

Environmental Impact Assessment Report – 420 South Service Road East, Oakville

Final Report

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Acronyms / Abbreviations

ANSI	Area of Natural and Scientific Interest
ARU	Autonomous Recording Units
CA	Conservation Authority
CAA	Conservation Authorities Act, 1990
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
cm	centimeter
ECCC	Environment and Climate Change Canada
EIA	Environmental Impact Assessment
ELC	Ecological Land Classification
ESA	Endangered Species Act, 2007
FWCA	Fish and Wildlife Conservation Act, 1997
ha	hectare
HDF	Headwater Drainage Feature
m	meter
MBCA	Migratory Birds Convention Act, 1994
MBR	Migratory Birds Regulations, 2022
MECP	Ministry of Environment, Conservation and Parks
MMAH	Ministry of Municipal Affairs and Housing
MNR	Ministry of Natural Resources
NHRM	Natural Heritage Reference Manual
O. Reg.	Ontario Regulation
OMNR	Ontario Ministry of Natural Resources
OP	Town of Oakville Official Plan, Office Consolidation 2021



PA	Planning Act, 1990
PPS	Provincial Policy Statement, 2024
RNHS	Regional Natural Heritage System
ROP	Halton Region Official Plan, Interim Office Consolidation 2022
SAR	Species at Risk
SARA	Species at Risk Act, 2002
SARO	Species at Risk in Ontario
SOCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
SWHMST	Significant Wildlife Habitat Mitigation Support Tool
SWHTG	Significant Wildlife Habitat Technical Guide



1 Introduction

Stantec Consulting Ltd. (Stantec) was retained by South Service Holding Corporation (the Proponent) to prepare an Environmental Impact Assessment (EIA) report for the properties located at 420-468 South Service Road East, Oakville, Ontario (collectively referred to as the Subject Property). The Subject Property is located in the Town of Oakville, east of Trafalgar Road, between the QEW/Highway 403 corridor and Metrolinx / CN rail corridor and is approximately 11 hectares (ha) with an approximate frontage of 374 metres (m) along South Service Road East (Appendix A).

The Subject Property was previously owned by GE Canada and is currently vacant. The lands include paved surfaces, piles of fill, manicured lawn with landscaping trees, meadow and thicket habitats, and a single structure that fronts South Service Road East. The Proponent is proposing to redevelop the “brownfield” Subject Property (BA Consulting Group 2023) for mixed residential, commercial and parkland use. The proposed Site Plan (Graziani + Corazza Architects 2024) is provided in Appendix G.

The objective of an EIA is to (Halton Region Official Plan, Office Consolidation November 4, 2022 [ROP]).:

- Identify natural heritage features that require protection, including vegetation protection zones of sufficient width to protect features and functions from impact of the proposed development
- Where possible, restore or enhance the features and functions
- Demonstrate that the proposed development or site alteration will result in no negative impacts to protected natural features

This EIA provides the results of the desktop analysis and field investigations undertaken in 2023 and 2024, including an assessment of Species at Risk (SAR), Species of Conservation Concern (SOCC), and Natural Heritage Features (NHF). The Study Area for the natural heritage assessment is the Subject Property plus Adjacent Lands within 120 m.



2 Natural Heritage Policy Context

2.1 Federal Context

2.1.1 Migratory Birds Convention Act

The *Migratory Birds Convention Act, 1994* (MBCA) prohibits the killing or capturing of migratory birds, as well as the damage, destruction, removal, or disturbance of their nests. The *Migratory Birds Regulation, 2022* (MBR), further defines when nests of migratory bird species are protected, with special provisions in place for bird species that reuse their nests (e.g., Pileated Woodpecker, Great Blue Heron).

Most bird species in Canada are protected under the MBCA, as defined by Article I, which names the families and subfamilies of birds protected and provides clarification of which species are included. In southern Ontario, migratory birds generally nest between April 1 and August 31. Environment and Climate Change Canada (ECCC) can issue permits allowing the destruction of nests for scientific, agricultural, or health and safety purposes. New development and site alterations do not qualify as a permitted activity under the MBCA and failure to comply with the MBCA/MBR could result in a charge.

2.1.2 Species at Risk Act

The *Species at Risk Act, 2002* (SARA) provides a framework across Canada to prevent the extinction of wildlife species and to support actions for their recovery.

General SARA prohibitions include Section 32(1), which states that “*no person shall kill, harm, harass, capture, or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species*”, and Section 33, which states that “*no person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered species or a threatened species, or that is listed as an extirpated species if a recovery strategy has recommended the reintroduction of the species into the wild in Canada.*” In addition, critical habitat, defined as the habitat that is necessary for the survival or recovery of a listed wildlife species, may be defined and protected under Section 58. Only those species currently listed in Schedule 1 of SARA (i.e., those listed as extirpated, endangered, or threatened) are protected by the prohibitions of Sections 32 to 36 and 58 of SARA. These prohibitions only apply on federal lands, except for aquatic species which are protected throughout Canada.

SARA-listed species designated as special concern are not protected by the prohibitions of Sections 32 to 36 or 58 of SARA; however, these species are protected under Section 79, which states that federal authorities must “*identify adverse effects of the project on the listed wildlife species [including special concern species] and its critical habitat...and ensure that measures are taken to avoid or lessen adverse effects.*” Furthermore, special concern species do require that provincial or regional management plans, including conservation measures, be developed to protect the species.



Under SARA, a Recovery Strategy must be developed by ECCC for species listed as threatened or endangered under Schedule 1 and a Management Plan must be developed for species listed as special concern under Schedule 1. The Recovery Strategy should include the identification of critical habitat and list examples of activities that are likely to result in its destruction.

2.2 Provincial Context

2.2.1 Planning Act

The Provincial Planning Statement (PPS; (Ministry of Municipal Affairs and Housing 2024) was issued under Section 3 of the *Planning Act, 1990* (PA) and came into effect in 1996, with the most recent revision in October 2024. The PA requires that decisions made by planning authorities are consistent with policy statements, such as the PPS, which includes policies on development and land use patterns, resources and public health and safety. Section 2.1 of the PPS deals with NHF and requires that natural heritage systems are identified in certain ecoregions. This includes Ecoregion 7E, where the Subject Property is located.

According to Section 4.1.4 of the PPS, development and site alteration shall not be permitted in the following NHF in Ecoregion 7E:

- a) Significant wetlands
- b) Significant coastal wetlands

According to Section 4.1.5 of the PPS, development and site alteration shall not be permitted in the following NHF unless it has been demonstrated that there will be no negative impacts on the features or their ecological functions in Ecoregion 7E:

- a) Significant Woodlands
- b) Significant Valleylands
- c) Significant Wildlife Habitat
- d) Significant Areas of Natural and Scientific Interest
- e) Coastal wetlands that are not subject to policy 4.1.4(b).

According to Section 4.1.6 and 4.1.7 of the PPS, Development and site alteration shall not be permitted in the following NHF, except in accordance with provincial and federal requirements:

- a) Significant habitat of endangered or threatened species
- b) Fish habitat

Development and site alteration are not permitted on lands that are adjacent to the NHF identified above unless the ecological function of features and 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.



2.2.2 Endangered Species Act

The Ontario *Endangered Species Act, 2007* (ESA) protects species designated as threatened, endangered, or extirpated on the Species at Risk in Ontario (SARO) list. The ESA prohibits the killing, harming, harassing, or possessing protected species, as well as prohibiting any damage or destruction to the habitat of the listed species. Listed species are referred to as species at risk (SAR) and are provided with general habitat protection under the ESA to protect areas that species depend on to carry out their life processes, such as reproduction, rearing, hibernation, migration or feeding. Some species are also protected by detailed habitat regulations that go beyond the general habitat protection to define the extent and character of protected habitats.

Activities that may impact a protected species or its habitat require the prior issuance of a permit from the Ministry of the Environment, Conservation and Parks (MECP), unless the activities are applicable under O. Reg. 242/08, O. Reg. 830/21, or O. Reg. 829/21. These regulations identify activities that are exempt from the permitting requirements of the ESA and are subject to rigorous controls outside the permit process, including registration of the activity and preparation of a mitigation plan. Activities that are not exempt under these regulations require a complete permit application process.

2.2.3 Conservation Authorities Act

The purpose of the *Conservation Authorities Act, 1990* (CAA) “is to provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in watersheds in Ontario” (S.0.1). Conservation Authorities (CAs) are established under the CAA and have jurisdiction over a designated watershed or part(s) of a watershed. Development activities that, in the opinion of the CA, may impact control of flooding and erosion hazards or human health and safety are prohibited in areas under a CA’s jurisdiction, which include hazardous lands, wetlands, watercourse valleys, and rivers and lakes that are prone to flooding (S.28(1)). Ontario Regulation (O.Reg.) 41/24 of the CAA further defines development activities (S.1(1)), including several low-risk exceptions where CAA authorization is not required (S.5).

S.21.1.1(1.1) and S.21.1.2(1.1) of the CAA state that a CA cannot provide a service related to reviewing or commenting on a proposal, application, or other matter made under a Prescribed Act. Prescribed Acts are defined in Ontario Regulation (O.Reg.) 596/22 and include:

1. The Aggregate Resources Act, 1990
2. The Condominium Act, 1998
3. The Drainage Act, 1990
4. The Endangered Species Act, 2007
5. The Environmental Assessment Act, 1990
6. The Environmental Protection Act, 1990
7. The Niagara Escarpment Planning and Development Act, 1990
8. The Ontario Heritage Act, 1990



9. The Ontario Water Resources Act, 1990
10. The Planning Act, 1990

Morrison Creek is a watercourse regulated by Conservation Halton south of the Queen Elizabeth Way, with designated Meander Belt Hazard and Headwater Floodplain Hazard areas to the top of embankment slopes. The Conservation Halton regulated area extends to approximately 20 m north-east of the Subject Property; i.e., on Adjacent Lands (Appendix B).

2.2.4 Fish and Wildlife Conservation Act

The *Fish and Wildlife Conservation Act, 1997* (FWCA) provides protection of wildlife in Ontario including fish, furbearing mammals, game wildlife and specially protected wildlife through regulations for hunting, trapping, and fishing practices. Game and specially protected mammals, birds, reptiles, amphibians, and invertebrates are listed on Schedules 1-11 of the FWCA. Definitions provided for hunting include capturing or harassing wildlife (Section 5) and would include activities that collect or handle wildlife for inventories or other scientific purposes, or to relocate wildlife out of harm's way (e.g., during construction activities), including individuals and eggs. Sections 7 and 8 also provide protection for nest and eggs of specified bird species including raptors, dens of bears and furbearing animals, and beaver dams. Under the FWCA, the Minister of Natural Resources has the authority to authorize activities that would otherwise be prohibited such as the safe capture of wildlife and removal of nests, dens, and dams, and impose conditions on an authorization.

2.3 Municipal Planning

2.3.1 Halton Region Official Plan

As of July 1, 2024, the PA was amended to designate Halton Region as an “upper tier-municipality without planning responsibilities”. As a result, the Halton Region Official Plan is repealed as an enforcement tool and The Town of Oakville assumes full responsibility over reviews and approvals for PA applications under the Town of Oakville Official Plan, 2021 (OP). The Halton Region Official Plan, Office Consolidation November 4, 2022 (ROP) may still be used as a guidance document to inform the Town of Oakville’s planning decisions until such time as a new lower-tier municipal official plan comes into effect.

The ROP contains policies and mapping to direct growth in the region and protect the natural environment, resources and agricultural land, and provide for infrastructure. Section 115.3 identifies a Regional Natural Heritage System (RNHS) that includes Key Features, enhancement areas and centers for biodiversity, linkages, buffers, watercourses, and wetlands (including non-significant wetlands). Key Features listed in the ROP are generally consistent with the natural heritage features listed in the PPS:

- 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

Key Features are mapped on Map 1G of the ROP; however, additional features may be identified during site specific studies such as an Environmental Impact Assessment (ROP Section 139.12).

According to Section 18(2) development is generally prohibited in Key Features, unless an Environmental Impact Assessment can demonstrate *“that the proposed development...will result in no negative impacts to...the Regional Natural Heritage System or unmapped Key Features...and their associated or ecological functions,”* and identify *“opportunities for enhancement.”*

According to section 295, a woodland is land with at least: 1000 trees of any size per ha, or 750 trees over 5 cm in diameter per ha, or 500 trees over 12 cm in diameter per ha, or 250 trees over 20 cm in diameter per ha but does not include orchards, plantations, hedgerows or nurseries. All tree measurements are taken at 1.37 m from the ground and trees in regenerating fields must have achieved that height to be counted. Invasive non-native woody shrubs are not considered trees for the purpose of density calculations, including Common buckthorn, Common apple and Tartarian honeysuckle.

To be considered significant, a woodland must be 0.5 ha or larger as 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 (Section 277):

- 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
- the Woodland has an interior core area of 4 ha or larger, measured 100m from the edge
- the Woodland is wholly or partially within 50 m of a major creek or certain headwater creek or within 150m of the Escarpment Brow

There are no Key Features mapped in the Official Plan (Map 1G) on the Subject Property. The background review identified potential for woodlands and Significant Wildlife Habitat (SWH) on the Subject Property, which were assessed further through site investigations as described below.

2.3.2 Town of Oakville Official Plan

The OP designates Natural Areas that are intended to be preserved long-term. According to Section 16.1.2 Natural Areas include the following features plus buffers:

- a) Significant habitat of endangered species and threatened species
- b) Wetlands



- c) Woodlands
- d) Valleylands
- e) Significant wildlife habitat
- f) Environmentally Sensitive Areas
- g) Areas of Natural and Scientific Interest
- h) Fish habitat
- i) Natural corridors

Section 16 of the OP indicates that development is generally not permitted in Natural Areas.

According to Section 16.1.8, development and site alteration is not permitted within a regionally Significant Woodland or required buffers, which should be a minimum of 10 meters measured from the drip line of the woodland. The final width of the buffer shall be established through an approved Environmental Impact Statement (EIS).

According to Section 16.1.7, development and site alteration is not permitted within provincially, regionally or locally significant wetlands or required buffer, which should be a minimum of 30 meters measured from the boundary of the wetland.

As illustrated in OP Schedule L1, there is a designated Natural Area corresponding with Lower Morrison Creek on Adjacent Lands north-east of the Subject Property. Additionally, the background review identified potential for woodlands and potential for SWH on the Subject Property, which were assessed further through site investigations as described below.



3 Methods

3.1 Background Review

The following background documents and information sources were consulted to identify records of designated natural features and areas, SAR and SOCC for the Study Area:

- Ontario GeoHub datasets (Ontario Ministry of Natural Resources 2024b)
- Natural Heritage Information Centre (NHIC) database (Ontario Ministry of Natural Resources 2024a)
- Atlas of the Mammals of Ontario (Dobbyn 1994)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2020)
- Ontario Breeding Bird Atlas (Bird Studies Canada, Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources 2006)
- Species at Risk in Ontario List (database) (Ontario Ministry of Environment, Conservation and Parks 2023)
- eBird Canada (eBird 2023)
- DFO Aquatic Species at Risk Map (Fisheries and Oceans Canada 2023)
- iNaturalist (iNaturalist 2024)
- Conservation Halton Regulated Areas Explorer (Conservation Halton 2024)
- Flood Mitigation Opportunities Study Lower Morrison and Lower Wedgewood Creeks (Town of Oakville & Wood 2020)
- Ontario Butterfly Atlas (MacNaughton, et al. 2022)

3.2 Evaluation of Significance

Natural environment features identified during the EIA were evaluated to determine significance using the definitions and criteria for NHF and SAR described below.

3.2.1 Natural Heritage Features

The following technical documents provide standard provincial guidance, and were used to identify NHF and assess their significance and sensitivity:

- The PPS (Ministry of Municipal Affairs and Housing 2024)



- *The Significant Wildlife Habitat Technical Guide* (SWHTG) (Ontario Ministry of Natural Resources 2000) and Ecoregion Criteria Schedule for 7E (Ontario Ministry of Natural Resources and Forestry 2015)
- *Natural Heritage Reference Manual* for Natural Heritage Policies of the Provincial Policy Statement (NHRM) (Ontario Ministry of Natural Resources 2010)
- Significant Wildlife Habitat Mitigation Support Tool (SWHMST) (Ontario Ministry of Natural Resources and Forestry 2014)

The PPS and NHRM provide guidance for the identification of six categories of NHF: Significant Wetlands and Significant Coastal Wetlands, Significant Woodlands, Significant Valleylands, SWH, Areas of Natural and Scientific Interest (ANSI), and Fish Habitat.

The SWHTG defines four categories of SWH: Habitats of Seasonal Concentrations of Animals, Rare Vegetation Communities or Specialized Habitats for Wildlife, Habitats of Species of Conservation Concern (SOCC), and Animal Movement Corridors.

The policies of the PPS are implemented, and protections enforced through municipal planning documents and site plan control; in this case the OP.

3.2.2 Species at Risk and Species of Conservation Concern

This report uses the ESA definition of SAR, which includes species listed as *extirpated*, *endangered* or *threatened* (and are thereby afforded protection) under the Act.

The definition for SOCC was adapted from the NHRM and SWHTG:

- Special Concern species identified under the ESA on the SARO List
- Species identified as nationally endangered or threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or SARA, which are not protected in regulation under the ESA
- Provincially rare species (ranked S1-S3 by the NHIC)

Provincial ranks (S-ranks) are used by the NHIC to set protection priorities for rare species and vegetation communities. They are based on the number of occurrences in Ontario and are not legal designations. Species with provincial ranks of S1 to S3 are tracked by the Ministry of Natural Resources (MNR) and considered SOCC. Provincial S-ranks are defined as follows:

- S1: Critically imperiled; usually fewer than 5 occurrences
- S2: Imperiled; usually fewer than 20 occurrences
- S3: Vulnerable; usually fewer than 100 occurrences
- S4: Apparently secure; uncommon but not rare, usually more than 100 occurrences
- S5: Secure, common, widespread, and abundant



S?: An S rank followed by a “?” indicates the rank is still uncertain

SNA: Introduced

The potential for SAR and SOCC to occur in the Study Area were determined using the following criteria:

- Records of the species in the vicinity of the Study Area from background sources
- Range overlap with the Study Area
- Presence of suitable habitat in the Study Area

For the SAR assessment, species were assigned one of four categorical probabilities to occur in the Study Area:

- Low: Overlapping range but no suitable habitat and/or recent records; or not detected despite targeted surveys following accepted protocols
- Moderate: Overlapping range, marginally suitable habitat and nearby recent records or suitable habitat but no recent records
- High: Overlapping range, suitable habitat, and nearby recent records
- Confirmed: Species confirmed in the Study Area

Species with a low probability to occur in the Study Area were not carried forward for further assessment in the EIA.

3.3 Site Investigations

Site visits were conducted in 2023 and 2024 and are summarized in Table 3.1. Site investigations were conducted on the Subject Property and Adjacent Lands were assessed from the edge of the property.



Table 3.1 Summary of Site Investigations

Survey	Date	Surveyors	Time	Temperature (°C)	Wind (Beaufort Scale)	Cloud Cover %	Precipitation (yes/no)
Site reconnaissance, ELC, summer botanical, wildlife habitat assessment	June 28, 2023	Erica Padvaiskas, Sean Spisani	07:30-09:30	19	2	100	No
Bat tree assessment	April 26, 2024	Erica Padvaiskas, Matthew Chung	08:21-14:46	6	3	0	No
Spring botanical	May 14, 2024	Sean Spisani	10:00-14:00	21	1	50	No
Breeding bird survey #1, Autonomous Recording Units (ARU) deployment	May 29, 2024	Jen Randall, Matthew Chung	6:39 – 10:15	13 - 16	1	70	No
Bat building assessment, bat exit survey #1, Common Nighthawk survey #1	June 11, 2024	Erica Padvaiskas, Marla Larson, Matthew Chung	20:00-21:59	15	2	40	No
Breeding bird survey #2	June 14, 2024	Erica Padvaiskas, Jen Randall	6:38 – 9:16	17 - 20	2	70	No
Bat exit survey #2, Common Nighthawk survey #1	June 26, 2024	Melad Razzouk, Erica Padvaiskas, Marla Larson	20:34-22:04	20	2	60	No
Bird nest sweep*	July 18, 2024	Erica Padvaiskas	08:00-09:45	21	2	40	No
Fall botanical	October 1, 2024	Sean Spisani, Erica Padvaiskas	13:00-14:30	23	1	100	No
Aquatic feature assessment	October 8, 2024	Michelle Place	11:00–14:00	14	3	90	No

*The bird nest sweep was conducted to support minor vegetation clearing needed to install electrical wiring for lighting.



3.3.1 Vegetation Surveys

Vegetation communities in the Study Area were delineated and classified using Ecological Land Classification for southern Ontario (ELC; Lee et al. (1998/2008)), and three season (spring, summer, and fall) botanical inventories were conducted on the Subject Property. Targeted searches were conducted for SAR, SOCC, and rare vegetation community types known to occur in the vicinity of the Study Area.

Vegetation communities were delineated on aerial imagery and verified in the field. The focus of the ELC survey was the Subject Property; the remaining vegetation communities were characterized from the edge of the property and through aerial photos interpretation.

The Subject Property was systematically covered on foot to compile a comprehensive inventory of flora species. Flora nomenclature for scientifically accepted species names and provincial status of plant species is based on the vascular plant list available on the NHIC database (Ontario Ministry of Natural Resources 2024a) and VASCAN, the Database of Vascular Plants of Canada (Canadensys 2011), was used to verify synonyms of plant names where appropriate.

3.3.2 Bat Surveys

Bat SAR use a variety of habitats in Ontario, including buildings, trees, and treed habitats for maternity and summer roosting (see Section 4.1.2 for discussion of potential bat SAR). In the absence of a comprehensive habitat guidance for bat SAR, the Ministry of Environment, Conservation and Parks (MECP) provided Stantec with three (3) draft interim guidance documents: *Species at Risk Bats Survey Note 2022* (Ontario Ministry of Environment, Conservation and Parks 2022a), *Maternity Roost Surveys (Forests and Woodlands)* (Ontario Ministry of Environment, Conservation and Parks 2022b), and *Use of Buildings by Species at Risk Bats Survey Methodology* (Ontario Ministry of Environment, Conservation and Parks 2018). Using this guidance, the following methods were employed to assess potentially suitable bat habitat on site and survey for bat presence/ absence.

3.3.2.1 Bat Maternity Roosts in Buildings Assessment

Buildings may provide suitable roosting habitat for bats, including SAR. The assessment for bat habitat in buildings is conducted in two stages: the first being an assessment of the characteristics of the building to determine whether it meets the criteria for a potential roost, and if so, where potential exit/ entry points may be; and the second being a survey to detect bat presence (or absence) at suitable buildings.

3.3.2.1.1 Building Assessment

Buildings on the Subject Property have been removed, except for a remnant part of a building that is being assessed for cultural significance and cannot be demolished at this time. The remnant structure is approximately 7 m wide by 45 m long. A bat habitat assessment of the building was conducted on June 11, 2024. The assessment determined that potential bat entry/ exit points were present throughout the exterior of the building at gaps in brick, windows, doors, and seams.



3.3.2.1.2 Bat Exit/ Entry Survey

Bat exit surveys were conducted by two (2) qualified Terrestrial Ecologists on June 11, 2024, and by three (3) qualified Terrestrial Ecologists on June 26, 2024. The surveys started approximately 30 minutes before sunset and ended approximately 1 hour after sunset. Weather conditions met or exceeded the minimum standards for appropriate weather conditions (Ontario Ministry of Environment, Conservation and Parks 2018).

Surveyors were positioned at stations around the building from which potential entry/ exit points could be observed (BMS1 to BMS3; Figure 3, Appendix A). Visual observations of bats were recorded. In addition to visual observations, each surveyor used Wildlife Acoustics' Echo Meter Touch 2 units attached to iPhones to record ultrasonic calls for the duration of the survey. Echo Meter, a software application for the iPhone also developed by Wildlife Acoustics, clips and interprets recordings from the Touch Meter in real-time, assigning a potential species identification. These recordings were manually reviewed by a qualified biologist after the survey to confirm the identification. Where calls could not be identified to species, they were classified as either high frequency unknown (>35khz) or low frequency unknown (<35khz). High frequency echolocating species include the three myotis species, Tri-colored bat and Eastern Red Bat. The remaining species are low frequency echolocators (Hoary Bat, Big Brown Bat, and Silver-haired Bat). Calls with 5 or less pulses were classified only as low or high frequency unknown, as not enough information is present for a reliable identification. All calls with a classification matching ratio of <0.5 were reviewed manually, and calls with a matching ratio of ≥ 0.5 were spot checked to confirm ID. The matching ratio is a measure of the confidence of the automated identification produced by Touch Meter.

3.3.2.2 Bat Maternity Roosts in Treed Habitats Assessment

Trees, especially those in treed habitats, may provide suitable roosting habitat for bats, including SAR. The assessment for bat habitat in trees is conducted in two stages: the first being an assessment of individual trees to determine whether they meet the criteria for a potential roost tree, and the second being acoustic monitoring using Autonomous Recording Units (ARU) near potentially suitable treed habitats.

3.3.2.2.1 Tree Assessment

Vegetation communities on the Subject Property were characterized using the Ecological Land Classification (ELC) system (Lee, Bakowsky, et al., Ecological Land Classification for Southern Ontario: First approximation and its application 1998/2008). ELC is typically used to identify potential maternity roost habitats, which include deciduous forest (FOD), Mixedwood forest (FOM), coniferous forest (FOC), deciduous swamp (SWD), mixedwood swamp (SWM), and coniferous swamp (SWC) communities (Ontario Ministry of Natural Resources 2011; Ontario Ministry of Environment, Conservation and Parks 2022b). Because of the relatively small size of treed areas on the Subject Property, surveyors were able to assess individual trees for snag characteristics rather than using plot-based snag density calculations. Trees at or above 10 cm diameter at breast height (DBH) with any of the characteristics considered suitable for bat roosting (i.e., cavities, crevices, loose bark, leaf clusters) were assessed, with the following information recorded:



- geographic coordinates (UTM)
- DBH
- height/crown class (dominant, co-dominant, intermediate, and suppressed)
- presence and height of cavity, loose bark, crack, knot hole, or leaf clusters
- decay class (1 – 6)

There is no minimum threshold for number of maternity roost trees per hectare for an ELC ecosite to be considered suitable maternity roost habitat for SAR bats.

3.3.2.2.2 Acoustic Monitoring

Two (2) Wildlife Acoustics SM4bat Ultrasonic detectors were deployed at four (4) stations on the Subject Property (Figure 3, Appendix A). The bat detectors were programmed to record nightly from 30 minutes prior to sunset until 30 minutes after sunrise. These devices passively record the ultrasonic echolocation calls of passing bats. The detectors were deployed at Stations 1 and 2 from May 29 – June 14, 2024; and at Stations 3 and 4 from June 14 – July 5, 2024 (Figure 3, Appendix A). In total, recordings were taken on 16 recording nights at Stations 1 and 2, and 21 recording nights at Stations 3 and 4.

Station locations were selected based on proximity to potentially suitable bat maternity roost trees and foraging habitat, as shown on Figure 3 (Appendix A) and described as follows:

- Bat-1 was located on the southern portion of the Subject Property in a Buckthorn-dominated deciduous thicket (THDM2-6)
- Bat-2 was located on the northern portion of the Subject Property at the boundary of a mixed meadow (MEM) and cultural savannah (CUS)
- Bat-3 was located on the boundary of a mixed meadow (MEM) and Buckthorn-dominated thicket (THDM2-6)
- Bat-4 was located in a cultural meadow (CUM)/ deciduous regeneration thicket (THDM4) complex vegetation community

The acoustic data were analysed using Wildlife Acoustics' Kaleidoscope Pro software. The data processing through Kaleidoscope Pro involves running the software's automatic identification, which screens out noise files (that were not previously screened out by the detector) and provides a suggested species for bat call files. In some cases, calls cannot reliably be identified to species. These calls are categorized as No ID by the software.

Calls were manually reviewed by a qualified biologist to confirm species identification. Where calls could not be identified to species, they were classified as either high frequency unknown (>35khz) or low frequency unknown (<35khz). High frequency echolocating species include the three myotis species, Tri-colored bat and Eastern Red Bat. The remaining species are low frequency echolocators (Hoary Bat, Big Brown Bat and Silver-haired Bat). Calls with 5 or less pulses were classified only as low or high frequency unknown, as not enough information is present for a reliable ID. Calls with a classification



matching ratio of <0.5 were reviewed manually, and calls with a matching ratio of ≥ 0.5 were spot checked to confirm identification. The matching ratio is a measure of the confidence of the automated identification produced by Kaleidoscope Pro.

3.3.3 Breeding Bird Surveys

Breeding bird surveys were conducted on two days in June 2024. Surveys were conducted by traversing the Subject Property on foot and recording species of birds that were heard or seen. The highest level of breeding evidence was recorded for each species using the codes in the Ontario Breeding Bird Atlas (Cadman et al. 2007). Evening surveys were conducted concurrently with bat exit surveys on two additional dates in June to survey for the presence of Common Nighthawk.

3.3.4 Wildlife Habitat Assessment

A targeted assessment for SWH was conducted on June 28, 2023, and further supported by proceeding surveys. Features such as candidate snake hibernacula, vernal pools, seeps and springs, candidate turtle overwintering and nesting habitat, raptor nests, and terrestrial crayfish chimneys were recoded if encountered, and a description of the attributes and location of each feature identified was recorded.

Desktop assessments were also conducted to identify candidate SWH features that have minimum area thresholds described in the Ecoregion Criteria, such as forests, wetlands and meadows that could support seasonal concentrations of wildlife. The assessment of suitable habitat for SOCC addressed species with records for the Study Area identified during the background review.

3.3.5 Aquatic Feature Assessment

- Aquatic field investigations were conducted on October 9, 2024 and documented conditions along the unregulated drain that flows south along the southwestern property boundary and an additional unmapped drainage feature (candidate Headwater Drainage Feature [HDF]) identified along the southeast property boundary as shown in Figure 2, Appendix A.

Information collected consisted of a general description of the drainage feature (i.e., dimensions, bank stability, morphology) and identification of features that typically contribute to fish habitat (i.e. in water and riparian cover, substrate). Fish community sampling was not conducted as part of the field investigation.



4 Results

4.1 Background Review

4.1.1 Features and Areas

The background review identified the following designated NHF in the Study Area (Table 4.1).

Table 4.1 Designated Natural Features and Areas for the Property and 120 m Adjacent Lands

Feature	Present on the Subject Property	Present in the Adjacent Lands
Wooded Area (MNR 2023b) (Figure 1, Appendix A)	Yes	Yes
Wetland Hazard surrounding Lower Morrison Creek (Halton Conservation 2023) (Appendix B)	No	Yes
Natural Area (Town of Oakville 2021) (Appendix B)	No	Yes
Flood hazard surrounding Lower Morrison Creek (Town of Oakville and Wood 2020)	No	Yes
Fish Habitat in Lower Morrison Creek (MNR 2023a) (Figure 1, Appendix A)	No	Yes
Unregulated drainage feature (Figure 2, Appendix A)	Yes	Yes

The wooded areas mapped by MNR (2023b) for the Subject Property (Figure 1, Appendix A) are not identified on the Town of Oakville or Halton Region official plan schedules (Appendix B); therefore, site investigations were completed to determine if they meet the criteria for being designated as woodlands and/or Significant Woodlands per official plan definitions (described further in Section 5).

Lower Morrison Creek is located to the immediate northeast of the Subject Property (Figure 1, Appendix A). It has been designated as a Natural Area in the Town of Oakville Official Plan and a Wetland Hazard by Conservation Halton. The Flood Mitigation Study shows the 100-year flood line surrounding Lower Morrison Creek and designates the surrounding lands as a potential flood hazard (Town of Oakville and Wood 2020). The natural features (i.e., natural area, wetland, and flood hazards) surrounding Lower Morrison Creek are located to the east and are not present on the Subject Property. There were no Conservation Halton regulated areas identified on the Subject Property

There were no provincially designated natural features, such as areas of natural and scientific interest, crown reserves or provincial parks, identified for the Study Area during the background review.



4.1.2 Significant Species Records

The background review identified records of nine (9) SAR and fourteen (14) SOCC in the vicinity of the Study Area (Table 4.2). NHIC (MNR 2024a) records are from within 1 km of the Study Area and atlas records are from within 10 km of the Study Area. Records do not note the exact locations and are used as an indicator of potential occurrence in the Study Area. Once the field investigations were complete, significant species in Table 4.2 were evaluated to determine if they have suitable habitat in the Study Area in Appendix C (SAR) and Appendix D (SOCC).

Table 4.2 Background Records of Significant Species for the Study Area

Common Name	Scientific Name	S-Rank	SARO Status	COSEWIC	Source
Species At Risk					
Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR	MNR 2023a; Cadman et al. 2007
Chimney Swift	<i>Chaetura pelagica</i>	S3B	THR	THR	MNR 2023a; Cadman et al. 2007
Endangered Bats	<i>Myotis lucifugus</i> <i>Myotis lebii</i> <i>Myotis septentrionalis</i> <i>Perimyotis subflavus</i>	-	END	-	Dobbyn 1994
Eastern Meadowlark	<i>Sturnella magna</i>	S4B	THR	THR	MNR 2023a; Cadman et al. 2007
Bank Swallow	<i>Riparia riparia</i>	S4B	THR	THR	Cadman et al. 2007
Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	S4B	THR	THR	Cadman et al. 2007
Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	S2	END	END	Ontario Nature 2021
American Eel	<i>Anguilla rostrata</i>	S1S2	END	THR	MNR 2023a
Redside Dace	<i>Clinostomus elongatus</i>	S1	END	END	MNR 2023a
Species of Conservation Concern					
Barn Swallow	<i>Hirundo rustica</i>	S4B	SC	THR	MNR 2023a; Cadman et al. 2007
Common Nighthawk	<i>Chordeiles minor</i>	S4B	SC	SC	Cadman et al. 2007
Eastern Wood-pewee	<i>Contopus virens</i>	S4B	SC	SC	Cadman et al. 2007



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Common Name	Scientific Name	S-Rank	SARO Status	COSEWIC	Source
Wood Thrush	<i>Hylocichla mustelina</i>	S4B	SC	THR	Cadman et al. 2007
Purple Martin	<i>Progne subis</i>	S3B	-	-	Cadman et al. 2007
Tufted Titmouse	<i>Baeolophus bicolor</i>	S3	-	-	Cadman et al. 2007
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	S4B	SC	SC	Cadman et al. 2007
Eastern Milksnake	<i>Lampropeltis triangulum</i>	S4	NAR	SC	Ontario Nature 2021
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	S4	-	SC	MNR 2023a; Ontario Nature 2021
Northern Map Turtle	<i>Graptemys geographica</i>	S3	SC	SC	MNR 2023a; Ontario Nature 2021
Snapping Turtle	<i>Chelydra serpentina</i>	S4	SC	SC	MNR 2023a; Ontario Nature 2021
West Virginia White	<i>Pieris virginiensis</i>	S3	SC	-	Macnaughton et al. 2022
Monarch	<i>Danaus plexippus</i>	S4B, S2N	SC	END	Macnaughton et al. 2022
Virginia Bluebells	<i>Mertensia virginica</i>	S3	-	-	MNR 2023a

S-RANK: Provincial status ranking

SARO: Species at Risk in Ontario

COSEWIC: Committee on the Status of Endangered Wildlife in Canada

S1: Critically imperiled in Ontario (often fewer than 5 populations)

S2: Imperiled in Ontario, very few populations (often 20 or fewer)

S3: Vulnerable in Ontario, relatively few populations (often 80 or fewer)

S4: Apparently Secure – Uncommon but not rare

S5: Secure – Common, widespread, and abundant in the province

S#B: Breeding status rank

S#?: Rank uncertain

SC: Species Concern

THR: Threatened

END: Endangered



4.2 Site Investigations

4.2.1 Vegetation Surveys

Vegetation communities documented during the site investigation are shown on Figure 2, Appendix A and summarized in Table 4.3 below. None of the communities documented are considered provincially rare by the NHIC ((Ontario Ministry of Natural Resources 2024a). A photolog for the Subject Property is provided Appendix F. Landcover photos are provided in Appendix F1, and the location and direction of photos are indicated on Figure 2, Appendix A.



Table 4.3 Vegetation Communities

ELC Description	Species Composition (dominant and abundant species)
Buckthorn Deciduous Shrub Thicket Type (THDM2-6)	There are two THDM2-6 communities, located on the southern and northeastern edge of the Subject Property. Tree cover is sparse, with canopy coverage less than 25%. The canopy/sub-canopy is composed of Manitoba maple, eastern cottonwood, red ash and willow species. The understory includes a dense shrub layer (shrub cover exceeding 25%) dominated by common buckthorn, with staghorn sumac and red ash as occasional associates. Small depressions are present which support the growth of European reed (invasive Phragmites).
Buckthorn Deciduous Hedgerow Thicket type (THDM3-1)	Narrow hedgerow along western limit of the Subject Property. Dominant species include common buckthorn and European reed.
Dry - Fresh Deciduous Regeneration Thicket Ecosite (THDM4)	Regenerating fill piles and open land dominated by European reed and Manitoba maple. Other woody species present include eastern cottonwood, red ash and staghorn sumac.
Cultural Meadow (CUM) / Dry - Fresh Deciduous Regeneration Thicket Ecosite (THDM4)	Open meadow dominated by exotic grasses and invasive herbaceous species including Kentucky blue grass, garlic mustard, bird's-foot trefoil. Signs of regeneration are present, notably the growth of common buckthorn shrubs.
Fresh – Moist Deciduous Thicket Ecosite (THDM5)	Thicket community surrounding Lower Morrison Creek. Located outside of Subject Property; refer to Figure 2, Appendix A.
Thicket (TH)	Located outside Subject Property; refer to Figure 2, Appendix A.
Meadow Marsh (MAM)	Very small, wet depression dominated by European reed. Located on the edge of a parking lot, it is likely a relic of run-off from paved areas. Other woody species present include purple loosestrife, red-osier Dogwood, bittersweet nightshade, riverbank grape, and red ash.
Cultural Meadow (MEM)	Mowed lawn surrounded by cultural savanna and thicket communities. Mostly free of woody vegetation.
Meadow (ME)	Open meadow adjacent to highway on-ramp.
Cultural Savanna (CUS)	Open canopy (canopy cover less than 25%) with red ash, white elm, Norway maple, and willow species. The understory includes a dense shrub layer dominated by common buckthorn, with other invasive species such as Tatarian honeysuckle and European reed as frequent associates.
Constructed (CV)	Remnants of development remain, including paved concrete and the facade of a building. Signs of regeneration are visible, notably European reed and other herbaceous species growing in fill piles.
Transportation (CVI_1)	QEW highway and railway.
Business Sector (CVC_1)	Includes businesses and parking lots.
Residential (CVR)	Residential houses located to the Northeast of the Subject Property; refer to Figure 2, Appendix A.
Green Lands (CGL)	Manicured lawn within the Subject Property with planted black pines and red maple.
Recreational (CGL_4)	Baseball field and sports park.



The following is a floristic summary of the plants recorded by Stantec within the limit of Subject Property and collected during site investigations. A detailed list with scientific plant names and the provincial status of plant species is provided in Appendix E.

- A total of 57 vascular plants were recorded.
- 21 species (37%) are native to Ontario, and 36 are exotic species not native to Ontario (69%).
- 18 native species have a provincial rank of S5 or S4, indicating they are common with a secure population in Ontario.
- Three (3) native species have a provincial rank of S4 or S4?, indicating they are uncommon to common, but not rare in the province and populations are apparently secure.
- No provincially rare plants or plant SAR were recorded.

The Study Area has a very high proportion of exotic species. Some of the exotic species are invasive and compromise the ecological integrity of natural areas by aggressively outcompeting native species and limiting the biodiversity of native species. These problematic species include white mulberry, Norway maple, Manitoba maple, olive species, common buckthorn, European reed, European privet, Tartarian honeysuckle, and garlic mustard.

4.2.2 Bat Surveys

4.2.2.1 Bat Maternity Roosts in Buildings

The building assessment conducted on June 11, 2024 identified potentially suitable entry and exit points for bats across the existing building on the Subject Property.

One (1) Eastern Red Bat call was recorded at BMS-2 (Figure 3, Appendix A) on June 26, 2024. No other calls were recorded on Echo Meter Touch 2 units during the two (2) entry and exit survey dates. No bats were observed entering, exiting, or flying around the building at any time during the surveys.

4.2.2.2 Bat Maternity Roosts in Treed Habitats

The bat tree assessment identified potentially suitable maternity roost trees in cultural savannah (CUS), Buckthorn-dominated thicket (THDM2-6), and a cultural meadow (CUM)/ deciduous regeneration thicket (THDM4) on the Subject Property (Figure 3, Appendix A).

Five (5) species of bat were identified during the bat acoustic surveys, including Big Brown Bat, Eastern Red Bat, Hoary Bat, Silver-haired Bat, and Little Brown Myotis (Table 4.4).



Table 4.4 Acoustic Bat Survey Results

Site ID	Number of Acoustic Recordings								Total
	Big Brown Bat	Eastern Red Bat	Hoary Bat	Silver-haired Bat	Little Brown Myotis	Silver Haired/ Big Brown Bat	Low Frequency Unknown	High Frequency Unknown	
Bat-1	8	3	8	55			37	2	113
Bat-2	13	32	6	56		3	30	1	141
Bat-3	5	30	27	80	2	3	31	8	186
Bat-4	9	5	6	21			24	10	75
Total	35	70	47	212	2	6	122	21	515

The three most commonly recorded species; Silver-haired Bat (212 calls), Eastern Red Bat (70 calls), and Hoary Bat (47 calls); are not currently SAR but are expected to be added to the SARO list in January 2025. All three of these species, as well as Big Brown Bat (the only non-SAR bat in Ontario) were confirmed at all detector locations. It is important to note that species abundance cannot be determined by acoustic data, as it is not possible to determine the number of individual bats that were recorded.

Twenty-one (21) high frequency calls that could not be identified to the species level were recorded across all detectors. These calls have the potential to belong to a myotis species (all SAR), Tri-colored Bat (SAR), or Eastern Red Bat (not currently SAR). Northern Myotis would not be expected to occur in the Study Area, as it is not typically found in urban environments.

Little Brown Myotis is the only SAR bat that was recorded on the Subject Property. In total, two (2) calls were recorded at Bat-3. Given this low number of calls, Little Brown Bat is considered a transient occurrence and is not expected to be using the Subject Property as roosting habitat.

4.2.3 Breeding Bird Surveys

A total of 30 species of birds were observed during breeding bird surveys, with breeding S-ranks ranging from S4 to S5 and included SNA. No bird SAR or SOCC were observed. Breeding evidence ranged from observed to confirmed. A total of five species were confirmed as breeding in the Study Area, including Killdeer, American Robin, European Starling, Red-winged Blackbird and House Finch. One species is a probable breeder (Song Sparrow), and an additional nine species are possible breeders. The remaining species were observed but no breeding evidence was found. Species and breeding evidence are provided in Table 4.5.



Table 4.5 Species Observed during Breeding Bird Surveys

Species Name	Scientific name	S-Rank	Highest Breeding Evidence
Great Blue Heron	<i>Ardea herodias</i>	S4	Observed
Mallard	<i>Anas platyrhynchos</i>	S5	Observed
Common Merganser	<i>Mergus merganser</i>	S5	Observed
American Kestrel	<i>Falco sparverius</i>	S4	Observed
Virginia Rail	<i>Rallus limicola</i>	S4S5B	Observed
Killdeer	<i>Charadrius vociferus</i>	S4B	Confirmed
Ring-billed Gull	<i>Larus delawarensis</i>	S5	Observed
Mourning Dove	<i>Zenaida macroura</i>	S5	Possible
Ruby-throated hummingbird	<i>Archilochus colubris</i>	S5B	Observed
Northern Flicker	<i>Colaptes auratus</i>	S5	Observed
Willow Flycatcher	<i>Empidonax traillii</i>	S4B	Possible
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	S4B	Observed
Blue Jay	<i>Cyanocitta cristata</i>	S5	Observed
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5	Possible
White-breasted nuthatch	<i>Sitta carolinensis</i>	S5	Possible
American Robin	<i>Turdus migratorius</i>	S5	Confirmed
Gray Catbird	<i>Dumetella carolinensis</i>	S5B, S3N	Observed
Northern Mockingbird	<i>Mimus polyglottos</i>	S4	Possible
Cedar Waxwing	<i>Bombycilla cedrorum</i>	S5	Observed
European Starling	<i>Sturnus vulgaris</i>	SNA	Confirmed
Warbling Vireo	<i>Vireo gilvus</i>	S5B	Possible
Yellow Warbler	<i>Setophaga petechia</i>	S5B	Possible
Northern Cardinal	<i>Cardinalis cardinalis</i>	S5	Possible
Song Sparrow	<i>Melospiza melodia</i>	S5	Probable
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S5	Confirmed
Common Grackle	<i>Quiscalus quiscula</i>	S5	Observed
Brown-headed Cowbird	<i>Molothrus ater</i>	S5	Observed
House Finch	<i>Haemorhous mexicanus</i>	SNA	Confirmed
American Goldfinch	<i>Spinus tristis</i>	S5	Observed
House Sparrow	<i>Passer domesticus</i>	SNA	Possible



4.2.4 Wildlife and Wildlife Habitat

Six (6) wildlife species (or evidence of wildlife) were recorded as incidental observations during the site investigations including two (2) birds, two (2) mammals and two (2) insects (Table 4.6). The wildlife species recorded have a provincial rank of S4 or S5, indicating they are uncommon to common. There were no SAR recorded as incidental observations. One SOCC was recorded (Monarch); three (3) adult Monarch butterflies were observed flying-over the Subject Property on October 1, 2024 which corresponds with their migration season. Monarchs were not observed resting or feeding site.

Table 4.6 Incidental Wildlife Recorded during the Site Investigation

Common Name	Scientific Name	Provincial Rank	SARO Status
Birds			
Eastern Phoebe	<i>Sayornis phoebe</i>	S5B	None
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	S5B	None
Mammals			
Eastern Cottontail	<i>Sylvilagus floridanus</i>	S5	None
Coyote	<i>Canis latrans</i>	S5	None
Insects			
Monarch	<i>Danaus plexippus</i>	S4B	Special Concern
Common Eastern Bumble Bee	<i>Bombus impatiens</i>	S5	None

The SAR habitat assessment included in Appendix C identified a high likelihood to occur in the Study Area for only one group of SAR, endangered bats. Suitable habitat on the Subject Property consisted of the onsite building and large diameter (10 cm or greater) trees throughout the Study Area. The results of the targeted surveys for bats presented in Section 4.2.2 identified two (2) calls made by one SAR bat, Little Brown Myotis, at survey location BAT-3. As stated in Section 4.2.2, Little Brown Bat is considered a transient occurrence and is not expected to be using the Subject Property as roosting habitat. Bat SAR and implications under the ESA are discussed further in Section 5.2.

The remaining potential SAR (Appendix C) have only a negligible to low potential to occur in the Study Area and are therefore not discussed further nor carried forward to the impact assessment.

The wildlife habitat assessment (Appendix D) documented five (5) types of candidate SWH (Table 4.7) potentially occurring within the Study Area, including candidate habitat for two SOCC on the Subject Property (Common Nighthawk and Eastern Wood-pewee).



Table 4.7 Summary of Candidate Significant Wildlife Habitat Features

Candidate Significant Wildlife Habitat Feature	Present on the Subject Property	Present in the Adjacent Lands
Turtle Wintering Areas	No	Yes
Turtle Nesting Areas	No	Yes
Amphibian Breeding Habitat	No	Yes
Habitat for Species of Conservation Concern – Midland Painted Turtle, Snapping Turtle, Virginia Bluebells	No	Yes
Habitat of Species of Conservation Concern – Common Nighthawk, Eastern Wood-pewee	Yes	Yes

The primary focus of the site investigation was the Subject Property; therefore, the Lower Morrison Creek and the surrounding deciduous thicket (THDM5) were not thoroughly assessed during site investigations. While a comprehensive wildlife assessment was not completed, it is worth noting that Lower Morrison Creek, owing to its relatively small size and urban location, is an unlikely candidate for designation as a SWH. Nonetheless, conducting targeted species occupancy surveys would be necessary to ascertain the presence of SOCC and to determine if the candidate Turtle Wintering Areas, Turtle Nesting Areas and Amphibian Breeding Habitat qualify as confirmed SWH.

Targeted surveys were conducted to determine presence/absence of Common Nighthawk and Eastern Wood-pewee to determine if they are present on the Subject Property or Adjacent Lands. Common Nighthawk and Eastern Wood-pewee were not detected during breeding bird surveys, discussed in Section 4.2.3, and are considered absent. The SWH assessment can be found in Appendix D.

4.2.5 Aquatic Feature Assessment

The drainage features discussed below are mapped on Figure 2, Appendix A. A photolog of the aquatic features assessed on the Subject Property is provided in Appendix F2.

Unregulated Drain

The feature was dry and began in two (2) corrugated plastic pipes (30 cm and 50 cm) at South Service Road East. The feature travelled southwest along the property line and under the Davis Road entrance at the south side of the Subject Property. The feature dissipated and was undefined 25 m southeast of the gate entrance on Davis Road (Figure 2, Appendix A). There was shallow standing water 25 m from the southern corner of the property within a patch of Phragmites, although the mapped drain was undefined at this location.

The channel was stable and highly vegetated. The mean bankfull width was 1.5 m, and the mean bankfull depth was 0.2 m. The substrates in the defined areas of the feature were dominated by silt with cobbles and gravels present near culverts. Phragmites and buckthorn dominated the riparian vegetation.



The feature was not functioning as fish habitat at the time of field investigations.

Southeast Drainage Feature

This feature began from the ground (no tile outlet or culvert was observed) and travelled 60 m south before draining through a large area of Phragmites in the south corner of the Subject Property. This feature is mapped as candidate HDF on Figure 2, Appendix A.

During field investigations, the feature had very shallow standing water (average of 2 cm and maximum of 6 cm) with floating ferris iron, silt substrates, and flat morphology. The average wetted width was 0.8 m with an average bankfull width of 1.75 m and bankfull depth of 0.15 m. Riparian vegetation consisted of meadow and shrubland species, with sparse cattail and horsetail in the wetted channel.

No fish were observed during the field investigation, and the feature is unlikely to function as fish habitat.



5 Policy Assessment and Recommendations

The primary protected natural heritage feature in the Study Area is Lower Morrison Creek located in the northeastern edge of the Study Area. As noted in Section 4.1.1, Lower Morrison Creek and its surrounding lands are designated as a Natural Area in the Town of Oakville Official Plan, and as a Wetland Hazard by Conservation Halton. Therefore, for the purpose of this evaluation, the Lower Morrison Creek riparian area is considered a wetland.

Development proposed within 120 m of a wetland area requires a satisfactory EIA conducted by the Town or a Conservation Authority (Section 16.1.7, Town of Oakville). Lower Morrison Creek is approximately 60 m from the Subject Property; thus, an EIA is required to demonstrate that the proposed development will result in no negative impact on the features or ecological functions of the feature.

Based on the SWH assessment, Lower Morrison Creek may also support the following candidate significant habitat functions in the Study Area:

- Turtle Wintering Areas
- Turtle Nesting Areas
- Amphibian Breeding Habitat
- Habitat for Species of Conservation Concern – Midland Painted Turtle, Snapping Turtle, and Virginial Bluebells

Field habitat assessments and/or targeted species occupancy surveys would be required to determine if candidate Turtle Wintering Areas, Turtle Nesting Areas and Amphibian Breeding Habitat are present; however, they would not be expected to change the assessments in this report. If these significant species and habitat functions are present in the Study Area, they are adapted to the existing urban setting, and development would not be expected to create additional negative effects. As shown in the vegetation community mapping (Figure 2, Appendix A), Lower Morrison Creek exists within an urban environment, surrounded by existing development (CVC_1). As such, the proposed development is not expected to interact with Lower Morrison Creek.

The background review also identified wooded areas (MNR 2023) in the Study Area (Figure 1, Appendix A), including one (1) feature on the Subject Property. The site investigations assessed this feature and other treed areas on the Subject Property and determined that they do not qualify as woodlands for the following reasons:

- As previously stated, according to section 295 in the Halton Region Official plan, a woodland is land with at least: 1000 trees of any size per ha, or 750 trees over 5 cm in diameter per ha, or 500 trees over 12 cm in diameter per ha, or 250 trees over 20 cm in diameter per. Invasive non-native woody shrubs are not considered trees for density calculations.



- Considering that the wooded areas within the Subject Property have a sparse canopy and are dominated by invasive Common buckthorn, they do not meet the density requirements to be considered as a woodland community.

Based on the above, the wooded / treed areas on the Subject Property are not considered woodlands, but instead are classified as cultural savannah (CUS) and Buckthorn tickets (THDM2). These features would not qualify as Significant Woodland as per the Halton Region Official Plan because they are too small (< 2 ha) and do not meet the other criteria. Further, targeted wildlife surveys and habitat assessments did not document SOCC or other candidate SWH features associated with the wooded areas or other features on the Subject Property.

Previous correspondence with Conservation Halton determined that wetlands are absent from the Subject Property (Appendix B).

Potential requirements for SAR are discussed under Section 5.2.

The aquatic habitat assessment identified a candidate HDF on the Subject Property as shown on Figure 3, Appendix A. This feature will be assessed using the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (CVC and TRCA 2014) to determine protection and/or mitigation requirements if any (e.g., mitigation to replicate hydrological functions). The guideline requires up to three (3) surveys (typically late March to early April, late April to early May, and July to mid-September), which will be completed if required.

5.1 Summary of Protected Features

As noted in Section 2.3, the Town of Oakville’s (2021) Official Plan designates Natural Areas that are intended to be preserved long-term. These features are provided in Table 5.1, along with a summary of their presence/absence on the Subject Property. As discussed in Section 5 above, the Lower Morrison Creek corridor was the only Natural Area identified in the Adjacent Lands.

Table 5.1 Summary of Natural Features on the Subject Property and Recommendations

Feature*	Present on Subject Property (Present/Absent)	Recommendation
Significant habitat of endangered species and threatened species	Absent	Summer / maternity roost habitat for Hoary Bat, Silver-haired Bat and Eastern Red Bat is potentially present on the Subject Property. Habitat for these species is expected to receive protection under the ESA by January 31, 2025. Once protected, authorization requirements for removal of habitat (trees) will be determined through consultation with MECP (see Section 5.2.1).
Wetlands	Absent	N/A
Woodlands	Absent	N/A
Valleylands	Absent	N/A



Feature*	Present on Subject Property (Present/Absent)	Recommendation
Significant wildlife habitat	Absent	N/A
Environmentally Sensitive Areas	Absent	N/A
Areas of Natural and Scientific Interest	Absent	N/A
Fish habitat	Absent	A candidate HDF (Figure 2, Appendix A) will be assessed using the <i>Evaluation, Classification and Management of Headwater Drainage Features Guidelines</i> (CVC and TRCA 2014) to determine protection and/or mitigation requirements if any.
Natural corridors	Absent	N/A

5.2 Significant Species

Significant species that were recorded during site investigations include one (1) SAR Little Brown Myotis and one (1) SOCC Monarch. Three (3) additional species (Hoary Bat, Silver-haired Bat and Eastern Red Bat) were detected that are expected to receive protection under the ESA by January 31, 2025. Little Brown Myotis, Hoary Bat, Silver-haired Bat and Eastern Red Bat are discussed further under Section 5.2.1 below.

Monarchs were observed as flyovers only, they were not observed reproducing or feeding and are not discussed further (see Section 4.2.4).

5.2.1 Endangered Species Act

As stated in Section 4.2.2., only two (2) calls of Little Brown Myotis were recorded during acoustic surveys. This low number of calls suggests Little Brown Bat was a transient occurrence, and the Subject Property is not considered summer / maternity roost habitat for this species. Given that SAR bat habitat is considered absent from the Subject Property, it is Stantec’s opinion that tree removals performed outside of the primary active season for bats (April 1 – September 30) would not be in contravention of the ESA.



Maternity roost habitat for Hoary Bat, Silver-haired Bat and Eastern Red Bat is potentially present on the Subject Property based on the relatively high number of detections during acoustic monitoring surveys. Habitat for these species is expected to receive protection under the ESA by January 31, 2025. If tree removal on the Subject Property will occur after protections for these species come into effect, MECP will be consulted through submission of an Information Gathering Form (IGF) to determine potential ESA implications. MECP will review the IGF to determine if a permit is required for removal of potential roost trees and identify potential mitigation requirements. Mitigation requirements would likely include, but are not limited to, timing restrictions for tree removals and installation of compensation habitat such as bat boxes. The authorization process under the ESA can take up to a year or more.

Stantec does not have authority over the ESA, and while this report presents our opinion, it does not constitute legal advice. Tree removals will be conducted in accordance with all pertinent policy and legislation, including ESA.



6 Impact Assessment

This EIA was prepared to document natural features that require consideration through the development application process, including features that are protected by the ROP and the Town of Oakville Official Plan. The results of the background review and site investigations documented one (1) natural heritage feature in the Study Area, northeast of the Subject Property (Lower Morrison Creek). Lower Morrison Creek exists within an urban environment, surrounded by existing development (CVC_1; Figure 2, Appendix A). As such, the proposed development is not expected to interact with Lower Morrison Creek.

The proposed redevelop plan includes mixed residential, commercial and parkland use (the proposed Site Plan [Graziani + Corazza Architects 2024] is provided in Appendix G). This plan will redevelop the entire Subject Property, including removal of the vegetated land cover areas summarized in Table 6.1; however, protected Natural Areas are absent from the Subject Property.

An Arborist Report and Tree Preservation Plan (GLN Farm & Forest 2023) was prepared to support tree removal applications for temporary use of the Subject Property. This report will be updated to reflect the proposed redevelopment plan, including identification of tree removals, protection and compensation requirements.

Trees are suitable maternity roost habitat for Hoary Bat, Silver-haired Bat and Eastern Red Bat, which were detected during acoustic surveys. Habitat for these species is expected to receive protection under the ESA by January 31, 2025. Considerations under the ESA are discussed in Section 5.2.1.

The proposed development may require the removal of a candidate HDF on the Subject Property (Figure 3, Appendix A). This feature will be further assessed to determine protection and/or mitigation requirements if any (e.g., mitigation to replicate hydrological functions). the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (CVC and TRCA 2014) requires up to three (3) surveys (typically late March to early April, late April to early May, and July to mid-September).

Table 6.1 Direct Loss by Land Cover Type

Type	ELC Description	Area (ha)
Constructed	Constructed (CV)	6.17
Constructed	Constructed Business Sector (CVC_1)	0.02
Constructed	Green Lands - Manicured (CGL)	0.67
Vegetated	Buckthorn Deciduous Hedgerow Thicket type (THDM3-1)	0.12
Vegetated	Buckthorn Deciduous Shrub Thicket Type (THDM2-6)	1.74
Vegetated	Cultural Meadow (CUM) / Dry - Fresh Deciduous Regeneration Thicket Ecosite (THDM4)	0.62



Type	ELC Description	Area (ha)
Vegetated	Cultural Meadow (MEM)	0.56
Vegetated	Cultural Savanna (CUS)	0.53
Vegetated	Dry - Fresh Deciduous Regeneration Thicket Ecosite (THDM4)	0.46
Vegetated	Meadow Marsh (MAM)	0.11

6.1 Mitigation Recommendations

6.1.1 Bird’s Nests

To avoid damaging or disturbing bird nests and contravening the MBCA, the timing of vegetation clearing including trees, shrubs and meadow vegetation will occur outside of the primary nesting period (i.e., the period when the percent of total nesting species is greater than 10% based on Environment Canada’s Nesting Calendars and the period for which due diligence mitigation measures are generally recommended). The primary nesting period identified for the Study Area is generally April 1 to August 15. However, birds may also nest outside this period and nests will be avoided until no longer active.

6.1.2 Bat Maternity Roosts

Some large trees (> 10 cm DBH) may be suitable roost trees for bats. Removal of these trees will not occur between April 1 and September 30 to avoid bats during the maternity and summer roost season. If trees will be removed after Hoary Bat, Silver-haired Bat and Eastern Red Bat receive protections under the ESA (expected by January 31, 2025), the MECP will be contacted to determine authorization requirements (see Section 5.2.1).

6.1.3 Indirect Impacts

Inadvertent encroachment of heavy equipment, siltation and/or spills of deleterious substances, noise, and dust migration into natural features were identified as potential indirect impacts from construction. These impacts may alter species composition by compacting and smothering vegetation and introducing substances that could be harmful to vegetation and wildlife, such as fuel used by construction vehicles. Additional disturbance may be required to facilitate spill clean-up activities. Where they occur, these impacts are expected to be localized to the construction area and adjacent areas.



6.1.3.1 Standard Measures for Construction

The potential indirect effects identified above are common to various types of construction and can be controlled using standard mitigation measures for erosion and sediment control. The following mitigation measures will be implemented during construction:

- Silt fencing and/or tree protection fencing will be used along all construction areas adjacent to natural features and low areas where drainage may exit the work areas onto adjacent properties. No equipment will be permitted to enter natural features beyond the fencing. Tree protection fencing is to be specified by an updated arborist report and tree protection plan.
- Vegetated areas that are inadvertently disturbed during construction will be stabilized and re-vegetated, through the placement of seed and mulching or seed and an erosion control blanket, promptly upon completion of construction activities. Re-vegetation in areas that will be retained post-construction (if any) will use native species that are suited to the site conditions, and plant material should be sourced locally if possible. Revegetation plans will follow standard guidelines, such as Conservation Halton's (undated) *Guidelines for Landscaping and Rehabilitation Plans*.
- Equipment will be re-fueled >30 m away from naturally vegetated areas and low areas where drainage may exit onto adjacent properties.
- Additional silt fence will be available on site, prior to grading operations, to provide a contingency supply in the event of an emergency.
- Sediment and erosion controls will be monitored regularly and properly maintained, as required. Controls will be removed only after the construction area has been stabilized.
- Machinery and equipment will be properly muffled and maintained to mitigate noise disturbance during construction.

6.1.3.2 Invasive Species Management

European reed (Invasive Phragmites) is common in many vegetated areas of the Subject Property, including existing fill piles and other areas. An Invasives Species Management Plan will be prepared and implemented to prevent the spread of invasive Phragmites during construction. Soils contaminated with Invasive Phragmites will not be reused for landscaping and should be deposited in designated landfills that accept and properly dispose of invasive species. The management plan will also include a clean equipment protocol to reduce the potential for transfer of Phragmites material to new locations with the Subject Property or offsite during construction.



6.1.3.3 Environmental Monitoring

Construction monitoring will be undertaken to track implementation of the planned mitigation measures, including compliance erosion and sediment control plans, and invasive species management plans. This includes proper functioning of controls throughout all phases of development, and proper containment of work in designated work areas. Remedial action should be undertaken as soon as possible wherever discrepancies are identified.

6.1.4 Building Design Recommendations

Window collisions result in a high number of bird mortalities in the Greater Toronto Area, with a disproportionate effect associated with mid- and rise- buildings in urban areas adjacent to Lake Ontario and other migratory pathways (City of Toronto 2016). Windows with Bird-friendly building design will be used where appropriate to reduce the risk of bird collisions, such as use of glass with visual markers that are perceivable by birds; refer to the Bird-Friendly Development Guidelines: Best Practices – Glass (City of Toronto 2016) for design considerations.



7 Summary and Conclusions

The objective of the EIA is to identify natural heritage features that require protection and demonstrate that the proposed development will result in no negative impacts to the protected natural features, if present (ROP, Office Consolidation November 4, 2022). As noted in Section 2.3, the Town of Oakville's (2021) Official Plan designates Natural Areas that are intended to be preserved long-term.

The EIA identified did not identify features that qualify as Natural Areas on the Subject Property. However, trees on the Subject Property may provide suitable summer / maternity roost habitat for Hoary Bat, Silver-haired Bat and Eastern Red Bat, which are expected to be protected by the ESA by January 31, 2025. MECP is the responsible agency for endangered and threatened species in Ontario. If tree removal on the Subject Property will occur after protections for these species come into effect, MECP will be consulted through submission of an Information Gathering Form (IGF) to determine potential ESA implications, including authorization and mitigation requirements.

One Natural Area was identified in the Adjacent Lands:

- Lower Morrison Creek corridor - watercourse and riparian wetlands, including candidate SWH

Lower Morrison Creek is not expected to interact with development because it is contained within an urbanized context and separated from the Subject Property by existing development.

Mitigation recommendations were provided to:

- Avoid sensitive periods for breeding birds and summer/maternity roosting bats
- Provide standard control measures for tree protections, and indirect impacts such as erosion and sedimentation and invasive species during construction
- Reduce the risk of bird mortality using bird friendly design measures

The aquatic habitat assessment identified one (1) candidate HDF on the Subject Property. This feature will be assessed using the *Evaluation, Classification and Management of Headwater Drainage Features Guidelines* (CVC and TRCA 2014) to determine protection and/or mitigation requirements if any (e.g., mitigation to replicate hydrological functions).

Based on the findings of the EIA, the proposed development complies with the natural heritage policies outlined in Section 2, provided the mitigation recommendations are implemented as described in Section 6.1.



8 References

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Appendices



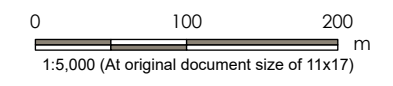
Appendix A Figures



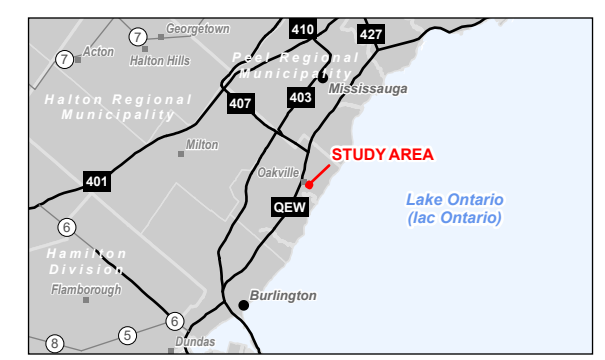


Legend

- Study Area
- Subject Property
- Railway
- Thermal Regime, Cold
- Thermal Regime, Warm
- Watercourse (Intermittent)
- Watercourse (Permanent)
- Expressway / Highway
- Major Road
- Minor Road
- Wooded Area



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.
 3. Imagery © First Base Solutions. Imagery flown in 2021.



Project Location: Oakville, ON
 Prepared by toghlan on 2024-10-25
 Technical Review by DH on 2023-07-20
 122120479 REVA

Client/Project: South Service Holding Corporation
 420 South Service Road East, Oakville

Figure No. **1**
 Title **Project Location**

V:\1004-01\work_group\10609\active\122120479\03_data\figs_cad\figs\mapa\ecosystems\report_figures\122120479_03_data\figs_cad\figs\mapa\ecosystems\report_figures\122120479_BattMemo_Fig1_L_ProjectLocation_Review_2024-10-25_By_toghlan_4813000_4812500

Appendix B Correspondence



From: [Dana Anderson](#)
To: [David Bannerman](#)
Cc: [David McKay](#)
Subject: FW: GE Lands
Date: Thursday, June 22, 2023 12:06:48 PM
Attachments: [image001.png](#)
[image002.png](#)
[GE Lands Current Regulatory Mapping from Conservation Halton.jpg](#)

David

I wanted to get back to the group on this matter quickly.

See email confirmation below.

I have attached the current CH mapping.

Also note that there is NO NHS on the site based on Regional or Town mapping.

I will leave it to you to circulate to the group as I am not sure I have everyone's emails.

Thanks

Dana

DANA ANDERSON, MA, FCIP, RPP | Partner

MHBC Planning, Urban Design & Landscape Architecture

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50 Logo Email Signature



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From: Geoff Abma <geoff.abma@oakville.ca>

Sent: June 22, 2023 11:26 AM

To: Dana Anderson <danderson@mhbcplan.com>

Cc: Gabe Charles <gabe.charles@oakville.ca>; Kirk Biggar <kirk.biggar@oakville.ca>

Subject: RE: GE Lands

Hi Dana,

Leah Smith from Conservation Halton has previously confirmed that the feature on the SW quadrant of the 'GE Lands' is not a wetland. See excerpts from various emails below to that effect with relevant portions highlighted:

From: Leah Smith [<mailto:leahsmith@hrca.on.ca>]
Sent: Monday, September 21, 2020 9:37 AM
To: Lesley Gill Woods <lesley.gill-woods@oakville.ca>
Subject: RE: Midtown Oakville

Good Morning Lesley,

I hope you had a nice weekend.

Thanks for reaching out on the midtown mapping. With respect to your first question about the wetland feature – I actually recalled going out to stake this wetland before I left CH about 8 years ago, and that we discovered it wasn't a wetland when we got out to the site. We managed to find that record so our mapping will be updated to remove the wetland, and you don't need to recognize this area in the OP.

For question 2, I will get back to you shortly to confirm if the CH mapping you've shown below is accurate for the creeks, or if there are any new flood plain analyses, etc. that have been done recently and should be reflected.

In the meantime, can you confirm your criteria for the Natural Area designation? Do you include hazards in this designation, or is Schedule B meant to capture hazards separately from the designation?

Also, let me know if there are any draft policies you'd like me to take a look at, or if you're just leaning on the town wide policy guidance for hazards/natural areas.

Thanks,
Leah

From: Lesley Gill Woods <lesley.gill-woods@oakville.ca>
Sent: September 15, 2020 10:09 AM
To: Leah Smith <lsmith@hrca.on.ca>
Subject: RE: Midtown Oakville

Hi Leah – Thanks for getting back to me. As part of the town's OP Review, Geoff Abma and I are working on proposed updates to the Midtown Oakville policies and mapping (Midtown Oakville Growth Area Review). We are looking to "ground truth" the existing policies to the extent possible, and are evaluating the redistribution of Mixed Use permissions to meet Growth Plan requirements.

This includes potential mixed use / high density residential use permissions east of Trafalgar Road.

In CH's mapping there is a "Wetlands Hazard" identified on the GE lands (east of Trafalgar Rd., south of QEW) that has never been recognized in our OP mapping. It does not appear on Livable Oakville's Schedule B (Natural Features and Hazard Lands) or on Schedules L1 and L2 (Midtown).

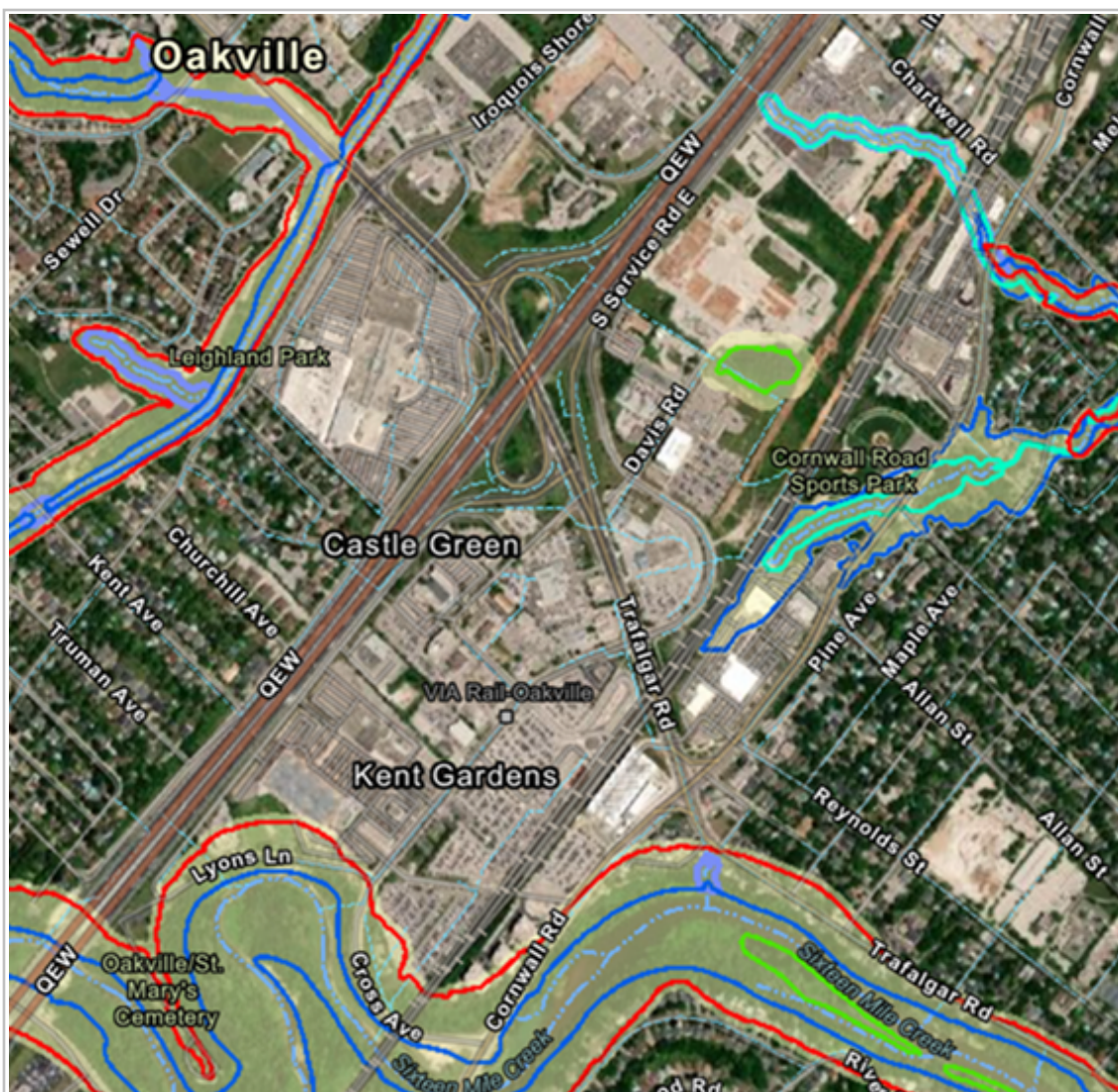
So, we're wondering:

1. Does CH have any more information about this feature or thoughts about (and basis for) how it should be recognized in our OP? e.g., Natural Area, Natural Area Requiring Further Study.
2. Does CH have any other comments or information affecting lands in Midtown Oakville?

I have attached the most current DRAFT consolidated Livable Oakville schedules for you, which include the changes made by OPA 14 (Midtown Oakville and Transportation Network Updates). These schedules *do not* include any draft proposed changes.

We are supposed to take draft policy changes to Council by December or January, so the sooner we know about any issues, the better.

Many thanks,
Lesley



From: Leah Smith <leahsmith@hrca.on.ca>
Sent: June 6, 2022 8:50 AM
To: Lesley Gill Woods <lesley.gill-woods@oakville.ca>
Subject: RE: CH Feedback: Midtown OPA

Hi Lesley,

Thanks for the update. We caught the addition to the NHS on the GE site too, and also let the Region know that it has been confirmed not a wetland and can be removed. Let us know if/when you need anything further from us on Midtown.

Hope all is well!

Leah

From: Lesley Gill Woods <lesley.gill-woods@oakville.ca>

Sent: June 3, 2022 12:55 PM

To: Leah Smith <leahsmith@hrca.on.ca>

Cc: Geoff Abma <geoff.abma@oakville.ca>

Subject: RE: CH Feedback: Midtown OPA

Hi Leah – I just realized that I drafted an email to you a while back and never sent it! At the time, we were in the midst of compiling agency comments to attach to the staff report about the 2022 Draft Proposed Midtown OPA. (Refer to Item 6.2 on the town's June 7, 2022 Planning and Development Council agenda: <https://pub-oakville.escribemeetings.com/Meeting.aspx?id=4a45189b-d22d-4cda-b4a3-30ccd431d64a&Agenda=Agenda&lang=English>)

I'm writing to advise that we haven't forgotten about your 03/17/2021 comments on the 2021 Draft Proposed Midtown OPA. We will address them in the next version of the 2022 Draft Proposed OPA.

I also wanted to flag that the Midtown Natural Area/Wetland Hazard in the southwest quadrant of the GE site (at the east end of Davis Rd.) reappeared in the Region's recent draft updated NHS mapping. We advised them that it had been determined not to be a significant feature based on our previous communications with you.

Lesley

Lesley Gill Woods, MCIP, RPP
Senior Planner - Policy Planning, Policy Planning and Heritage
Planning Services

Town of Oakville | 905-845-6601, ext.3261 | f: 905-338-4414 | www.oakville.ca

I hope this helps.
Cheers! Geoff.

Geoff Abma, (He/Him/His), MCIP, RPP
Senior Planner
Planning Services

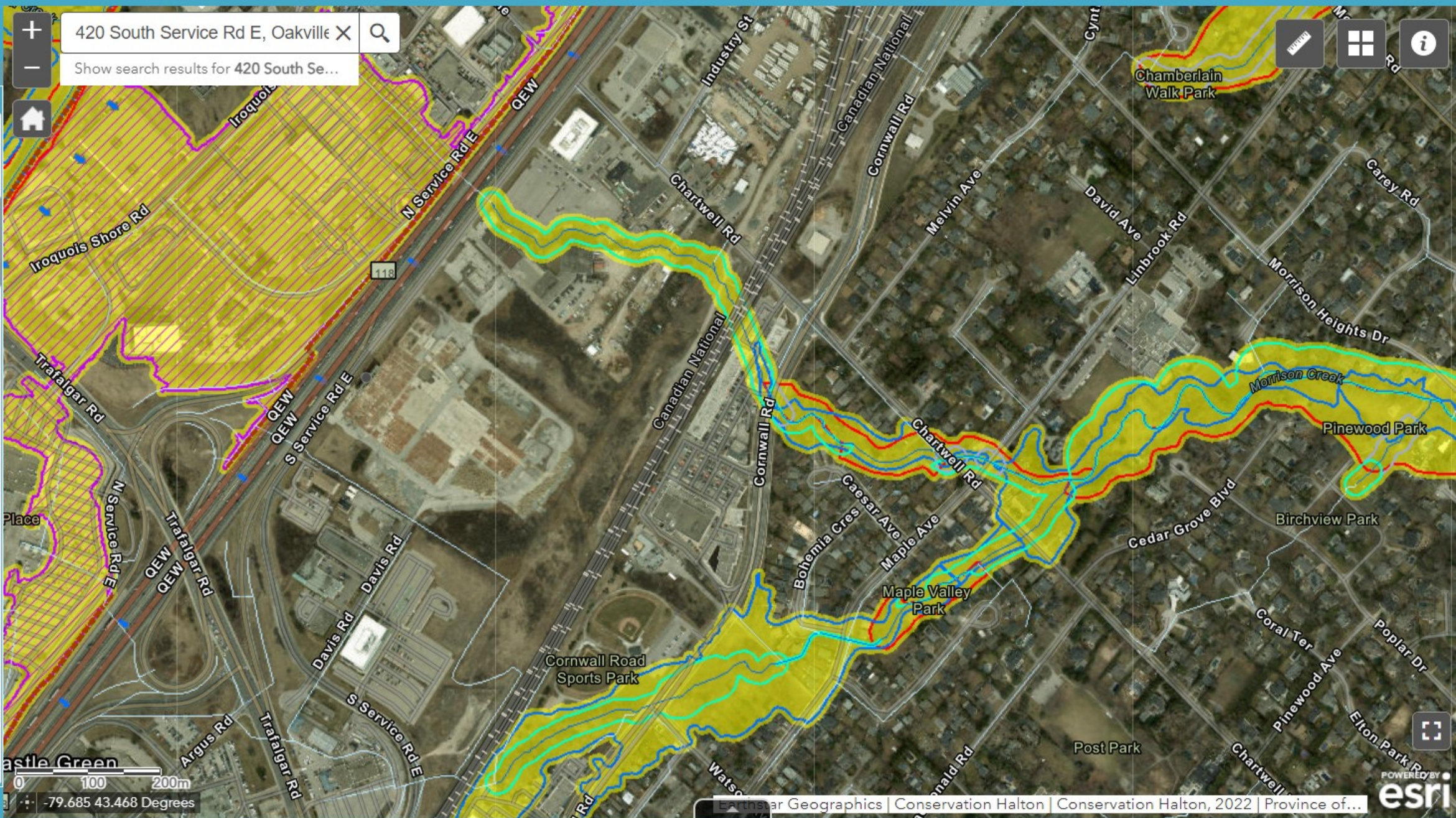
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Navigation icons: Home, Layers, Print, Search, Zoom In, Zoom Out, Full Screen, Info.



How to...

Regulation Limit (Approximate)

ARL Hazards

- Meander Belt Hazard
- Headwater Floodplain Hazard
- Floodplain Hazard
- Spill Zone Hazard
- Wetland Hazard
- Stable Top of Bank (STOB) Hazard
- Shoreline Hazard
- Shoreline Dynamic Beach Hazard
- Shoreline 100 Year Flood Elevation Hazard

ARL Components

- Consult with Conservation Halton
*Potential flood hazard mapping changes
- Spill Arrows
- Spill Lines

Step 3. Print a map of your area by selecting the



How to...

Regulation Limit (Approximate)

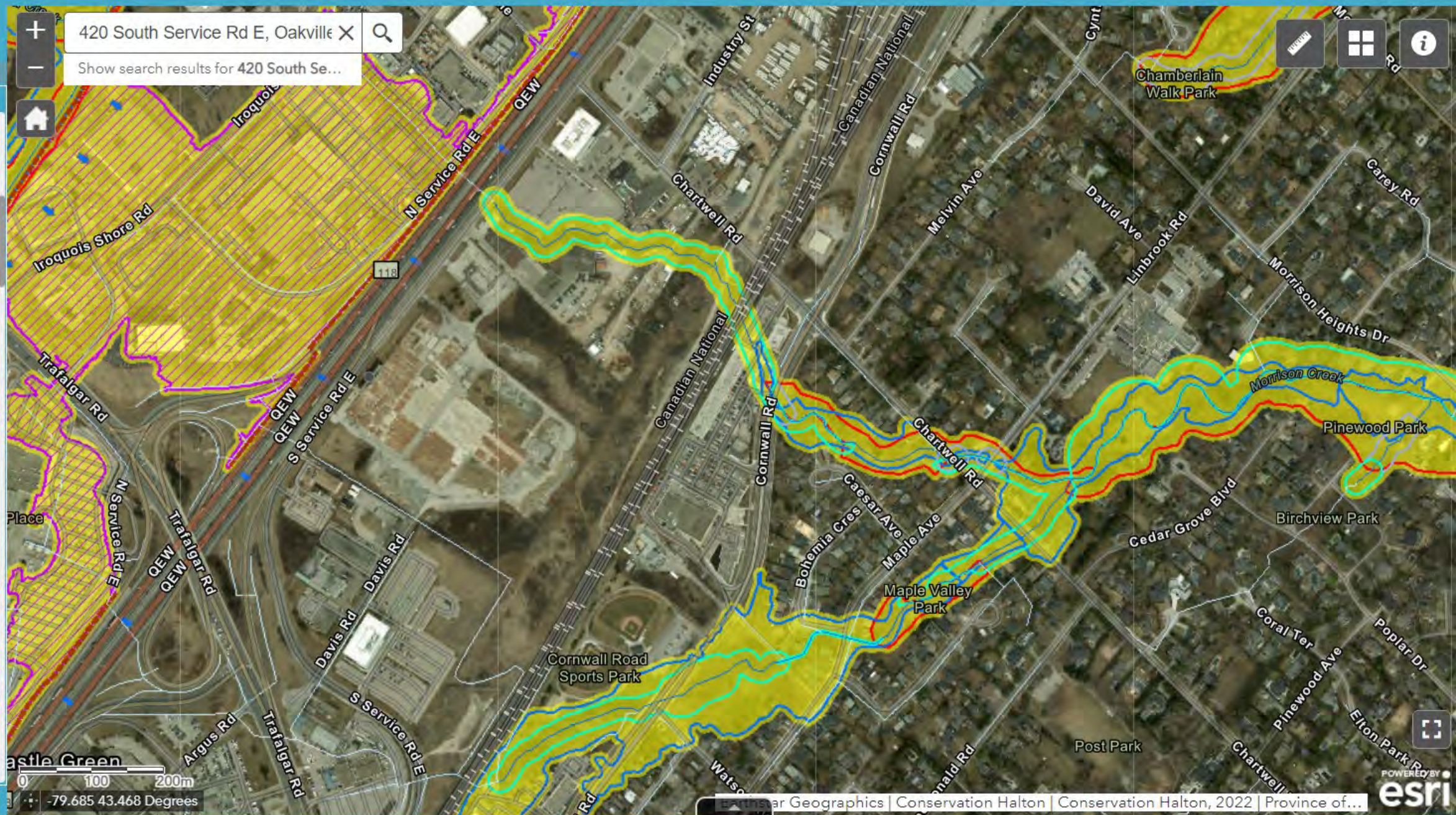
ARL Hazards

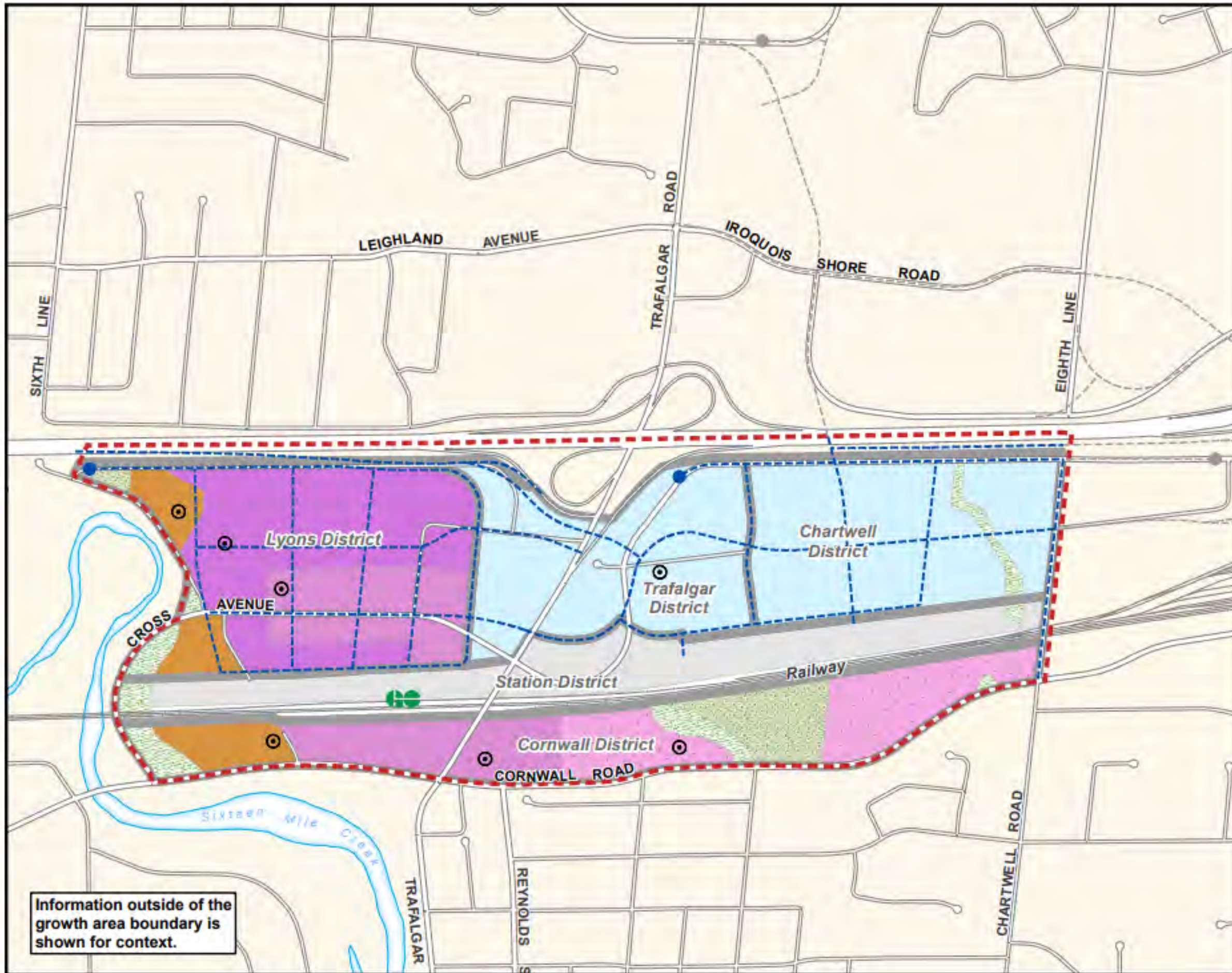
- Meander Belt Hazard
- Headwater Floodplain Hazard
- Floodplain Hazard
- Spill Zone Hazard
- Wetland Hazard
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- Shoreline Hazard
- Shoreline Dynamic Beach Hazard
- Shoreline 100 Year Flood Elevation Hazard

ARL Components

- Consult with Conservation Halton
*Potential flood hazard mapping changes
- Spill Arrows
- Spill Lines

Step 3. Print a map of your area by selecting the





Information outside of the growth area boundary is shown for context.

SCHEDULE L1 MIDTOWN OAKVILLE LAND USE



- GROWTH AREA BOUNDARY
- HIGH DENSITY RESIDENTIAL
- COMMUNITY COMMERCIAL
- URBAN CENTRE
- URBAN CORE
- OFFICE EMPLOYMENT
- NATURAL AREA
- PARKS AND OPEN SPACE
- UTILITY
- DISTRICT BOUNDARIES
- FUTURE ROADS
(Refer to Schedule L3 for more detail)
- FUTURE CUL-DE-SAC
- RAILWAY
- MAJOR TRANSIT STATION

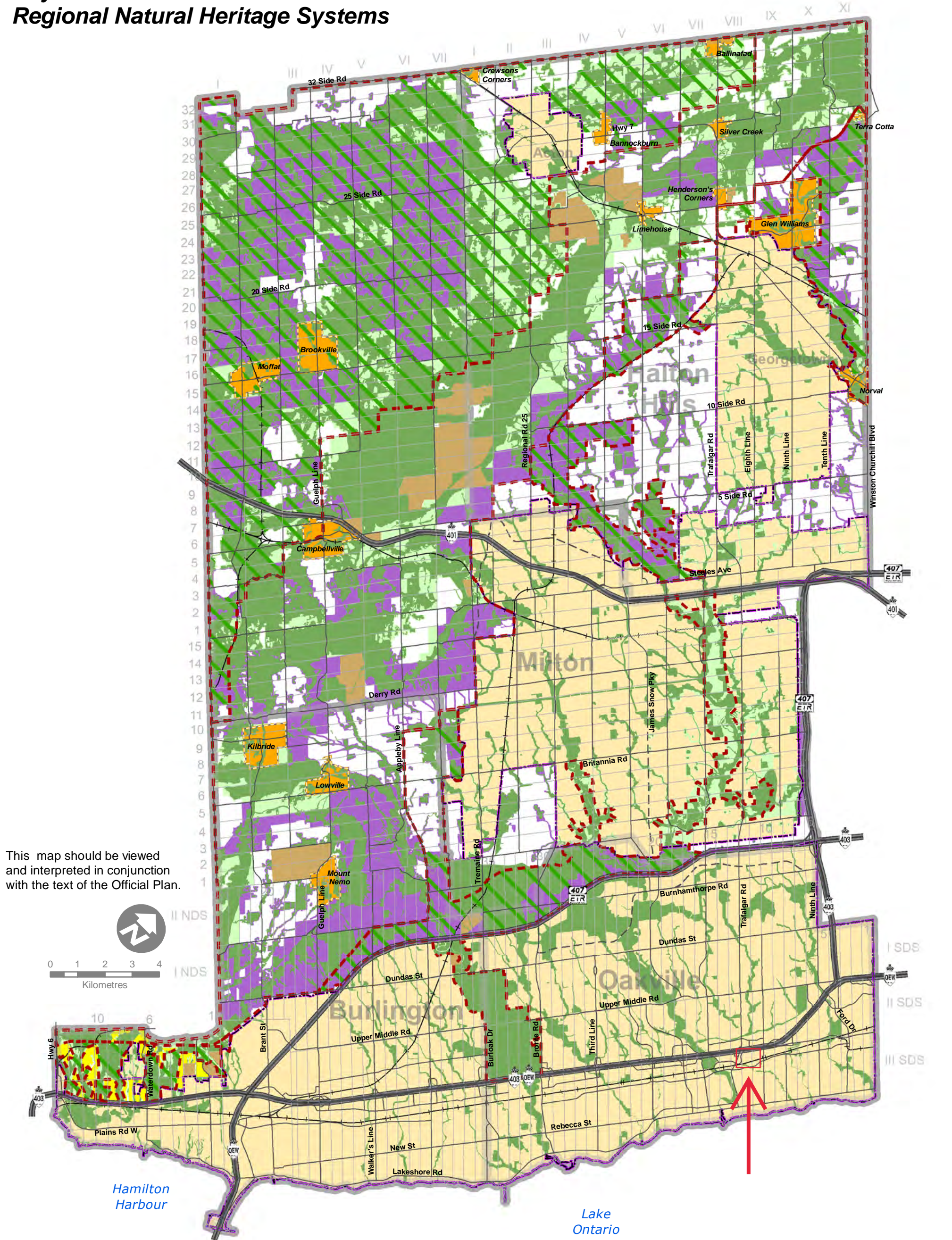
Refer to Part E, Midtown Oakville, for Growth Area Policies
 Refer to Part E, Midtown Oakville Exceptions



1:7,500

August 31, 2021

Map 1G Key Features within the Greenbelt and Regional Natural Heritage Systems



This map should be viewed and interpreted in conjunction with the text of the Official Plan.



0 1 2 3 4
Kilometres

- +— Rail Line
- - - Proposed Major Arterial
- Major Road
- Provincial Freeway
- Lot and Concession Line
- Municipal Boundary
- - - Greenbelt Plan Boundary
- Urban Area
- Hamlet
- Key Features
- Enhancement Areas, Linkages and Buffers
- Prime Agricultural Areas in NHS Enhancements/Linkages/Buffers
- Greenbelt NHS
- Regional Urban Boundary
- Mineral Resource Extraction Area
- North Aldershot Policy Area

Appendix C Species at Risk Assessment



Appendix C - Species and Risk Assessment

Group	Common Name	Scientific Name	S-Rank	SARO Status	COSWIC	Source	Habitat Description	Assessment Criteria	Potential to Occur in the Study Area
Birds	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	S4B	THR	THR	Cadman et al. 2007	Whip-poor-will favour open woodlands with frequent clearings. Its preferred nesting sites contain shaded leaf litter or pine needles and generally occur along wooded edges or in clearings without any herbaceous growth (Cadman et al. 1987). The species is considered to be area-sensitive, preferring 100 hectares of suitable habitat for breeding. Recent survey data suggest a substantial decline in Whip-poor-will numbers and a constriction of range, prompting its recent federal and provincial designation. Reasons for the decline are currently unknown and speculative with habitat loss and degradation, automobile collisions and changes in food supply listed as the leading threats (COSEWIC, 2009). The decline is concurrent with, and likely linked to, noted declines (and associated provincial and federal designations) of a number of aerial-foraging birds.	Suitable habitat is absent from the Study Area.	Low
Birds	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	THR-NS	MNRF 2023; Cadman et al. 2007	The Bobolink is generally referred to as a "grassland species". It nests primarily in forage crops with a mixture of grasses and broad-leaved forbs, predominantly hayfields and pastures. Preferred ground cover species include grasses such as Timothy and Kentucky bluegrass and forbs such as clover and dandelion (COSEWIC 2010a). Bobolink is an area-sensitive species, with reported lower reproductive success in small habitat fragments (COSEWIC 2010a).	Suitable habitat is absent from the Study Area. Species was not recorded during the breeding birds surveys.	Negligible
Birds	Chimney Swift	<i>Chaetura pelagica</i>	S4B, S4N	THR	THR-THR	MNRF 2023; Cadman et al. 2007	Chimney Swift uses chimneys for roosting and breeding, and less commonly, nest in large hollow trees (Cadman et al. 2007a). Nesting sites typically have a constant ambient temperature (COSEWIC 2007a). It is an aerial insectivore, and often forages near water (COSEWIC 2007a).	Suitable chimneys and trees not observed on the Subject Property and unlikely to occur in the Study Area.	Low
Birds	Eastern Meadowlark	<i>Sturnella magna</i>	S4B	THR	THR	MNRF 2023; Cadman et al. 2007	The Eastern Meadowlark is typically found in fields, meadows, golf courses, pastures, alfalfa fields, roadsides and other open areas (MNRF 2016). Older sites with moderately tall grass, a substantial litter layer, low forb and shrub cover and dense grass are preferred (COSEWIC 2011a). Larger patch sizes (>5 ha) are also generally preferred (COSEWIC 2011a).	Marginally suitable habitat may be present in CUM/THDM4 communities however species was not recorded during the breeding bird surveys.	Low
Mammals	Endangered Bats	<i>Myotis lucifugus</i> <i>Myotis leibii</i> <i>Myotis septentrionalis</i> <i>Perimyotis subflavus</i>	Various	END	Various	Dobby 1994	Day roosts and maternity colonies in older forest and occasionally in barns or other structures. <i>Perimyotis subflavus</i> may also roost under rocks / rock outcrops.	The building on the Subject Property and large diameter trees throughout the Study Area are potentially suitable maternity and summer roosting sites for endangered bats. Species were not recorded during targeted acoustic surveys.	Negligible
Birds	Bank Swallow	<i>Riparia riparia</i>	THR	THR-NS	S4B	Cadman et al. 2007	The Bank Swallow breeds on a variety of sites with vertical banks, including riverbanks, bluffs, aggregate pits and stock piles of sand and soil (COSEWIC 2013). Sand-silt substrates are preferred (COSEWIC 2013). Nesting sites are often near open habitats used for aerial foraging (COSEWIC 2013). Large wetlands are used as communal roosts during post-breeding, migration, and wintering periods (COSEWIC 2013).	No suitable nesting sites for Bank Swallow were identified in the Study Area. Not observed during the breeding bird surveys.	Negligible

Appendix C - Species and Risk Assessment

Group	Common Name	Scientific Name	S-Rank	SARO Status	COSWIC	Source	Habitat Description	Assessment Criteria	Potential to Occur in the Study Area
Fish	American Eel	<i>Anguilla rostrata</i>	S1S2	END	THR	MNRF 2023a	Habitat requirements during the overwintering period are poorly known, in both fresh and saltwater habitats. In fresh water, preferred habitat can be found in lakes and rivers including all waters extending from the high-water mark down to at least 10 m depth. American Eels commonly overwinter in mud bottoms in both bay and estuary habitats. Eelgrass and interstitial spaces are important to American Eel as cover, particularly during daylight hours.	Morrison Creek is not mapped aquatic species at risk habitat (Government of Canada 2019)	Low
Fish	Redside Dace	<i>Clinostomus elongatus</i>	S1	END	END	MNRF 2023a	Redside Dace are a cool water species found in clear slow moving sections of streams with pool and riffle sequences and overhanging banks or vegetation for cover. Substrates vary and include boulders, rocks, gravel or sand often with a shallow covering of detritus or silt. (Redside Dace Recovery Team, 2010)	Morrison Creek is not mapped aquatic species at risk habitat (Government of Canada 2019)	Low
Amphibian	Jefferson Salamander	<i>Ambystoma jeffersonianum</i>	S4B	THR	THR	Ontario Nature 2021	The Jefferson Salamander is terrestrial during the adult stage and inhabits upland deciduous forests with suitable breeding areas including limestone sinkhole ponds, kettle ponds, vernal pools and other natural basins. Breeding areas are often ephemeral and are fed by spring runoff, groundwater, or springs. In Canada, the species is associated with mature, Carolinian forests. Suitable habitat is often only available in fragmented deciduous woodlots of marginal agricultural land (COSEWIC, 2010b).	Suitable habitat is absent from the Study Area.	Negligible

Appendix D Species of Conservation Concern & Significant Wildlife Habitat Assessment



Appendix D – Species of Conservation Concern & Significant Wildlife Habitat Assessment

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Seasonal Concentration Areas			
Waterfowl Stopover and Staging Area (Terrestrial)	Fields with sheet water or utilized by tundra swans during spring (mid-March to May), or annual spring melt water flooding found in any of the following Community Types: Meadow (CUM1), Thicket (CUT1). Agricultural fields with waste grains are commonly used by waterfowl, and these are not considered SWH unless they have spring sheet water.	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support waterfowl stopover and staging areas (terrestrial).	Qualifying communities are absent from the Subject Property and Adjacent Lands. Candidate habitat is considered absent.
Waterfowl Stopover and Staging Area (Aquatic)	The following Community Types: Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD). Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Aggregations of 100 or more qualifying waterfowl species are required for 7 days to confirm the habitat as significant (>700 waterfowl use days).	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support waterfowl stopover and staging areas (aquatic).	Lower Morrison Creek is located within the Study Area; however, it is likely too small to support >700 waterfowl use days. Candidate habitat is considered absent.
Shorebird Migratory Stopover Area	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. The following community types: Meadow Marsh (MAM), Beach/Bar (BB), or Sand Dune (SD) >1000 shorebird use days are required during migration to confirm the habitat as significant.	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support migratory shorebirds.	Lower Morrison Creek and a Meadow Marsh community are present in the Study Area; however, they are likely too small to support 1000 shorebird use days. Candidate habitat is considered absent.
Raptor Wintering Area	At least one of the following Forest Community Types: Deciduous Forest (FOD), Mixed Forest (FOM) or Coniferous Forest (FOC), in combination with one of the following Upland Community Types: Meadow (CUM), Thicket (CUT), Savannah (CUS), Woodland (CUW) (<60% cover) that are >20 ha and provide roosting, foraging and resting habitats for wintering raptors. Upland habitat (CUM, CUT, CUS, CUW), must represent at least 15 ha of the 20 ha minimum size.	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support wintering raptors.	Forest communities are absent from the Subject Property and Adjacent Lands. Suitable amount of qualifying upland habitat is absent from the Subject Property and Adjacent Lands. Candidate habitat is considered absent.
Bat Hibernacula	Hibernacula may be found in caves, mine shafts, underground foundations and karsts. May be found in these Community Types: Crevice (CCR), Cave (CCA).	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support bat hibernacula.	Crevices, caves or abandoned mines are absent from the Subject Property and Adjacent Lands. Candidate habitat is considered absent.
Bat Maternity Colonies	Maternity colonies considered significant wildlife habitat are found in forested ecosites. Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Deciduous Swamp (SWD) that have >10/ha wildlife trees >25cm diameter at breast height (dbh). Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.	ELC surveys, wildlife habitat assessments, and air photo interpretation used to assess features within the Study Area that may support bat maternity colonies.	Qualifying forest habitat is absent in the Study Area. The facade of a building remains on the Subject Property which could be suitable habitat for maternal colonies; however, buildings are not considered SWH. Candidate habitat is considered absent.

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Turtle Wintering Areas	<p>Snapping Turtle and Midland Painted Turtle use ELC community classes: Swamp (SW), Marsh (MA), Open Water (OA), Shallow water (SA), Open Fen (FEO) and Open Bog (BOO).</p> <p>Northern Map turtle utilize: open water areas such as deep rivers or streams and lakes can also be used as over-wintering habitat.</p> <p>Water must be deep enough not to freeze and have soft mud substrate.</p> <p>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen.</p>	ELC surveys and air photos interpretation were used to assess features within the Study Area that may support turtle wintering areas.	<p>Lower Morrison Creek is located on the Adjacent land, however, it was not visited during field studies. Lower Morrison Creek may be suitable for over-wintering turtles.</p> <p>Candidate habitat may be present on Adjacent Lands (Lower Morrison Creek).</p>
Snake Hibernacula	<p>Hibernation occurs in sites located below frost lines in burrows, rock crevices, broken and fissured rock and other natural features. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</p> <p>Any ecosite in southern Ontario other than very wet ones may provide habitat. The following Community Types may be directly related to snake hibernacula: Talus (TA), Rock Barren (RB), Crevice (CCR), Cave (CCA), and Alvar (RBOA1, RBSA1, RBTA1).</p> <p>Hibernacula features used by a minimum of five snakes of one species or two or more species are considered significant.</p>	ELC surveys and wildlife habitat assessments were used to document features that may support snake hibernacula.	<p>Qualifying communities are absent from the Subject Property and adjacent Lands. Natural, below-ground features were not observed during field investigations for the Subject Lands; however Adjacent Lands were not searched.</p> <p>Candidate habitat is present on Adjacent Lands.</p>
Colonial-Nesting Bird Breeding Habitat (Bank and Cliff)	<p>Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (CUM), Thicket (CUT), Bluff (BL), Cliff (CL).</p> <p>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</p>	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support colonial bird breeding habitat.	<p>Eroding banks, sandy hills, borrow pits, steep slopes and sand piles are absent from the Subject Property and Adjacent Lands.</p> <p>Candidate habitat is considered absent.</p>
Colonial-Nesting Bird Breeding Habitat (Tree/Shrubs)	<p>Identification of qualifying heron / egret stick nests in any of the following Community Types: Mixed Swamp (SWM), Deciduous Swamp (SWD), Treed Fen (FET).</p> <p>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</p>	ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat (Trees/Shrubs).	<p>Deciduous swamp (SWD), Mixed Swamp (SWM), and Treed Fen (FET) communities are absent from the Subject Property and Adjacent Lands. No large stick nests were observed in the Study Area.</p> <p>Candidate habitat is considered absent.</p>
Colonial-Nesting Bird Breeding Habitat (Ground)	<p>Any rocky island or peninsula within a lake or large river that may support qualifying gull / Brewer's Blackbird nests.</p> <p>For Brewer's Blackbird close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM1-6), Shallow Marsh (MAS1-3), Meadow (CUM), Thicket (CUT), Savannah (CUS).</p>	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support colonial bird breeding habitat (Ground).	<p>Rocky islands and peninsulas were absent from the Subject Property and Adjacent Lands.</p> <p>In southern Ontario, Brewer's Blackbird known occurrences are primarily restricted to the Bruce Peninsula; none are known to occur in the Study Area region, and it is considered a "very rare irregular spring and autumn transient" (Cadman et al., 2007; Weir, 2008)</p> <p>Candidate habitat is considered absent.</p>
Migratory Butterfly Stopover Areas	<p>Located within 5 km of Lake Ontario</p> <p>A combination of ELC communities, one from each land class is required: Field (CUM, CUT, CUS) and Forest (FOC, FOM, FOD, CUP)</p> <p>Minimum of 10 ha in size with a combination of field and forest habitat present.</p>	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support migratory butterfly stopover areas.	<p>The Subject Property is within 5 km from Lake Ontario; however, large Forest / field complexes are absent from the Subject Property and Adjacent Lands.</p> <p>Candidate habitat is considered absent.</p>
Landbird Migratory Stopover Areas	<p>The following community types: Forest (FOD, FOM, FOC) or Swamp (SWC, SWM, SWD)</p> <p>Woodlots must be >10 ha in size and within 5 km of Lake Ontario – woodlands within 2 km of Lake Ontario are more significant.</p>	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support landbird migratory stopover areas.	<p>The Subject Property is within 5 km from Lake Ontario; however, large Forest and Swamp communities are absent from the Subject Property and Adjacent Lands.</p> <p>Candidate habitat is considered absent.</p>

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Deer Winter Congregation Areas	Woodlots typically > 100 ha in size unless determined by the MNR as significant. If large woodlots are rare in a planning area, woodlots >50 ha. All forested ecosites within Community Series: FOC, FOM, FOD, SWC, SWM, SWD Conifer plantations much smaller than 50 ha may also be used. Deer winter congregation areas are mapped by MNR and species use surveys are not required.	The LIO database was used to identify deer winter congregation areas.	Records of deer winter congregation areas were not identified for the Subject Property and Adjacent Lands. Deer Winter Congregation Areas are considered absent.
Rare Vegetation Communities			
Cliffs and Talus Slopes	A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT Most cliff and talus slopes occur along the Niagara Escarpment.	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered cliffs or talus slopes.	Cliffs or talus slopes are absent from the Subject Property and Adjacent Lands.
Sand Barrens	Sand barrens typically are exposed sand, generally sparsely vegetated and cause by lack of moisture, periodic fires and erosion. Vegetation can vary from patchy and barren to tree covered but less than 60%. Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite).	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered sand barrens.	Sand barrens are absent from the Subject Property and Adjacent Lands.
Alvars	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and includes a number of characteristic or indicator plant species. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover. Any of the following Community Types: ALO1 (Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry-Fresh Pine Coniferous Forest), FOC2 (Dry-Fresh Cedar Coniferous Forest), CUM2 (Bedrock Cultural Meadow), CUS2 (Bedrock Cultural Savannah), CUT2-1 (Common Juniper Cultural Alvar Thicket), or CUW2 (Bedrock Cultural Woodland) An Alvar site > 0.5 ha in size	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered alvar communities.	Alvars are absent from the Subject Property and Adjacent Lands.
Old-growth Forest	Old-growth forests tend to be relatively undisturbed, structurally complex, and contain a wide variety of trees and shrubs in various age classes. These habitats usually support a high diversity of wildlife species. No minimum size criteria in any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest) Forests greater than 120 years old and with no historical forestry management is the main criteria when surveying for old-growth forests. Candidate features include forests 30 ha or greater with 10 ha of interior habitat, measured 100 m from the forest edge.	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered old-growth forest communities.	Forest communities were absent from the Subject Property and Adjacent Lands. Old-growth Forest is considered absent.

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Savannahs	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario). Any of the following Community Types: TPS1 (Dry-Fresh Tallgrass Mixed Savannah Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savannah Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite).	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered savannah communities.	Savannahs are absent from the Subject Property and Adjacent Lands. Anthropogenically created cultural savannahs area present but do not qualify as significant.
Tall-grass Prairies	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. In Ecoregion 6E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario). Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite).	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered tallgrass communities.	Tallgrass prairies are absent from the Subject Property and Adjacent Lands.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG	ELC surveys and air photo interpretation were used to assess features within the Study Area that would be considered other rare vegetation communities.	Rare vegetation communities are absent from the Subject Property and Adjacent Lands.
Specialized Habitat for Wildlife			
Waterfowl Nesting Area	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4 Note: includes adjacency to Provincially Significant Wetlands (PSW)	ELC surveys and air photo interpretation were used to assess features within the Study Area that may support nesting waterfowl. Breeding bird surveys were used to detect presence of qualifying species..	Qualifying communities are absent on the Subject Property and Adjacent Lands. Additionally, nesting waterfowl were not recorded during targeted field investigations. Waterfowl Nesting Areas are considered absent.
Bald Eagle and Osprey nesting, Foraging, and Perching Habitat	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	ELC surveys, air photo interpretation and wildlife habitat assessments were used to assess features within the Study Area that may support nesting, foraging and perching habitat for large raptors. Breeding bird surveys were used to detect presence of qualifying species.	Lower Morrison Creek is located on the Adjacent Lands, however, is likely too small for open water feeding. Additionally, large stick nests and/or qualifying species were not observed during field investigations. Bald Eagle and Osprey habitat is considered absent.
Woodland Raptor Nesting Habitat	All natural or conifer plantation woodland/forest stands combined >30 ha and with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer. Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Cooper's Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	ELC surveys, wildlife habitat assessments, and GIS analysis were used to assess features within the Study Area that may support nesting habitat for woodland raptors. Breeding bird surveys were used to detect presence of qualifying species.	Forest (FO) communities are absent from the Subject Property and Adjacent Lands. Additionally, large stick nests and/or qualifying species were not observed during field investigations. Woodland Raptor Nesting habitat is considered absent.

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Turtle Nesting Areas	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SAS1, SAM1, SAF1, BOO1, FEO1</p> <p>Best nesting habitat for turtles is close to water, away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.</p> <p>For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</p> <p>Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.</p>	<p>ELC surveys, air photo interpretation, and wildlife habitat assessments were used to assess features within the Study Area that may support turtle nesting areas.</p>	<p>Disturbed exposed soil and gravel was observed in constructed parts of the Subject Property (fill piles); however, these areas are not considered candidate SWH. Exposed mineral soil may be present in the floodplain of Lower Morrison Creek on the Adjacent Lands, however turtle surveys are needed to confirm.</p> <p>Candidate habitat may be present on Adjacent Lands (floodplain of Lower Morrison Creek).</p>
Seeps and Springs	<p>Seeps/Springs are areas where groundwater comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.</p> <p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.</p> <p>The presence of two or more seeps in a forested ELC ecosite indicates significant wildlife habitat. SWH includes the entire forest polygon.</p>	<p>The presence of seeps and springs was recorded during ELC surveys.</p>	<p>Seeps and springs were not observed from the Subject Property.</p> <p>Seeps and springs are considered absent.</p>
Amphibian Breeding Habitat (Woodland)	<p>All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD</p> <p>Presence of a wetland, lake, or pond within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.</p> <p>Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.</p> <p>Habitat maybe confirmed as significant if there are one or more of the listed frog species with 20 individuals or call level 3.</p>	<p>ELC surveys and were used to assess features within the Study Area that may support woodland breeding amphibians.</p>	<p>The qualifying communities are absent from the Subject Property and Adjacent Lands.</p> <p>Amphibian Breeding Habitat (Woodland) is considered absent.</p>
Amphibian Breeding Habitat (Wetland)	<p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Wetland areas >120 m from woodland habitats.</p> <p>Wetlands and pools (including vernal pools) >500 m² (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats.</p> <p>Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.</p> <p>Bullfrogs require permanent water bodies with abundant emergent vegetation.</p>	<p>ELC surveys were used to identify wetland habitat features within the Study Area.</p>	<p>Qualifying communities are absent from the Study Area,</p> <p>Amphibian Breeding Habitat (Wetland) may be present in Lower Morrison Creek.</p>
Habitat for Species of Conservation Concern			
Marsh Bird Breeding Habitat	<p>All wetland habitats with shallow water and emergent aquatic vegetation.</p> <p>May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO), or for Green Heron: Swamp (SW), Marsh (MA) and Meadow (CUM) Community Types.</p>	<p>ELC surveys and air photo interpretation were used to identify marshes with shallow water and emergent vegetation that may support marsh breeding birds.</p> <p>Breeding bird surveys were used to detect presence of qualifying species.</p>	<p>A meadow marsh (MAM) inclusion was present on the Subject Property; however, it is too small to support required thresholds for breeding marsh birds. Qualifying marsh species were not detected during breeding bird surveys.</p> <p>Marsh Bird Breeding habitat is considered absent.</p>
Woodland Area-sensitive Bird Breeding Habitat	<p>Habitats >30ha where interior forest is present (at least 200 m from the forest edge); typically, >60 years old.</p> <p>These include any of the following Community Types: Forest (FO), Treed Swamp (SW)</p>	<p>ELC surveys and air photo interpretation were used to identify woodland area-sensitive bird breeding habitat.</p> <p>Breeding bird surveys were used to detect presence of qualifying species.</p>	<p>Qualifying communities are absent from the Subject Property and Adjacent Lands. Qualifying woodland area-sensitive were not detected during breeding bird surveys.</p> <p>Woodland Area-sensitive Bird Breeding habitat is considered absent.</p>

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Open Country Bird Breeding Habitat	Grassland areas > 30 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or hay or livestock pasturing in the last 5 years, in the following Community Type: Meadow (CUM).	ELC surveys, air photo interpretation, and GIS analysis were used to identify grassland communities within the Study Area that may support area-sensitive breeding birds. Breeding bird surveys were used to detect presence of qualifying species.	Non-agricultural grassland communities are present on the Subject Property and Adjacent Lands; however, are not large enough to constitute as Open Country Bird Breeding Habitat (<30 ha). Qualifying open country species were not detected during breeding bird surveys. Open Country Bird Breeding habitat is considered absent.
Shrub/Early Successional Bird Breeding Habitat	Old field areas succeeding to shrub and thicket habitats >10 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (CUT), Savannahs (CUS), or Woodlands (CUW).	ELC surveys, air photo interpretation and GIS analysis were used to identify large communities that may support shrub/early successional breeding birds. Breeding bird surveys were used to detect presence of qualifying species.	Successional community types are present on the Subject Property and Adjacent Lands; however, are too small (<10 ha) to be considered shrub/early bird breeding habitat. Regardless, one common qualifying shrub/early successional indicator species were detected during breeding bird surveys (Willow Flycatcher); however, two are required to confirm significance. Early successional communities are considered absent.
Terrestrial Crayfish	Meadow marshes and edges of shallow marshes (no minimum size). Vegetation communities include MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3. Construct burrows in marshes, mudflats, meadows Can be found far from water.	ELC surveys were used to identify shallow marsh and meadow marsh communities that occurred within the Study Area.	One marsh (MAM) community is present on Subject Property; however, crayfish chimneys were not observed during field investigations. Candidate habitat is considered absent in the Study Area.
Species of Conservation Concern			
Barn Swallow	This species inhabits open areas; often found nesting on anthropogenic structures such as open barns, under bridges and in culverts (Cadman et al. 2007).	Breeding bird surveys were conducted in potentially suitable habitat on the Subject Property.	This species or its nests were not identified during targeted searches. It may nest on the building on the Subject Property in subsequent years. Species is considered absent in the Study Area.
Midland Painted Turtle	Species is found in ponds, marshes, lakes and slow-moving creeks; hibernates on the bottom of waterbodies (Ontario Nature 2018); nests in loose soil.	Significant wildlife habitat was considered through the assessment of Turtle Overwintering and Nesting habitats (see above).	Candidate Wintering habitat may be present on the Adjacent Lands (Lower Morrison Creek). Candidate nesting habitat may be present on the Adjacent Lands (floodplain of Lower Morrison Creek).
Northern Map Turtle	Species is found in large rivers and lakes with slow-moving water and a soft bottom (Ontario Nature 2018); nests in loose soil.	Significant wildlife habitat was considered through the assessment of Turtle Overwintering and Nesting habitats (see above).	Lower Morrison Creek is too small to support Northern Map Turtle which is considered absent.
Snapping Turtle	Species is found in ponds streams, rivers with slow moving water, aquatic vegetation, soft bottoms; hibernates in mud or silt of lakes, rivers and other open water (Ontario Nature 2018); nests in loose soil	Significant wildlife habitat was considered through the assessment of Turtle Overwintering and Nesting habitats (see above).	Candidate Wintering habitat may be present on the Adjacent Lands (Lower Morrison Creek). Candidate nesting habitat may be present on the Adjacent Lands (floodplain of Lower Morrison Creek).
Virginia Bluebells	Species is found moist deciduous woods and thickets, usually on floodplains, and in anthropogenic habitats (GoBatany, n.d.)	ELC surveys and air photo interpretation were used to identify the habitat for Virginia Bluebells. Botanical surveys were not conducted outside the Subject Property (i.e., along Lower Morrison Creek).	This species was not detected during site investigations on the Subject Property. Botanical surveys that searched for this species in suitable habitat on the Adjacent Lands (i.e., along Lower Morrison Creek) were not conducted. Because targeted species-use surveys were not conducted, species is considered candidate. Species may be present on Adjacent Lands.
Common Nighthawk	The Common Nighthawk is found in open areas, forests and urban areas. In urban areas, the species can be found nesting along gravel roads, trails, and railways (Cadman et al, 2007).	A breeding bird survey was conducted in potentially suitable habitat on the Subject Property.	Suitable habitat is present, but this species was not identified during targeted breeding bird survey. Species is considered absent in the Study Area.
Eastern Wood-Pewee	The Eastern Wood-Pewee is a forest bird of deciduous and mixed woods. Nest-site selection favors open space near the nest, typically provided by clearings, roadways, water, and forest edges. Nests are cryptic as they are covered with lichens, typically appearing like a knot on top of a branch (Cadman et al. 2007).	A breeding bird survey was conducted in potentially suitable habitat on the Subject Property.	Suitable habitat is present, but this species was not identified during the breeding bird survey. Species is considered absent in the Study Area.

Wildlife Habitat Type	Criteria	Methods	Habitat Assessment (Subject Property and Adjacent Lands)
Purple Martin	The Purple Martin nests almost exclusively in artificial structures and nest boxes (Cadman et al. 2007).	A breeding bird survey was conducted in potentially suitable habitat on the Subject Property. Artificial boxes, if observed, were recorded during the site visit.	No artificial boxes were recorded. This species was not identified during targeted surveys. Species is considered absent in the Study Area.
Tufted Titmouse	The Tufted Titmouse inhabits woodlands containing large trees that produce abundant mast, such as Pin Oak and beech (Cadman et al. 2007).	A breeding bird survey was conducted in potentially suitable habitat on the Subject Property.	This species was not identified during the breeding bird survey. Suitable woodland habitat is absent. Species is considered absent in the Study Area.
Wood Thrush	The Wood Thrush inhabits deciduous woodlots of various sizes. Preferred habitat includes tall trees for singing perches and a thick understorey for nesting (Cadman et al. 2007).	A breeding bird survey was conducted in potentially suitable habitat on the Subject Property.	This species was not identified during the breeding bird survey. Suitable woodland habitat is absent. Species is considered absent in the Study Area.
Grasshopper Sparrow	This species is found in dry, open grasslands, such as rough or unimproved pastures; prefers sparse short grass (Cadman et al. 2007).	A breeding bird survey was conducted in potentially suitable habitat on the Subject Property.	This species was not identified during the breeding bird survey. Suitable grassland habitat is absent. Species is considered absent in the Study Area.
Eastern Milksnake	Species is found in farmlands, meadows, and forest; hibernates underground in rotting logs or foundations of old buildings (Ontario Nature 2018).	Significant wildlife habitat was considered through the assessment of Snake Hibernacula (see above).	Candidate habitat is present on Adjacent Lands (considered through Snake Hibernacula habitat above).
Monarch	Adults feed on the nectar of wildflowers, typically found in abandoned farmlands, roadsides and other open spaces; caterpillars feed on milkweed which require open habitats. Habitat that is important to the sustainability of local populations is considered SWH	ELC and botanical surveys recorded milkweed and nectaring plants. Observations of adults and caterpillars were recorded if encountered during investigations.	Migratory Butterfly Stopover Areas are considered absent (see above). Milkweed was observed on the Subject Property as flyover occurrences (there was not evidence of resting, feeding or breeding). Subject Property and Adjacent lands are not considered important to the sustainability of host breeding plants or local Monarch activity. Significant Monarch habitat is considered absent.
West Virginia White	This species is found in moist deciduous woodlots; larva exclusively feed on toothwort which is found in wooded habitats (MNR, 2023)	ELC and botanical surveys recorded toothwort. Observations of adults and caterpillars were recorded during site investigations.	Toothwort and West Virginia White were not identified during targeted surveys. Limited habitat is present for Toothwort. Candidate habitat is considered absent.
Animal Movement Corridors			
Amphibian Movement Corridor	Corridors may be found in all ecosites associated with water. Determined based on identifying significant amphibian breeding habitat (wetland).	Movement corridors should be considered when amphibian breeding habitat is confirmed as SWH from Amphibian Breeding Habitat (Wetland).	Candidate amphibian breeding habitat was absent on the Subject Property and Adjacent Lands. Amphibian movement corridors are absent.

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Appendix E Vascular Plant List



Appendix E - Vascular Plant Species Recorded for the Subject Property on June 28, 2023 and October 1, 2024

TAXON_GROUP	FAMILY	SCIENTIFIC_NAME	AUTHOR	ENGLISH_COMMON_NAME	S_RANK	SARO_STATUS	COSEWIC_STATUS	SARA_STATUS	G_RANK	EXOTIC_STATUS	COEFF_CONSERVATISM	COEFF_WETNESS
dicots	Aceraceae	Acer negundo var. negundo		Manitoba Maple	SU				G5T5?		0	0
dicots	Aceraceae	Acer platanoides	L.	Norway Maple	SNA				GNR	SE5		5
dicots	Anacardiaceae	Rhus typhina	L.	Staghorn Sumac	S5				G5		1	3
dicots	Anacardiaceae	Toxicodendron radicans	(L.) Kuntze	Poison Ivy	S5				G5		2	0
dicots	Anacardiaceae	Toxicodendron radicans var. rydbergii	(Small ex Rydberg) Erskine	Western Poison Ivy	S5				G5		2	0
dicots	Apiaceae	Daucus carota	L.	Wild Carrot	SNA				GNR	SE5		5
dicots	Apocynaceae	Asclepias syriaca	L.	Common Milkweed	S5				G5		0	5
dicots	Asteraceae	Achillea millefolium	L.	Common Yarrow	SNA				G5	SE5?		3
dicots	Asteraceae	Cichorium intybus	L.	Wild Chicory	SNA				GNR	SE5		5
dicots	Asteraceae	Cirsium arvense	(L.) Scop.	Canada Thistle	SNA				G5	SE5		3
dicots	Asteraceae	Erigeron annuus	(L.) Pers.	Annual Fleabane	S5				G5		0	3
dicots	Asteraceae	Eupatorium altissimum	L.	Tall Boneset	S4				G5		3	5
dicots	Asteraceae	Lactuca serriola	L.	Prickly Lettuce	SNA				GNR	SE5		3
dicots	Asteraceae	Leucanthemum vulgare	Lam.	Oxeye Daisy	SNA				GNR	SE5		5
dicots	Asteraceae	Solidago canadensis var. canadensis		Canada Goldenrod	S5				G5T5		1	3
dicots	Asteraceae	Sonchus arvensis	L.	Field Sow-thistle	SNA				GNR	SE5		3
dicots	Asteraceae	Symphotrichum ericoides	(L.) Nesom	White Heath Aster	S5				G5		4	3
dicots	Asteraceae	Symphotrichum lanceolatum	(Willd.) Nesom	Panicked Aster	S5				G5		3	-3
dicots	Asteraceae	Symphotrichum novae-angliae	(L.) Nesom	New England Aster	S5				G5		2	-3
dicots	Asteraceae	Tanacetum vulgare	L.	Common Tansy	SNA				GNR	SE5		5
dicots	Asteraceae	Tragopogon dubius	Scop.	Yellow Goatsbeard	SNA				GNR	SE5		5
dicots	Boraginaceae	Echium vulgare	L.	Common Viper's Bugloss	SNA				GNR	SE5		5
dicots	Brassicaceae	Alliaria petiolata	(Bieb.) Cavara & Grande	Garlic Mustard	SNA				GNR	SE5		0
dicots	Caprifoliaceae	Lonicera tatarica	L.	Tatarian Honeysuckle	SNA				GNR	SE5		3
dicots	Clusiaceae	Hypericum perforatum	L.	Common St. John's-wort	SNA				GNR	SE5		5
dicots	Convolvulaceae	Convolvulus arvensis	L.	Field Bindweed	SNA				GNR	SE5		5
dicots	Cornaceae	Cornus racemosa	Lam.	Grey Dogwood	S5				G5		2	0
dicots	Cornaceae	Cornus sericea	L.	Red-osier Dogwood	S5				G5		2	-3
dicots	Dipsacaceae	Dipsacus fullonum	L.	Common Teasel	SNA				GNR	SE5		3
dicots	Elaeagnaceae	Elaeagnus sp.		Olive spp.								
dicots	Euphorbiaceae	Euphorbia cyparissias	L.	Cypress Spurge	SNA				G5	SE5		5
dicots	Fabaceae	Lotus corniculatus	L.	Garden Bird's-foot Trefoil	SNA				GNR	SE5		3
dicots	Fabaceae	Melilotus albus	Medik.	White Sweet-clover	SNA				G5	SE5		3
dicots	Fabaceae	Securigera varia	(L.) Lassen	Purple Crown-vetch	SNA				GNR	SE5		5
dicots	Juglandaceae	Juglans nigra	L.	Black Walnut	S4?				G5		5	3
dicots	Lythraceae	Lythrum salicaria	L.	Purple Loosestrife	SNA				G5	SE5		-5
dicots	Moraceae	Morus alba	L.	White Mulberry	SNA				GNR	SE5		0
dicots	Oleaceae	Fraxinus pennsylvanica	Marsh.	Red Ash	S4				G4		3	-3
dicots	Oleaceae	Ligustrum vulgare	L.	European Privet	SNA				GNR	SE5		3
dicots	Onagraceae	Oenothera biennis	Micheli	Hairy Yellow Evening-primrose	S5				G5		0	3
dicots	Onagraceae	Oenothera parviflora	L.	Small-flowered Evening-primrose	S5				G5		1	3
dicots	Polygonaceae	Rumex crispus	L.	Curled Dock	SNA				GNR	SE5		0
dicots	Rhamnaceae	Rhamnus cathartica	L.	European Buckthorn	SNA				GNR	SE5		0
dicots	Rosaceae	Geum aleppicum	Jacq.	Yellow Avens	S5				G5		2	0
dicots	Rosaceae	Potentilla recta	L.	Sulphur Cinquefoil	SNA				GNR	SE5		5
dicots	Rosaceae	Rubus idaeus ssp. strigosus	(Michx.) Focke	North American Red Raspberry	S5				G5T5		2	3
dicots	Rosaceae	Rubus occidentalis	L.	Black Raspberry	S5				G5		2	5
dicots	Salicaceae	Populus deltoides ssp. deltoides		Eastern Cottonwood	S5				G5T5		4	0
dicots	Salicaceae	Salix sp.		Willow spp.								
dicots	Solanaceae	Solanum dulcamara	L.	Bittersweet Nightshade	SNA				GNR	SE5		0
dicots	Ulmaceae	Ulmus americana	L.	White Elm	S5				G4		3	-3
dicots	Vitaceae	Parthenocissus vitacea	(Knerr) A.S. Hitchc.	Thicket Creeper	S5				G5		4	3

TAXON_GROUP	FAMILY	SCIENTIFIC_NAME	AUTHOR	ENGLISH_COMMON_NAME	S_RANK	SARO_STATUS	COSEWIC_STATUS	SARA_STATUS	G_RANK	EXOTIC_STATUS	COEFF_CONSERVATISM	COEFF_WETNESS
dicots	Vitaceae	Vitis riparia	Michx.	Riverbank Grape	S5				G5		0	0
monocots	Poaceae	Elymus repens	(L.) Gould	Quackgrass	SNA				GNR	SE5		3
monocots	Poaceae	Festuca rubra ssp. rubra		Red Fescue	SNA				G5T5	SE5		
monocots	Poaceae	Phragmites australis ssp. australis		European Reed	SNA				G5T5	SE5		-3
monocots	Poaceae	Poa pratensis ssp. pratensis		Kentucky Bluegrass	SNA				G5T5	SE5		3

Appendix F Photolog





Photo 1: Interior view of the Buckthorn Deciduous Shrub Thicket Type (THDM2-6) on the South edge of Subject Property



Photo 2: Exterior view of the Buckthorn Deciduous Shrub Thicket Type (THDM2-6) on the South edge of Subject Property



Photo 3: Dry - Fresh Deciduous Regeneration Thicket Ecosite (THDM4)



Photo 4: Buckthorn Deciduous Shrub Thicket Type (THDM2-6) on the East edge of Subject Property



Photo 5: Cultural Savannah (CUS)



Photo 6: Meadow Marsh (MAM)

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Photo 7: Green Lands (CGL)



Photo 8: Constructed (CV)



Photo 9: Cultural Meadow (CUM) and Dry - Fresh Deciduous Regeneration Thicket Ecosite (THDM4)



Photo 10: Buckthorn Deciduous Hedgerow Thicket Ecosite (THDM3-1) located behind regenerating fill piles

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Photo 1: Riparian conditions of the unregulated drain at the SW fence line. Photo taken facing SE from South Service Road East (SSRE).



Photo 2: Conditions of the culverts draining into the unregulated drain from SSRE. Photo facing NW/Down (upstream).



Photo 3: Conditions of the unregulated drain twin culvert segment at property fence line near SSRE. Photo facing NW/Down.



Photo 4: Conditions of the unregulated drain at the Davis Rd. culvert crossing. Photo facing SE (downstream).



Photo 5: Conditions of the unregulated drain south of the Davis Rd. culvert crossing Photo facing NW (upstream).



Photo 6: Conditions of the unregulated drain approx. 25 m south of Davis Rd. where feature becomes undefined. Photo facing SE.

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Photo 7: Conditions of the unregulated drain approx. 40m from the SE property line. Photo facing SW (upstream).



Photo 8: Conditions of the unregulated drain approx. 40m from the SE property line. Groundwater wells visible. Photo facing SE.



Photo 9: Conditions of the beginning of the candidate HDF (cHDF) feature along the SE property line. Photo taken facing North/Down.



Photo 10: Riparian conditions of the cHDF feature along the SE property line. Photo taken facing SW (downstream).



Photo 11: Left bank conditions of the cHDF feature along the SE property line near groundwater wells. Photo taken facing East.



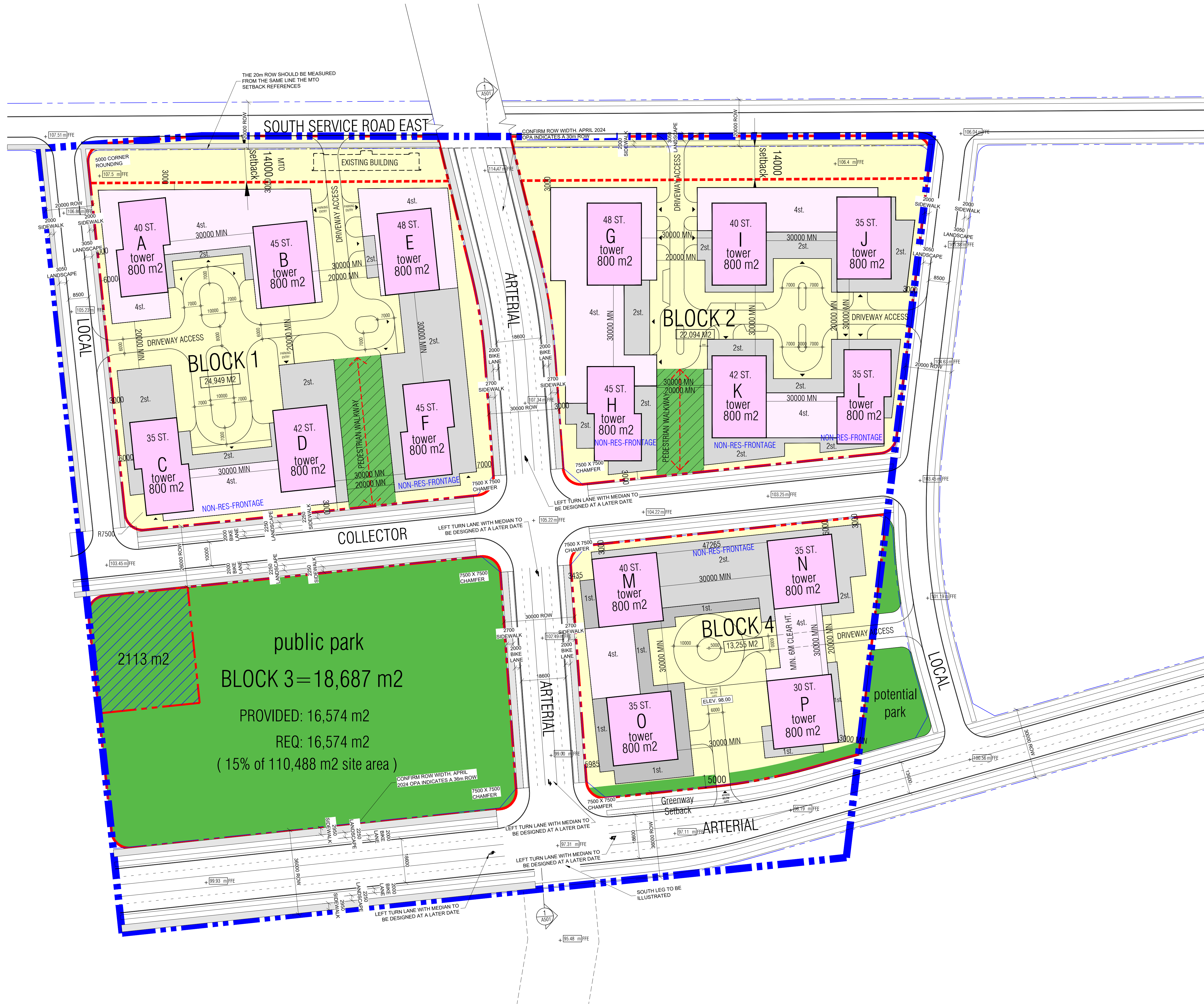
Photo 12: Conditions of the cHDF feature along the SE property line where it drains into area of phragmites. Photo taken facing SW (downstream).

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Appendix G Site Plan





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PROPOSED MIXED-USE DEVELOPMENT

SOUTH SERVICE ROAD

THE ROSE CORPORATION	
PROJECT ARCHITECT:	J. Chimienti
ASSISTANT DESIGNER:	B. DADGOSTAR
DRAWN BY:	B. DADGOSTAR / S.BEIROUZ
CHECKED BY:	D. Biase
PLOT DATE:	SEP.19.2024
JOB #	2127.23

SITE PLAN

1:750 A102

TITLEBLOCK SIZE: 610 x 900