the date of this report. The review may be subject to limitations associated with base mapping and other publicly available information used. Additional surveys would be required to confirm habitat use and/or delineate feature boundaries for setback measurements.

A general assessment of potential impacts on significant natural heritage features, including SAR, was conducted based on the general knowledge of the proposed development activities. However, the site plans have not yet been finalized and it is recommended that this assessment be updated once the site plans have been finalized.

11.0 CLOSURE

We trust this report meets your current needs. If you have any further questions regarding this report, please contact the undersigned.



Signature Page

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luc

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AS/HM/jt/mp

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https://golderassociates.sharepoint.com/sites/123368/project files/6 deliverables/8000 - eis/final/20139596-rev0-eis-685wardenave-25jun2021.docx



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FIGURE





LEGEND

WATERCOURSE

- ELC COMMUNITY
- SITE BOUNDARY
- STUDY AREA

ELC Code	ELC Community
FOD5-2	Dry-Fresh Sugar Maple-Beech Deciduous Forest
CUW	Cultural Woodland
CUM	Cultural Meadow
COMIND	Commercial/Industrial
RES	Residential





NOTE(S) 1. LOCATIONS ARE APPROXIMATE.

REFERENCE(S) 1. BASE DATA - MNRF 2020 2. BASE IMAGE - SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY 3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT

CHOICE PROPERTIES LIMITED PARTNERSHIP

PROJECT

ENVIRONMENTAL IMPACT STUDY FOR THE PROPOSED HIGH-RISE DEVELOPMENT AT 683-685 WARDEN AVENUE, TORONTO

ECOLOGICAL LAND CLASSIFICATION





0005

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APPENDIX A

Species at Risk Screening



Taxon	Common Name	Scientific Name	Endangered Species Act ¹	Species at Risk Act (Sch 1) ²	COSEWIC ³	Provincial (SRank) ⁴	Habitat Requirements⁵	Potential to Occur on Site or in the Study Area (Desktop)	Rationale for Potential to Occur on Site or in the Study Area (Desktop)
Amphibian	Western chorus frog - Great Lakes St. Lawrence / Canadian Shield population	Pseudacris triseriata	_	THR	THR	S3	In Ontario, habitat of this amphibian species typically consists of marshes or wooded wetlands, particularly those with dense shrub layers and grasses, as this species is a poor climber. They will breed in almost any fishless pond including roadside ditches, gravel pits and flooded swales in meadows. This species hibernates in terrestrial habitats under rocks, dead trees or leaves, in loose soil or in animal burrows. During hibernation, this species is tolerant of flooding (Environment Canada 2015).	Low	There is no suitable habitat on site or within the study area for this species.
Arthropod	American bumble bee	Bombus pensylvanicus	_	_	SC		This bumble bee species is found in open grassland habitats, including agricultural fields and meadows. It builds nests in tufts of grass, old bird nests, rock piles, mammal burrows or cavities of trees (Hatfield et al. 2015).	Low	There is no suitable habitat on site or within the study area for this species.
Arthropod	Gorgone checkerspot	Chlosyne gorgone	_	_	_	S1	This species may use a variety of habitats where host plants are abundant, including old fields, savannas, dry prairies, sandy ridges, glades in woodlands, wooded roadsides, powerline right-of-ways, open pine forests, and barrens. The butterfly can thrive in disturbed and early-successional sites.	Low	The disturbed urban nature of the site and study area is unlikely to provide suitable habitat for this species.
Arthropod	Gypsy cukoo bumble bee	Bombus bohemicus	END	END	END	S1S2	In Ontario, gypsy cuckoo bumble bee is a habitat generalist and is found in several different types of habitats, including open meadows, agricultural fields, urban areas, boreal forest and other woodlands. Gypsy cuckoo bumble bee is a parasitic bee and uses the underground nests of the subgenus <i>Bombus senso stricto</i> . This bee is a generalist forager but is often associated with flowering plants close to wooded areas and blueberry fields. Currently this species is only known to occur in Pinery Provincial Park (COSEWIC 2014).	Low	Although the site and study area are located within the historic range of this species, it is currently only known to occur in Pinery Provincial Park which is outside of the study area.
Arthropod	Monarch	Danaus plexippus	SC	SC	END	S2N, S4B	In Ontario, monarch is found throughout the northern and southern regions of the province. This butterfly is found wherever there is milkweed (<i>Asclepias</i> spp.) plants for its caterpillars and wildflowers that supply a nectar source for adults. It is often found on abandoned farmland, meadows, open wetlands, prairies and roadsides, but also in city gardens and parks. Important staging areas during migration occur along the north shores of the Great Lakes (COSEWIC 2010).	Moderate	There is no suitable habitat on site. There is potential for milkweed to be present along roadside ditches within the site and study area, along with the powerline right of way on the west side of the study area.
Arthropod	Mottled duskywing	Erynnis martialis	END	_	END	S2	In Ontario, the mottled duskywing is found in the same habitat as its food plant <i>Ceanothus</i> spp.: open or partially open, dry, sandy areas, or limestone alvars. These habitats are relatively uncommon and include dry open pine and pine oak woodland, other open dry woodlands, alvars, savannah and other dry open sandy habitats. Usually seen nectaring on wildflowers, or on wet sandy roads in the company of other duskywing species (Linton 2015).	Low	There is no suitable habitat on site or within the study area for this species
Arthropod	Rusty-patched bumble bee	Bombus affinis	END	END	END	S1	In Ontario, rusty-patched bumble bee is found in areas from the southern Great Lakes – St. Lawrence forest region southwards into the Carolinian forest. It is a habitat generalist, but it is typically found in open habitats, such as mixed farmland, savannah, marshes, sand dunes, urban and lightly wooded areas. It is cold –tolerant and can be found at high elevations. Most recent sightings in Ontario have been in oak savannah habitat with well-drained, sandy soils and moderately open canopy. It requires an abundance of flowering plants for forage. This species most often builds nests underground in old rodent burrows, but also in hollow tree stumps and fallen dead wood (Colla	Low	Although the site and study area are located within the historic range of this species, it is currently only known to occur in Pinery Provincial Park which is outside of the study area.



Taxon	Common Name	Scientific Name	Endangered Species Act ¹	Species at Risk Act (Sch 1) ²	COSEWIC ³	Provincial (SRank) ⁴	Habitat Requirements⁵	Potential to Occur on Site or in the Study Area (Desktop)	Rationale for Potential to Occur on Site or in the Study Area (Desktop)
							and Taylor-Pindar 2011). The only recent sightings in Ontario are from the Pinery Provincial Park.		
Arthropod	Yellow-banded bumble bee	Bombus terricola	SC	SC	SC	S2	Yellow-banded bumblebee is a forage and habitat generalist, occupying open woodlands, meadows, grasslands, farmlands and urban parks, and taking nectar from various flowering plants (COSEWIC 2015). It is an early emerging species, making it likely an important pollinator of early blooming wild flowering plants (e.g., wild blueberry) and agricultural crops (e.g., apple). Nest sites are often in abandoned rodent burrows in old fields and queens overwinter by burrowing into loose soil or rotting trees (COSEWIC 2015).	Low	Woodland and forested areas on site and within the study area may provide suitable habitat, although it is rare to find this species outside of Point Pelee and Pelee Island
Bird	Bank swallow	Riparia riparia	THR	THR	THR	S4B	In Ontario, bank swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and riverbanks, sand and gravel pits, and roadcuts. Nests are generally built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999).	Low	Although the riverbanks of Taylor-Massey Creek within Warden Woods may provide suitable nesting habitat for this species, the study area does not overlap the potential bank habitat.
Bird	Barn swallow	Hirundo rustica	THR	THR	THR	S4B	In Ontario, barn swallow breeds in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared rights-of-way, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 2019).	Low	There were no suitable anthropogenic structures observed on site or study area.
Bird	Black-crowned night- heron	Nycticorax nycticorax	_	_	_	S3B,S3N	In Ontario, this species breeds in colonies in a wide variety of aquatic habitats. However, most colonies are located in shrubs or trees on islands, in swamps or otherwise over water. Also observed nesting in emergent herbaceous vegetation (Hothem et al. 2010).	Low	There is no suitable habitat on site or within the study area for this species.
Bird	Bobolink	Dolichonyx oryzivorus	THR	THR	THR	S4B	In Ontario, bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Renfrew et al. 2015).	Low	There is no suitable habitat on site or within the study area for this species.
Bird	Canada warbler	Cardellina canadensis	SC	THR	THR	S4B	In Ontario, breeding habitat for Canada warbler consists of moist mixed forests with a well-developed shrubby understory. This includes low-lying areas such as cedar and alder swamps, and riparian thickets (McLaren 2007). It is also found in densely vegetated regenerating forest openings. Suitable habitat often contains a developed moss layer and an uneven forest floor. Nests are well concealed on or near the ground in dense shrub or fern cover, often in stumps, fallen logs, overhanging stream banks or mossy hummocks (Reitsma et al. 2010).	Moderate	There is no suitable habitat on the site for this species. Woodland in Warden Woods on the western portion of the study area may provide suitable habitat.



Taxon	Common Name	Scientific Name	Endangered Species Act ¹	Species at Risk Act (Sch 1) ²	COSEWIC ³	Provincial (SRank) ⁴	Habitat Requirements⁵	Potential to Occur on Site or in the Study Area (Desktop)	Rationale for Potential to Occur on Site or in the Study Area (Desktop)
Bird	Chimney swift	Chaetura pelagica	THR	THR	THR	S3B	In Ontario, chimney swift breeding habitat is varied and includes urban, suburban, rural and wooded sites. They are most commonly associated with towns and cities with large concentrations of chimneys. Preferred nesting sites are dark, sheltered spots with a vertical surface to which the bird can grip. Unused chimneys are the primary nesting and roosting structure, but other anthropogenic structures and large diameter cavity trees are also used (COSEWIC 2007).	Moderate	Anthropogenic structures within the site and study area may provide suitable nesting habitat for this species. A residential dwelling 65 m south of the site with two open chimneys may provide suitable nesting and roosting habitat for this species. Other residential houses in the study area may also provide suitable habitat.
Bird	Common nighthawk	Chordeiles minor	SC	THR	SC	S4B	In Ontario, these aerial foragers require areas with large open habitat. This includes farmland, open woodlands, clearcuts, burns, rock outcrops, alvars, bogs, fens, prairies, gravel pits and gravel rooftops in cities (Sandilands 2007).	Moderate	The meadow on site may provide suitable nesting habitat. Flat topped commercial buildings in the northern and southern portions of the study area may provide suitable habitat.
Bird	Eastern meadowlark	Sturnella magna	THR	THR	THR	S4B	In Ontario, eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2019). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970).	Low	There is no suitable habitat on site or within the study area for this species.
Bird	Eastern whip-poor- will	Antrostomus vociferus	THR	THR	THR	S4B	In Ontario, whip-poor-will breeds in semi-open forests with little ground cover. Breeding habitat is dependent on forest structure rather than species composition, and is found on rock and sand barrens, open conifer plantations and post-disturbance regenerating forest. Territory size ranges from 3 to 11 ha (COSEWIC 2009). No nest is constructed, and eggs are laid directly on the leaf litter (Mills 2007).	Low	Warden Woods on the west side of the study area does not have a semi-open forest structure and will not provide suitable habitat for this species. The cultural woodland on site is likely too disturbed to provide suitable habitat for this species.
Bird	Eastern wood-pewee	Contopus virens	SC	SC	SC	S4B	In Ontario, eastern wood-pewee inhabits a wide variety of wooded upland and lowland habitats, including deciduous, coniferous, or mixed forests. It occurs most frequently in forests with some degree of openness. Intermediate-aged forests with a relatively sparse midstory are preferred. In younger forests with a relatively dense midstory, it tends to inhabit the edges. Also occurs in anthropogenic habitats providing an open forested aspect such as parks and suburban neighborhoods. Nest is constructed atop a horizontal branch, 1-2 m above the ground, in a wide variety of deciduous and coniferous trees (COSEWIC 2012).	Moderate	There is no suitable habitat on site for this species. Woodland in Warden Woods on the west side of the study area may provide suitable breeding habitat.
Bird	Olive-sided flycatcher	Contopus cooperi	SC	THR	SC	S4B	In Ontario, olive-sided flycatcher breeding habitat consists of natural openings in coniferous or mixed forests, including bogs, burns, riparian zones, and cutover areas. They are also found in semi-open forest stands and early successional forest when tall snags and residual live trees are present. In the boreal forest it is often associated with muskeg, bogs, fens and swamps dominated by spruce and tamarack. Open areas with tall trees or snags for perching are used for foraging (COSEWIC 2007). Nests are usually built on horizontal branches of conifers (Peck and James 1987).	Low	Warden Woods on the west side of the study area does not have a semi-open forest structure and will not provide suitable habitat for this species. The cultural woodland on site is likely too disturbed to provide suitable habitat for this species.

Taxon	Common Name	Scientific Name	Endangered Species Act ¹	Species at Risk Act (Sch 1) ²	COSEWIC ³	Provincial (SRank) ⁴	Habitat Requirements⁵	Potential to Occur on Site or in the Study Area (Desktop)	Rationale for Potential to Occur on Site or in the Study Area (Desktop)
Bird	Peregrine falcon (anatum/tundrius subspecies)	Falco peregrinus anatum/tundrius	sc	SC	Not at Risk	S3B	In Ontario, peregrine falcon breeds in areas containing suitable nesting locations and sufficient prey resources. Such habitat includes both natural locations containing cliff faces (heights of 50 - 200 m preferred) and anthropogenic landscapes including urban centres containing tall buildings, open pit mines and quarries, and road cuts. Peregrine falcons nest on cliff ledges and crevices and building ledges. Nests consist of a simple scrape in the substrate (COSEWIC 2017).	Low	There are no suitable high-rise buildings on the site or study area.
Bird	Red-headed woodpecker	Melanerpes erythrocephalus	SC	END	END	S4B	In Ontario, red-headed woodpecker breeds in open, deciduous woodlands or woodland edges and are often found in parks, cemeteries, golf courses, orchards and savannahs (Woodliffe 2007). They may also breed in forest clearings or open agricultural areas provided that large trees are available for nesting. They prefer forests with little or no understory vegetation. They are often associated with beech or oak forests, beaver ponds and swamp forests where snags are numerous. Nests are excavated in the trunks of large dead trees (Frei et al. 2017).	Moderate	Woodland in Warden Woods on the west side of the study area may provide suitable breeding habitat. There is no suitable nesting habitat on site.
Bird	Wood thrush	Hylocichla mustelina	SC	THR	THR	S4B	In Ontario, wood thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than 16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012).	Moderate	Woodland in Warden Woods on the west side of the study area may provide suitable nesting habitat. The cultural woodland on site is likely too small, sparse and immature to provide suitable habitat for this species.
Mammal	Eastern small-footed myotis	Myotis leibii	END	_		S2S3	In Ontario, eastern small-footed myotis is not known to roost in trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes and rock piles, but it occasionally inhabits buildings. Entrances of caves or abandoned mines where humidity is low, and temperatures are cool and sometimes subfreezing may be used as hibernacula (Humphrey 2017).	Moderate	Rubble piles throughout the site may provide suitable roosting habitat. There are no talus slopes or abandoned mines within the study area.
Mammal	Little brown myotis	Myotis lucifugus	END	END	END	S3	In Ontario, this species' range is extensive and covers much of the province. It will roost in both natural and man-made structures. Roosting colonies require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas. May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Moderate	Woodland in Warden Woods on the west side of the study area may provide suitable habitat for this species. There are no abandoned mines within the study area to provide potential hibernation habitat. The cultural woodland on site is likely too small, sparse and immature to provide suitable habitat for this species.
Mammal	Northern myotis	Myotis septentrionalis	END	END	END	S3	In Ontario, this species' range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used as hibernacula, but high humidity and stable above freezing temperatures are required (ECCC 2018).	Moderate	There is no suitable habitat on the site. Woodland in Warden Woods on the west side of the study area may provide suitable habitat for this species. There are no abandoned mines within the study area to provide potential hibernation habitat. The cultural woodland on site is likely too

Taxon	Common Name	Scientific Name	Endangered Species Act ¹	Species at Risk Act (Sch 1) ²	COSEWIC ³	Provincial (SRank)⁴	Habitat Requirements⁵	Potential to Occur on Site or in the Study Area (Desktop)	Rationale for Potential to Occur on Site or in the Study Area (Desktop)
									small, sparse and immature to provide suitable habitat for this species.
Mammal	Tri-colored bat	Perimyotis subflavus	END	END	END	S3?	In Ontario, tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada. They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year (ECCC 2018).	Moderate	There is no suitable habitat on the site. Woodland in Warden Woods on the west side of the study area may provide suitable habitat for this species. There are no abandoned mines within the study area to provide potential hibernation habitat. The cultural woodland on site is likely too small, sparse and immature to provide suitable habitat for this species.
Reptile	Blanding's turtle - Great Lakes / St.Lawrence population	Emydoidea blandingii	THR	THR	END	S3	In Ontario, Blanding's turtle will use a range of aquatic habitats, but favor those with shallow, standing or slow-moving water, rich nutrient levels, organic substrates and abundant aquatic vegetation. They will use rivers but prefer slow-moving currents and are likely only transients in this type of habitat. This species is known to travel great distances over land in the spring in order to reach nesting sites, which can include dry conifer or mixed forests, partially vegetated fields, and roadsides. Suitable nesting substrates include organic soils, sands, gravel and cobble. They hibernate underwater and infrequently under debris close to water bodies (COSEWIC 2016).	Low	There is no suitable aquatic habitat on site or within the study area for this species.
Reptile	Midland painted turtle	Chrysemys picta marginata	_	SC	SC	S4	In Ontario, painted turtles use waterbodies, such as ponds, marshes, lakes and slow-moving creeks, with a soft bottom and abundant basking sites and aquatic vegetation. This species hibernates on the bottom of waterbodies (Ontario Nature 2018).	Low	There is no suitable habitat on site or within the study area for this species.
Reptile	Milksnake	Lampropeltis triangulum	NAR	SC	SC	S4	In Ontario, milksnake uses a wide range of habitats including prairies, pastures, hayfields, wetlands and various forest types, and is well-known in rural areas where it frequents older buildings. Proximity to water and cover enhances habitat suitability. Hibernation takes place in mammal burrows, hollow logs, gravel or soil banks, and old foundations (COSEWIC 2014).	Moderate	Mammal burrows located throughout the eastern portion of the site may provide suitable hibernacula for this species. Woodland in Warden Woods on the west side of the study area may provide suitable habitat for this species.
Reptile	Queensnake	Regina septemvittata	END	END	END	S2	In Ontario, queensnake requires permanent aquatic habitat with large flat rocks, either submerged or on the bank/shoreline. Individuals rarely leave the shoreline of permanent bodies of water with abundant shoreline cover and a healthy population of crayfish. They are fairly intolerant of silty substrates and most commonly are found in streams with bedrock and gravel substrates. The best sites have water temperatures that remain at or above 18°C during the active season, have a swift to moderate current and woodland surroundings. Hibernacula may occur in the abutments of old bridges, in clay slopes above the high-water mark and in bedrock fissures (Gillingwater 2011).	Low	There is no suitable habitat on the site. Woodland in Warden Woods on the west side of the study area may provide suitable habitat for this species. Although, there are no recent occurrence records in the vicinity of the site or study area.

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Reptile	Northern map turtle	Graptemys geographica	SC	SC	SC	S3	In Ontario, northern map turtle prefers large waterbodies with slow- moving currents, soft substrates, and abundant aquatic vegetation. Ideal stretches of shoreline contain suitable basking sites, such as rocks and logs. Along Lakes Erie and Ontario, this species occurs in marsh habitat and undeveloped shorelines. It is also found in small to large rivers with slow to moderate flow. Hibernation takes place in soft substrates under deep water (COSEWIC 2012).	Low	There is no suitable habitat on site or within the study area for this species.
Reptile	Snapping turtle	Chelydra serpentina	SC	SC	SC	S4	In Ontario, snapping turtle uses a wide range of waterbodies, but shows preference for areas with shallow, slow-moving water, soft substrates and dense aquatic vegetation. Hibernation takes place in soft substrates under water. Nesting sites consist of sand or gravel banks along waterways or roadways (COSEWIC 2008).	Low	Sand or gravel banks along roadways or powerline right-of- ways on site and within the study area may provide suitable nesting habitat for this species.
Reptile	Stinkpot or Eastern musk turtle	Sternotherus odoratus	SC	THR	SC	S3	In Ontario, eastern musk turtle is very rarely out of water and prefers permanent bodies of water that are shallow and clear, with little or no current and soft substrates with abundant organic materials. Abundant floating and submerged vegetation is preferred. Hibernation occurs in soft substrates under water. Eggs are sometimes laid on open ground, or in shallow nests in decaying vegetation, shallow gravel or rock crevices (COSEWIC 2012).	Low	There is no suitable habitat on site or within the study area for this species.
Vascular Plant	Black ash	Fraxinus nigra	_	_	THR	S4	Found throughout Ontario in moist ecosystems; commonly found in northern swampy woodlands (MNRF 2018). This species typically grows on mucky or peaty soils and is considered a facultative wetland species (Reznicek et al. 2011).	Low	There is no suitable habitat on site or within the study area for this species.
Vascular Plant	Black cohosh	Actaea racemosa	_	_	_	S2	In Ontario, black cohosh grows primarily in the Carolinian zone of Ontario, in rich woods and slopes (Oldham and Brinker 2009).	Low	There is no suitable habitat on site. Woodlands in Warden Woods on the west side of the study area may provide suitable habitat, although the site and study area are not located in the Carolinian zone of Ontario.
Vascular Plant	Butternut	Juglans cinerea	END	END	END	S2?	In Ontario, butternut is found along stream banks, on wooded valley slopes, and in deciduous and mixed forests. It is commonly associated with beech, maple, oak and hickory (Voss and Reznicek 2012). Butternut prefers moist, fertile, well-drained soils, but can also be found in rocky limestone soils. This species is shade intolerant (Farrar 1995).	Low	Woodland in Warden Woods on the west side of the study area and the treed area on the north portion of the site may provide suitable habitat for this species. However, no individuals were observed during site reconnaissance.
Vascular Plant	Oil-field toadflax	Nuttallanthus canadensis	_	_	_	S1	Oil-field toadflax occurs occasionally in dry sand prairies, sand dunes, sandy savannas, thinly wooded bluffs, rocky glades, sandy shoulders of roads, and sandy fields. Disturbed areas are preferred; occasional wildfires are beneficial in maintaining populations of this plant.	Low	There is no suitable sandy habitat within the site or study area for this species.



¹ Endangered Species Act (ESA), 2007. General (O.Reg 242/08 last amended 29 June 2020 as O.Reg 328/20). Species at Risk in Ontario List (O.Reg 230/08 last amended 1 Aug 2018 as O. Reg 404/18, s. 1.); Schedule 1 (Extirpated - EXP), Schedule 2 (Endangered - END), Schedule 3 (Threatened - THR), Schedule 4 (Special Concern - SC)

² Species at Risk Act (SARA), 2002. Schedule 1 (Last amended 5 September 2020); Part 1 (Extirpated), Part 2 (Endangered), Part 3 (Threatened), Part 4 (Special Concern)

³Committee on the Status of Endangered Wildlife in Canada (COSEWIC) http://www.cosewic.gc.ca/

- ⁴Global Ranks (GRANK) are Rarity Ranks assigned to a species based on their range-wide status. GRANKS are assigned by a group of conservation Data Centres (CDCs), scientific experts and the Nature Conservancy. These ranks are not legal designations. G1 (Extremely Rare), G2 (Very Rare), G3 (Rare to uncommon), G4 (Common), G5 (Very Common), GH (Historic, no record in last 20yrs), GU (Status uncertain), GX (Globally extinct), ? (Inexact number rank), G? (Unranked), Q (Questionable), T (rank applies to subspecies or variety). Last assessed August 2011
- ⁵ Provincial Ranks (SRANK) are Rarity Ranks assigned to a species or ecological communities, by the Natural Heritage Information Centre (NHIC). These ranks are not legal designations. SRANKS are evaluated by NHIC on a continual basis and updated lists produced annually. SX (Presumed Extirpated), SH (Possibly Extirpated - Historical), S1 (Critically Imperiled), S2 (Imperiled), S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure), SAB (Breeding Accident), SAB (Breeding Accident), SAB (Breeding Accident), SAB (Breeding Accident), S4 (Apparently Secure), S5 (Secure), S5 (Secure), S4 (Apparently Secure), S5 (Secure), S5 (Secure
- ⁶ General Habitat Protection is applied when a species is newly listed as endangered or threatened on the SARO list under the ESA, 2007. The definition of general habitat applies to areas that a species currently depends on. These areas may include dens and nests, wetlands, forests and other areas essential for breeding, rearing, feeding, hibernation and migration. General habitat protection will also apply to all listed endangered or threatened species-specific habitat regulation as of June 30, 2013 (ESA 2007, c.6, s.10 (2)). Regulated Habitat is species-specific habitat used as the legal description of that species habitat. Once a species-specific habitat regulation is created, it replaces general habitat protection. Refer to O.Reg 242/08 for full details regarding regulated habitat.

⁷ Refer to the individual species' federal recovery strategy for a full description of the critical habitat (http://www.sararegistry.gc.ca/sar/recovery/recovery_e.cfm)

*Species Codes derived from the following sources: Birds – 53rd AOU Supplement (2012); Amphibians – Marsh Monitoring Program (Bird Studies Canada 2003); Fish – Golder; Reptiles – Golder.

*NHIC (Natural Heritage Information Centre); ROM (Royal Ontario Museum); OBBA (Ontario Butterfly Atlas); Herp Atlas (of Ontario); Mammal Atlas (of Ontario); BCI (Bat Conservation International); Butterfly Atlas); Herp Atlas (Ontario Butterfly Atlas); Herp Atlas (Ontario); Odonata Atlas (of Ontario); Mammal Atlas (of Ontario); BCI (Bat Conservation International); Butterfly Atlas); Herp Atlas (Ontario Butterfly Atlas); Herp Atlas (Ontario); Mammal Atlas (of Ontario); BCI (Bat Conservation International); Butterfly Atlas); Herp Atlas (Ontario Butterfly Atlas); Herp Atlas (Ontario); Mammal Atlas (of Ontario); BCI (Bat Conservation International); Butterfly Atlas (Ontario Butterfly Atlas); Herp Atlas (Ontario); Butterfly

'--' No status

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Appendix A – Species at Risk Screening

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