GEI Consultants

Environmental Impact Study

16469 10 Side Road

Halton Hills, Ontario

Submitted to:
Russell Pines Property Corp
5400 Young Street, Fifth Floor
Toronto, ON M2N 5R5

Submitted by:
GEI Consultants Canada Ltd.
650 Woodlawn Road West
Guelph, ON N1K 1B8
519.824.8150

March 10, 2025
Project No. 1904575

Michelle Nieroda
Ecologist/Project Manager

Noel Boucher
Project Director

Table of Contents

Appendices

MN/AZ;NB:tw

1. Introduction

GEI Consultants Canada Ltd. (GEI) was retained by Russell Pines Property Corp. to complete an Environmental Impact Study (EIS) required in support of an application for Draft Plan of Subdivision for the property located at 16469 10 Side Road, Halton Hills, Ontario (herein referred to as the Subject Lands; **Figure 1**, **Appendix A**). The Subject Lands are generally bordered to the east by Guelph Street and Adamson Street, to the south by 10 Side Road, to the west by 10th Line, and to the north generally by Silver Creek, a tributary of the Credit River and the rear of existing residential lots that front Guelph Street. The northern portion of the Subject Lands is located in the Protected Countryside of the Greenbelt Plan area, much of which has the Natural Heritage System (NHS) overlay applied to it.

The Subject Lands are currently being assessed as part of the Southeast Georgetown Secondary Plan. They were designated for future development and incorporated into the Urban Area of the Town of Halton Hills through Regional Official Plan Amendment (OPA) No. 38 and Halton Hills OPA No. 10. As a result, the reports supporting the Secondary Plan will help inform this EIS.

1.1. Purpose of the Report

During the Pre-Application Consultation with the Town of Halton Hills (Town) in November 2023, an EIS was requested as part of the development application.

The EIS is required to assess the potential impacts of the proposed development on the natural heritage features and associated functions on and adjacent to the Subject Lands. This work considers applicable policies of the Province of Ontario's Provincial Planning Statement (PPS; MMAH 2024) and associated provincial implementation guidance contained in the Natural Heritage Reference Manual (NHRM; MNR 2010) as well as the Town of Halton Hills Official Plan (OP; 2024 Consolidation), Region of Halton Official Plan (2024 Consolidation) and the Credit Valley Conservation Authority's (CVC) regulation and policies.

An EIS Terms of Reference (TOR) was developed to guide the preparation of the EIS for the Subject Lands. The TOR was initially drafted and circulated to the Town and the CVC on January 29, 2025. At the time of the EIS submission, no input on the TOR had been received from either the Town or CVC. If any comments are received, they are expected to be addressed in the second submission. A copy of the TOR is provided in **Appendix C**.

1.2. Study Area

The Subject Lands are approximately 53 hectares (131 acres) in size and are predominantly made up of active agricultural fields. The natural vegetation communities are generally constrained to the Silver Creek valleyland and the associated woodland. These features are designated as a Key Natural Heritage Features of the Greenbelt Protected Countryside and part of the Georgetown Credit Valley, a Regional Significant Life Science Area of Natural and Scientific Interest (ANSI). The Subject Lands are also located within the Credit Valley Conservation (CVC) watershed with regulated features.

A proposed transportation (Norval West Bypass) route will bisect the Subject Lands from 10 Side Road, through the Silver Creek valleyland and connect at Guelph Street. This project is undertaken by the Halton Region and all environmental impacts will be addressed through a Municipal Class Environmental Assessment.

2. Planning Context

An assessment of the quality and extent of natural heritage features found on, and adjacent to the Subject Lands and the potential impacts to these features from the proposed development was undertaken to comply with requirements of the following regulatory agencies, local municipality, and/or legislation:

- PPS (MMAH 2024);
- Town of Halton Hills Official Plan (Consolidation 2024);
    - Draft of Amendment No. 59 To the Official Plan for The Town of Halton Hills Southeast Georgetown Secondary Plan
- Halton Region Official Plan (2024);
- Greenbelt Plan (2017);
- Ontario Regulation 41/24 Prohibited Activities, Exemptions and Permits under the Conservation Authorities Act (R.S.O. 1990, c. C.27);
- *Endangered Species Act* (ESA; 2021 Consolidation of S.O. 2007, c. 6);
- *Migratory Birds Convention Act* (1994); and
- *Fisheries Act* (R.S.C., 1985, c. F-14).

The Subject Lands are outside of the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan.

2.1. Provincial Planning Statement

The PPS (MMAH 2024) provides guidance on matters of provincial interest surrounding land-use planning and development. The PPS is to be read in its entirety and land-use planners and decision-makers need to consider all relevant policies and how they work together.

This report addresses those policies that are specific to Natural Heritage (section 4.1 of the PPS) with some reference to other policies with relevance to Natural Heritage and impact assessment considerations and areas of overlap (e.g., those related to Sewage, Water and Stormwater, section 3.6; Water, section 4.2; Natural Hazards, section 5.2).

Eight types of natural heritage features and area are defined in the PPS, as follows:

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- Significant wildlife habitat (SWH);
- Fish habitat;
- Habitat of endangered and threatened species; and
- Areas of Natural and Scientific Interest (ANSI)s.

The PPS indicates that development and site alteration shall not be permitted in significant wetlands within EcoRegions 5E, 6E and 7E (the proposed development is located in EcoRegion 6E), or in significant coastal wetlands. The PPS further indicates that development and site alteration shall not be permitted in significant woodlands, significant valleylands, SWH or significant ANSIs, unless it is demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Development and site alteration shall not be permitted in the habitat of endangered and threatened species or in fish habitat, except in accordance with provincial and federal requirements.

Development and site alteration may be permitted on lands adjacent to the above features provided it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.1.1. Natural Hazards

Section 5.2.2 of the PPS directs development to areas outside of hazardous lands adjacent to the shoreline of the Great Lakes – St. Lawrence River System (flooding, erosion and dynamic beach hazards), hazardous lands adjacent to river, steam and small inland lake systems (flooding and/or erosion hazards) and hazardous sites. Section 5.2.3 of the PPS further prohibits development and site alteration within:

a. The dynamic beach hazard;
b. Defined portions of the flooding hazard along connecting channels (the St. Marys, St. Clair, Detroit, Niagara and St. Lawrence Rivers);
c. Areas that would be rendered inaccessible to people and vehicles during times of flooding hazards, erosion hazards and/or dynamic beach hazards, unless it has been demonstrated that the site has safe access appropriate for the nature of the development and the natural hazard; and
d. A floodway regardless of whether the area of inundation contains high points of land not subject to flooding.

2.2. Town of Halton Hills Official Plan

The Town of Halton Hills OP (2024), as amended, is a guiding policy document that identifies where and how the Town of Halton Hills is to grow up to the year 2031. As stated previously, the boundary and designation of Urban Area lands were recently modified by OPA 10.

The Subject Lands are designated as Future Residential/Mixed Use Area and part of the HPBATS/GTA West Corridor Protection Area as shown on Schedule A3 (“Georgetown Urban Land Use Plan”). The Silver Creek valleyland and woodlands are generally outside the urban boundary and not included in the Town’s OP. However, west of the Subject Lands, the Silver Creek corridor is identified as part of the Greenlands within an existing urban area. These Greenlands are subject to the policies of the Halton Regional Official Plan. Appendix X1A (“Environment Natural Areas”) identifies the Silver Creek valleyland and adjacent Credit River as containing Woodlands (0.5 ha or greater), an Environmentally Sensitive Area, PSWs and an ANSI.

All development on lands within 120 m of Key Natural Heritage Features (KNHFs) and Key Hydrologic Features (KHFs) within the Greenbelt NHS require an EIS with the identification of appropriate self-sustaining vegetation protection zones (VPZs). Wetlands, seepage areas and springs, fish habitat, permanent and intermittent streams, lakes, and significant woodlands require a minimum VPZ of 30 m.

2.2.1. Southeast Georgetown Secondary Plan Draft Official Plan Amendment No. 59

OPA 59 establishes the Secondary Plan for the Southeast Georgetown Area, designated to accommodate future residential growth within the Town. Through Regional OPA No. 38 and Halton Hills OPA No. 10, the Southeast Georgetown Lands were incorporated into the Urban Area of Halton Hills. The Secondary Plan outlines policies and land use designations to guide the development of a complete and sustainable community.

Within the Draft OPA 59, the Subject Lands are designated as Low Density and Medium Density Residential, with parks, a stormwater management (SWM) pond and Local Commercial land uses as per Schedule H9-1 ("Southeast Georgetown Land Use Plan"). The Silver Creek valleyland and associated woodland are identified as within the Greenbelt Plan Area, which limits were used to define the urban boundary. Several headwater drainage features are identified on the Subject Lands, and one wetland is identified as being proposed for removal and replication within the Greenbelt Plan Area (Schedule H9-3, "Southeast Georgetown Natural heritage Features"). As outlined in Section H9.10.1, this wetland has not been included in the Natural Heritage System due to its lack of provincial or regional significance and its limited connectivity to other natural heritage features or areas. Wetland removal and replication, as discussed later in this EIS, should reference the appropriate Ecosystem Offsetting Guidelines.

2.3. Region of Halton Official Plan

As of July 1, 2024, the Halton Regional Official Plan (ROP; 2024) constitutes an official plan of Halton's lower-tier municipalities. As such, the Town of Halton Hills is now responsible for the interpretation and implementation of the ROP.

The Subject Lands are designated as Urban Area within the Regional Urban Boundary on Map 1 ("Regional Structure"). Additionally, the Silver Creek valleyland and woodlands are identified as part of the Regional Natural Heritage System (RNHS) and the Greenbelt Natural Heritage System. These natural features are further identified as Key Features of the Greenbelt Plan Area and the Regional Natural Heritage System (RNHS) as per Map 1G ("Key Features within the Greenbelt and Regional Natural Heritage Systems")

Key Features of the RNHS include:

a. significant habitat of endangered and threatened species,
b. significant wetlands,
c. significant coastal wetlands,
d. significant woodlands,
e. significant valleylands,
f. significant wildlife habitat,
g. significant areas of natural and scientific interest, and
h. fish habitat.

In addition to Key Features, as outlined in Section 115.3 of the Region of Halton OP (2024 Office Consolidation), the following are also considered components of the RNHS:

- Enhancements to Key Features including Centres for Biodiversity;

- Linkages;
- Buffers;
- Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or a significant woodland, and
- Wetlands other than those considered significant under Section 115.3(1)b).

Section 115.4 of the ROP also indicates that the RNHS includes Escarpment Natural Area and Escarpment Protection Areas as identified in the Niagara Escarpment Plan, regulated floodplains, and parts of the agricultural system where the only Key Feature present is a Significant earth science ANSI.

Under Section 118.2(a) of the ROP, development or site alteration is prohibited within significant wetlands, significant coastal wetlands, significant habitat of endangered and threatened species and fish habitat except in accordance with Provincial and Federal legislation or regulations. As per Section 118.3, any development or site alteration proposed within 120 m of the RNHS and Key Features will require an Environmental Impact Assessment (EIA) with the purpose to demonstrate that the proposed development or site alteration will result in no negative impacts to that portion of the RNHS or unmapped Key Features.

The EIA requirements are addressed within this EIS.

2.4. Greenbelt Plan

The Greenbelt Plan (2017) works to permanently protect environmentally sensitive areas, due to their ecological value within the Golden Horseshoe. It is intended to enhance the natural landscapes by working to facilitate the connection of environmentally significant areas and reduce fragmentation of the landscape. Protection is offered also to permanent agricultural areas ensuring the permanency and sustainability of natural resources.

The Greenbelt Plan Area is located along the northern boundary of Subject Lands associated with the Silver Creek valleyland and contains the Protected Countryside and NHS. As described within Section 3.2 of the Greenbelt Plan (2017), the Protected Countryside contains a Natural System component of a NHS and a Water Resource System (WRS). The NHS includes core and linkage areas of the Protected Countryside with the highest concentration of sensitive and significant natural features and functions, while the WRS is made up of both ground and surface water features, areas and their associated functions. The NHS protects natural heritage, hydrologic and/or landform features (key hydrologic areas, key hydrologic features and key natural heritage features) that contribute to conserving Ontario's biodiversity and the ecological integrity of the Greenbelt itself. As described within Section 3.2.2 of the Greenbelt Plan (2017), new developments and/or site alterations must show that there are no negative impacts on the Key Natural Heritage Features or Key Hydrologic Features or their functions.

2.5. Credit River Conservation

Effective January 1, 2023, following the implementation of Bill 23, the role of Conservation Authorities in reviewing development applications has changed. Previously, CVC reviewed planning application submissions associated with future development of properties within its jurisdictional boundaries. In addition, CVC provided planning and technical advice to planning authorities to assist them in fulfilling their responsibilities regarding natural hazards, natural heritage, and other relevant policy areas pursuant

to the *Planning Act*, as both a watershed-based resource management agency and through planning advisory services, in addition to their regulatory responsibilities. With the changes associated with Bill 23, the commenting role Conservation Authorities will play in *Planning Act* applications may vary from municipality to municipality.

Effective April 1, 2024, Ontario Regulation (O. Reg.) 41/24: Prohibited Activities, Exemptions and Permits has come into force, replacing the former O. Reg. 160/06: Credit Valley Conservation Authority: Development, Interference with Wetlands, Alterations to Shorelines and Watercourses Regulation. O.Reg. 41/24 allows Conservation Authorities to implement Section 28 *Conservation Authorities Act*, 1990 (amended 2024), which states under Section 28(1) that:

"*28 (1) No person shall carry on the following activities, or permit another person to carry on the following activities, in the area of jurisdiction of an authority:*

a. *Activities to straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or to change or interfere in any way with a wetland.*
b. *Development activities in areas that are within the authority's area of jurisdiction and are,*
    i. *hazardous lands,*
    ii. *wetlands,*
    iii. *river or stream valleys the limits of which shall be determined in accordance with the regulations,*
    iv. *areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, such areas to be further determined or specified in accordance with the regulations, or*
    v. *other areas in which development should be prohibited or regulated, as may be determined by the regulations. 2017, c. 23, Sched. 4, s. 25.*"

Pursuant to O. Reg. 41/24, any interference with or development in or on areas stated in the *Conservation Authorities Act* (e.g., hazardous lands, wetlands, river or stream valleys) requires permission from the Conservation Authority. The Conservation Authority may issue permits under Section 28.1 and may attach conditions on the permits per Section 9(1) of the Regulation.

A review of CVC's Regulation mapping shows that the Silver Creek valleyland is a regulated feature. All mapped watercourses, HDFs, and wetlands will be reviewed in accordance with the definitions under Ontario Regulation 41/24.

2.6. Ontario Endangered Species Act (ESA)

The provincial ESA, 2007 (Government of Ontario, 2007a; Consolidation 2021) was developed to:

- Identify species at risk (SAR), based upon best available science;
- Protect SAR and their habitats and to promote the recovery of the SAR; and
- Promote stewardship activities that would support those protection and recovery efforts.

The ESA protects all threatened, endangered, and extirpated species listed on the Species at Risk in Ontario (SARO) list (Government of Ontario 2007b). These species are legally protected from harm or harassment, and their associated habitats are legally protected from damage or destruction, as defined under the ESA. There are regulatory instruments available under the ESA (e.g., permits, registrations) that may permit development or site alteration within habitat of threatened or endangered species.

2.7. Migratory Birds Convention Act

This federal legislation protects the nests and offspring of listed migratory bird species from destruction or disturbance. In its application, it requires that best management practices be implemented to detect and avoid disturbance to active nests during development activities.

2.8. Federal *Fisheries Act*

Fisheries and Oceans Canada (DFO) administers the federal *Fisheries Act*, 1985, which defines fish habitat as "water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas". The *Fisheries Act* prohibits the death of fish by means other than fishing, and the harmful alteration, disruption, or destruction of habitat (HADD). A HADD is defined as "any temporary or permanent change to fish habitat that directly or indirectly impairs the habitat's capacity to support one or more life processes".

3. Background Review

3.1. Background References

The following resources were reviewed for information relating to natural features and species that may be found on or adjacent to (i.e., within 120 m of) the Subject Lands:

- Ministry of Natural Resources (MNR) Land Information Ontario (LIO) database (2025);
- MNR Natural Heritage Information Centre (NHIC) database (2025);
- Bird Studies Canada's Atlas of the Breeding Birds of Ontario (BSC et al. 2006);
- Ontario Nature's Reptile and Amphibian Atlas (2020);
- Toronto Entomologists' Association's (TEA) Ontario Butterfly and Moth Atlases (2023, 2020);
- DFO's Aquatic Species at Risk Map (2024);
- Online citizen science databases (e.g., eBird and iNaturalist);
- Southeast Georgetown Scoped Subwatershed Study (WSP, 2024); and
- 2016 Field Data Memo (Savanta, 2020).

3.1.1. Land Information Ontario Natural Features Summary

Based on MNR's LIO geographic database, the following features were found within and adjacent to the Subject Lands (**Figure 2**, **Appendix A**):

- Silver Creek, which is associated with a valleyland, a Provincially Significant Wetland (PSW; Hungry Hollow Wetland) and woodlands, is located at the northern boundary of the Subject Lands;
- Georgetown Credit Valley, a Regionally Significant Life Science ANSI is also identified within this area;
- Silver Creek is a tributary of the Credit River, which is identified north of the Subject Lands; and
- Several unevaluated wetland pockets are identified within the Subject Lands.

No other natural heritage features were identified within or adjacent to the Subject Lands on LIO mapping.

3.1.2. Natural Heritage Information Centre Database

The NHIC database (MNR 2024) was searched for records of provincially significant plants, vegetation communities and wildlife on and in the vicinity of the Subject Lands. The database provides occurrence data by 1 km^2 area squares, with four squares overlapping the Subject Lands (17NJ9132, 17NJ9232, 17NJ9233, 17NJ9133). A total of eight species were recorded in the atlas squares that overlap with the Subject Lands (although given the size of the atlas squares this does not necessarily imply these species have been recorded on or within 120 m of the Subject Lands):

- Species listed as Threatened or Endangered on the SARO List:
    - American Eel (*Anguilla rostrata*)- Endangered;
    - Bobolink (*Dolichonyx oryzivorus)* – Threatened;
    - Black Ash (*Fraxinus nigra*) – Endangered;

- Butternut (*Juglans cinerea*) – Endangered;
- Eastern Meadowlark (*Sturnella magna*) – Threatened; and
- Red-headed Woodpecker (*Melanerpes erythrocephalus*) – Endangered.

- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species):
    - Eastern Wood-pewee (*Contopus virens*) – Special Concern; and
    - Snapping Turtle (*Chelydra serpentina*) – Special Concern.

3.1.3. Ontario Breeding Bird Atlas

The Ontario Breeding Bird Atlas (OBBA) contains detailed information on the population and distribution status of Ontario birds (Cadman et al. 2006). The data is presented on 100 km^2 area squares with one square overlapping the Subject Lands (17NJ93). It should be noted that the Subject Lands are a small component of the overall bird atlas square, and therefore it is unlikely that all bird species previously documented within the overall atlas square are found within the Subject Lands. Habitat type, availability and size are all contributing factors in bird species presence and use.

A total of 102 bird species were recorded in atlas square, with the following species of interest noted:

- Species listed as Threatened or Endangered on the SARO List:
    - Bank Swallow (*Piparia riparia*) – Threatened;
    - Bobolink– Threatened;
    - Chimney Swift (*Chaetura pelagica*)– Threatened;
    - Eastern Meadowlark – Threatened; and
    - Red-headed Woodpecker – Endangered.

- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species; B= breeding population, N=non-breeding population, M= migrant population):
    - Barn Swallow (*Hirundo rustica*) – Special Concern;
    - Common Nighthawk (*Chordeiles minor*)– Special Concern;
    - Eastern Wood-Pewee – Special Concern;
    - Purple Martin (*Progne subis*) – S3B;
    - Wood Thrush (*Hylocichla mustelina*) – Special Concern; and
    - Eastern Whip-poor-will (*Antrostomus vociferus*)- Downlisted to Special Concern as of January 2025.

3.1.4. Ontario Reptile and Amphibian Atlas

The Ontario Reptile and Amphibian Atlas contains detailed information on the population and distribution status of Ontario herpetofauna (Ontario Nature 2020). The data is presented on 100 km^2 area squares with one square overlapping the Subject Lands (17NJ93). It should be noted that the Subject Lands are a small component of the overall atlas square, and therefore it is unlikely that all herpetofauna species previously documented within the overall atlas square are found within the Subject Lands. Habitat type, availability and size are all contributing factors in herpetofauna species presence and use.

A total of 13 species were recorded in the atlas square that overlaps with the Subject Lands. Of these species, the only species of interest noted was napping Turtle (Special Concern).

3.1.5. Ontario Butterfly and Moth Atlas

The Ontario Butterfly and Moth Atlases (TEA 2023, 2020) contain detailed information on the population and distribution status of butterflies and moths in Ontario. The database provides occurrence data by 10 km x 10 km squares. The Subject Lands are located within atlas square 17NJ93, which was used to determine a potential butterfly and moth species list for the area. The Subject Lands are a small component of the overall atlas square, and therefore all the butterfly and moth species listed for this atlas square may not be found within the Subject Lands. Habitat type, availability, and size are all contributing factors to reptile and amphibian species presence and use.

A total of 99 species, including 53 butterfly species and 46 moth species were recorded in the atlas square. Of these reported species, the following species of interest were noted: Monarch (*Danaus plexippus*) – Special Concern and Walnut Caterpillar Moth (*Datana integerrima*) –S3/S4.

3.1.6. Fisheries and Oceans Canada Aquatic Species at Risk Distribution Mapping

Aquatic species at risk distribution mapping (DFO 2025) was reviewed to identify any known occurrences of aquatic SAR, including fish and mussels, within the subwatershed where the Subject Lands are located. No aquatic SAR were identified within the Subject Lands. However, 4 km upstream, habitat for the endangered Redside Dace (*Clinostomus elongatus*) was identified within Silver Creek. The portion of Levi's Creek, approximately 3.2 km downstream from the Subject Lands, is also identified as habitat for Redside Dace.

3.1.7. Citizen Science Databases (eBird and iNaturalist)

The iNaturalist (2024) database is a large citizen science-based identification and data collection app. It allows any citizen to submit observations to be reviewed and identified by other naturalists and scientists to help provide accurate species observations. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

This online database was examined to identify observations made within the Subject Lands that were research grade. No significant species were identified on or within 120 m of the Subject Lands.

The eBird (2024) database is a large citizen science-based project with a goal to gather bird diversity information in the form of checklists of birds, archive it, and share it to power new data-driven approaches to science, conservation and education. As the observations can be submitted by anyone, and the records are not officially vetted, the data obtained from this tool should not be used as a clear indicator of species presence, and species may be filtered out based on habitat and target survey efforts.

This online database was examined to identify observations made within and adjacent to the Subject Lands. Adjacent to the Subject Lands, two hotspots were identified: Georgetown--10th Line and 10th Sideroad Stormwater Pond (within 100 m of the Subject Lands) and Norval--Willow Park Ecology Centre (within 200 m of the Subject Lands). The following species of interest were noted in these two hotspots, not previously identified in the background review:

- Species listed as Threatened or Endangered on the SARO List:
    - Golden Eagle (*Aquila chrysaetos*) – Endangered; and
    - Lesser Yellowlegs (*Tringa flavipes*) – Threatened.

- Species of Conservation Concern (i.e., listed as Special Concern on the SARO List or identified as an S1–S3 species; B= breeding population, N=non-breeding population, M= migrant population):
    - Great Egret (*Ardea alba*)- S2B, S3M;
    - Caspian Tern (*Hydroprogne caspia*) - S3B, S5M;
    - Pectoral Sandpiper (*Calidris melanotos*)- S1B, S4M;
    - Semipalmated Sandpiper (*Calidris pusilla*)- S2B, S4M;
    - Grasshopper Sparrow (*Ammodramus savannarum*) – Special Concern; and
    - Peregrine Falcon (*Falco peregrinus*) – Special Concern.

3.1.8. Southeast Georgetown Scoped Subwatershed Study

To support the Town's planning efforts for this area, WSP has conducted a Scoped Subwatershed Study (SWS) to identify key natural features and functions. This study aims to develop a comprehensive water management approach that safeguards and integrates these essential elements within a sustainable and functioning Natural Heritage System (NHS). The most recent SWS report was the Phase 4 (Implementation and Secondary Plan Policies) completed in September 2024. Relevant results of this study are discussed in **Section 4**.

3.1.9. 2016 Field Data Memo

In 2020, GEI (previously Savanta) complied a field data memo for all existing field surveys completed within the Subject Lands. The field investigations include three headwater drainage feature assessments (late spring, early and mid-summer), three botanical inventories (spring, summer and fall), Ecological Land Classification (ELC) of vegetation communities, species at risk habitat screening, three breeding bird surveys, two breeding amphibian surveys, and incidental wildlife observations (including discernable movement paths). Field survey results are discussed in **Section 4**.

4. Natural Environment Characterization

4.1. Characterization

4.1.1. Physiography, Soils and Topography

The Subject Lands are within the South Slope physiographic region, a sloping plain that extends from the boundary with the Oak Ridges Moraine, southwards towards Lake Ontario and consist of Till Plains (Drumlinized) (Chapman & Putnam 2007).

Ontario Geological Survey (OGS; 2025) surficial geological mapping indicates the Subject Lands and surrounding is surfaced predominantly by either fine or coarse textured glaciolacustrine deposits comprising of clay, sand, gravel and silt-textured till. Bedrock in this region corresponds to the Queenstone Formation which consists of shale, limestone, dolostone and siltstone.

The topography of the site was observed to be approximately 210 m asl to 230 m asl and slopes towards the Silver Creek valleyland (Government of Canada, 2021). The groundwater table ranges from a depth of 0.4± to 2.9± metres below the existing site grades (Grounded Engineering Inc., 2024).

4.1.2. Biological Environment

The Subject Lands occur within the Lake Simcoe-Rideau Eco-region 6E, which extends from Lake Huron to the Ottawa River, and includes most of the Lake Ontario shore and the Ontario portion of the St. Lawrence River Valley. Ecoregion 6E falls within the Great Lakes-St. Lawrence Forest region, an area of moderate climate where natural succession leads to forests of shade tolerant hardwood species including Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*), and shade intermediate species such as Red Oak (*Quercus rubra*) and Yellow Birch (*Betula alleghaniensis*), as well as associations of White Pine (*Pinus strobus*) and Red Pine (*Pinus resinosa*).

Figure 2 (**Appendix A**) depicts the broader landscape and potential movement and linkage corridors surrounding the Subject Lands for abiotic and biotic movement of organisms, matter and energy. While the lands surrounding the Subject Lands are dominated by residential and agricultural land uses, several natural heritage features are present within the greater landscape. The primary linkages in the area are associated with the Silver Creek system before eventually connecting to the Credit River. The associated Silver Creek corridor connects woodlands and wetland community types, and provides permanent linkages for aquatic, semi-aquatic and terrestrial species.

4.1.3. Vegetation

GEI (previously Savanta) completed a three-season botanical inventory and ELC of the Subject Lands in 2016.

The Subject Lands, topographically, consist of a large tableland portion, covered almost entirely by active agricultural fields and the valley slope portion covered by a mixture of open and woody communities consisting of forest, thicket and woodland. No significant plant species were identified during botanical inventories completed in 2016. Vegetation community mapping has since been updated based on aerial photograph interpretation and a stem density assessment of a Buckthorn (*Rhamnus cathartica*) thicket in 2024, which showed the thicket did not meet the ROP criteria to be a woodland.

The natural vegetation communities constrained to the Silver Creek valleyland consist of Dry-Fresh Sugar Maple-Hardwood Deciduous Forest (FOD5-11), Dry-Fresh White Pine-Hardwood Mixed Forest (FOM2-3), Mineral Cultural Woodland (CUW1) and a Buckthorn Deciduous Shrub Thicket (THDM2-6). Dripline staking was completed with the Town of Halton Hills on January 27, 2025, to delineate the limits of the woodland communities on the Subject Lands.

ELC mapping on the Subject Lands, incorporating the staked woodland dripline, is depicted in **Figure 3** (**Appendix A**).

4.1.3.1. Wetlands

Several pockets of unevaluated wetlands consisting of cattail shallow marsh and meadow marsh were also identified during these ecological surveys in 2016. As of 2025, they have been ploughed due to the active agricultural activities and are no longer present on the site. One wetland community, a Cattail Mineral Shallow Marsh (MAS2-1) remains within the central western portion of the Subject Lands. This wetland is an isolated feature with depressional/ponded conditions likely fed by surface runoff and highly degraded due to the surrounding active agricultural activities (WSP, 2024). This wetland will be removed and replicated in accordance with the Draft OPA 59.

At the time of the EIS submission, the wetland staking with the Town of Halton Hills and CVC has not been completed. The staking event is currently proposed for March 31, 2025. The wetland boundary will be updated, as needed, in a future EIS submission.

4.1.4. Wildlife

GEI (previously Savanta) completed several wildlife surveys within the Subject Lands in 2016.

No suitable wetland amphibian breeding habitat was identified within the Subject Lands as wetlands were observed to be dry in 2016 during amphibian call count surveys. No amphibians were recorded within the station along the Silver Creek valleyland. No snake species were documented during snake visual encounter surveys within the Russell Farm structures.

Breeding Bird Surveys observed the following SAR within the Subject Lands:

- Chimney Swift (Threatened) – Foraging; no suitable breeding structures were observed on the Subject Lands;
- Barn Swallow (Special Concern) – One intact nest and 11 remnant nests were observed onsite in barn structure; and
- Eastern Wood-pewee (Special Concern) – territories on and adjacent to the Subject Lands within the FOM2-3 and FOD5-11 woodland communities.

A bat exit survey was completed within the barn structure of Russell Farm on June 8, 2016. The acoustic data identified roosting habitat for the Eastern Small-footed Myotis (*Myotis leibii*). However, it was noted that this species is known to roost within rocky areas which are not present on the Subject Lands. Based on Halton Region comments, the SWS revised this data to indicate that the species identified within the barn structure is assumed to be Little Brown Myotis (*Myotis lucifugus*) instead.

All incidental wildlife species recorded during field surveys in 2016 were provincially ranked S5 (common and secure), S4 (apparently common and secure) or SNA (species not native to Ontario).

It is assumed that the wildlife species identified within the background review and through previous field studies (Savanta, 2016) may be present within the natural vegetation communities on the Subject Lands, where suitable habitat is present. Several anthropogenic structures within the Subject Lands associated 35 Adamson Street could potentially provide potential reptile hibernacula, Barn Swallow nesting habitat and bat roosting habitat.

4.1.5. Aquatic Environment

Silver Creek, a tributary of the Credit River West Branch is present north of the Subject Lands. The Subject Lands are primarily located within the Levi Creek Subwatershed of the Credit River Watershed, with some sections also contributing to Silver Creek and the Credit River Main Branch. No features providing direct fish habitat were identified on the tableland portion of the Subject Lands.

Two tributaries are mapped by LIO on the Subject Lands: one is mapped in the Greenbelt Plan Area at the northern end of the Subject Lands and is shown to be a tributary of Silver Creek to the north and the other is identified as running south toward Levi's Creek PSW Complex, located >120 m southeast of the Subject Lands (**Figure 2**, **Appendix A**). Defined channels were not observed on the Subject Lands for either tributary during field work completed in 2016.

Four headwater drainage features (HDFs) were identified on the Subject Lands in 2021 (WSP 2024) with two draining to Levi Creek [LC(1) and LC(2)], and two to Silver Creek [SCT(1) and SCT(2)]. These HDFs as mapped in the SWS are depicted on **Figure 4** (**Appendix A**). HDF management recommendations from the SWS were as follows:

- Mitigation (LC(1)1-1);
- No Management Required (LC(1), LC(2), SCT(2)); and
- To be determined pending future wetland studies (SCT(1)1-1, SCT(1)1-2).

Based on GEI's analysis of aerial imagery that shows SCT(1)1-1 and SCT(1)1-2 being plowed and planted annually (indicating an ephemeral hydrological function) and with the associated wetland at the upstream end of the HDF being proposed for removal, no future studies for this HDF is warranted. As a result, taking a conservative approach, this HDF has been provided with a Mitigation management recommendation (as shown on **Figure 4**, **Appendix A**) associated with potential ephemeral flow conveyance to the adjacent natural area.

4.1.6. Natural Hazards

The Silver Creek valleyland on and adjacent to the Subject Lands and the cattail marsh (MAS2-1) within the agricultural field on the Subject Lands are identified as natural hazards. At the time of the EIS submission, the Silver Creek valleyland Top of Bank and the wetland staking with CVC have not been completed. The staking event is currently proposed for February 19, 2025. This EIS will be amended as required based on the results of the staking event for the next submission.

5. Analysis of Significance and Impact Assessment

Eight types of natural features and areas are identified in the PPS (MMAH 2024):

- Significant wetlands;
- Significant coastal wetlands;
- Significant woodlands;
- Significant valleylands;
- SWH;
- Fish habitat;
- Habitat of endangered and threatened species; and
- Significant areas of natural and scientific interest.

The presence/absence of these natural features on the Subject Lands are discussed in the subsequent sections of this EIS. The NHRM (MNR 2010) were referenced to assess the potential significance of other natural features, and their associated forms and functions on the landscape.

In addition to the evaluation of natural heritage features and areas identified within the PPS (2024) and criteria outlined within the NHRM (2010), this section evaluates the presence of the NHS of the Town's OP (2024), the RNHS of the ROP (2024) and the regulated features in accordance with Ontario Regulation 41/24.The following sections also consider the results of the SWS, which concluded that the following significant natural heritage features were present on or within 120m the Subject Lands:

- Provincially Significant Wetlands;
- Significant Valleylands;
- Significant Woodlands;
- Georgetown Credit Valley Regional Life Science ANSI;
- Habitat for Endangered bat species;
- Candidate SWH:
    - Reptile Hibernacula associated with the anthropogenic structures;
    - Wetland Amphibian Breeding Habitat within the MAS2-1;
    - Terrestrial Crayfish SWH within the MAS2-1; and
    - Turtle Nesting SWH.

The following sections identify the natural features and areas present in and within 120 m of the Subject Lands.

5.1. Evaluation of Natural Feature Significance and Natural Hazards

5.1.1. Significant Wetlands

Within Ontario, significant wetlands are identified by the MNR or by their designates. Other evaluated or unevaluated wetlands may be identified for conservation by the municipality or the conservation authority. No PSWs are identified within the Subject Lands. However, within 120 m, PSWs identified as part of the Hungry Hollow Wetland complex are present within the Silver Creek corridor.

5.1.1.1. Other Wetlands

One wetland community, identified as a Cattail Shallow Marsh (MAS2-1), is present within the agricultural field outside the Greenbelt Plan Area. This wetland was evaluated as non-significant as per the Draft OPA 59.

5.1.2. Significant Coastal Wetlands

Similar to significant wetlands, the MNR or their designates identify significant coastal wetlands present on the landscape. Coastal wetlands are defined in the NHRM (MNR 2010) as:

a) "any wetland that is located on one of the Great Lakes or their connecting channels (Lake St. Clair, St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers); or
b) Any other wetlands that is on a tributary to any of the above-specified water bodies and lies, either wholly or in part, downstream of a line located two km upstream of the 1:100-year floodplain (plus wave run-up) of the large water body to which the tributary is connected."

No significant coastal wetlands are identified on the Subject Lands and would not be expected given the distance of the Subject Lands from the waterbodies noted above.

5.1.3. Significant Woodlands

Significant woodlands are identified by the planning authority in consideration of criteria established by the MNR. Under the NHRM (2010), woodlands are defined as:

> *...treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels.*

As per the PPS, significant woodlands are to be defined using criteria established by the Province (i.e., NHRM; MNR 2010, recommended criteria). The general guidelines for determining significance of these features are presented in the NHRM for Policy 2.1 of the PPS. Criteria for designating significant woodlands include size, shape, proximity to other woodlands or natural features, linkages, species diversity, uncommon characteristics, and economic and social value. The woodland size criterion is related to the scarcity of forest cover on the landscape as defined on a municipal basis where differences in woodland coverage among physical sub-units (e.g., watersheds, biophysical regions) is considered.

As per the ROP (2024), significant woodlands are woodlands that are greater than 0.5 ha that meet one or more of the following criteria:

1. the Woodland contains forest patches over 99 years old,
2. the patch size of the Woodland is 2 ha or larger if it is located in the Urban Area, or 4 ha or larger if it is located outside the Urban Area but below the Escarpment Brow, or 10 ha or larger if it is located outside the Urban Area but above the Escarpment Brow,

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

The woodland communities (Sugar Maple-Hardwood Deciduous Forest [FOD5-11], White Pine-Hardwood Mixed Forest [FOM2-3] and Cultural Woodland [CUW1]) are greater than 4 ha outside of the Urban Area but below the escarpment Brow and within 50 m of Silver Creek. Therefore, they are considered significant woodlands (**Figure 4**, **Appendix A**).

5.1.4. Significant Valleylands

Significant valleylands are defined and designated by the planning authority. General guidelines for determining significance of these features are presented in the NHRM (MNR 2010) for Policy 2.1 of the PPS. Recommended criteria for designating significant valleylands includes prominence as distinctive landform, degree of naturalness, and importance of its ecological functions, restoration potential and historical and cultural values.

The Silver Creek valleyland is a well-defined feature on the landscape. This feature is considered a stream corridor given the presence of a defined watercourse channel associated with Silver Creek, and based on the connectivity it provides on the broader landscape, this is considered a significant valleyland. The limit of the valleyland is considered to be the valleyland top of bank, which will be staked with CVC in March 2025. The staked top of bank will be depicted in future submissions of the EIS.

5.1.5. Significant Wildlife Habitat

SWH is one of the more complex natural heritage features to identify and evaluate. There are several provincial documents that discuss identifying and evaluating SWH including the NHRM (MNR 2010), the SWH Technical Guide (MNR 2000), and the SWH Eco-Region Criterion Schedule (MNRF 2015). The Subject Lands are located in Eco-Region 6E and were therefore assessed using the 6E Criterion Schedule (MNRF 2015).

There are four general types of SWH:

- Seasonal concentration areas;
- Rare or specialized habitats;
- Habitat for species of conservation concern; and
- Animal movement corridors.

General descriptions of these types of SWH are provided in the following sections.

<u>Seasonal Concentration Areas</u>

Seasonal concentration areas are those sites where large numbers of a species gather together at one time of the year, or where several species congregate. Seasonal concentration areas include deer yards; wintering sites for snakes, bats, raptors and turtles; waterfowl staging and molting areas, bird nesting colonies, shorebird staging areas, and migratory stopover areas for passerines or butterflies. Only the best examples of these concentration areas are usually designated as SWH.

Rare or Specialized Habitats

Rare and specialized habitat are two separate components. Rare habitats are those with vegetation communities that are considered rare in the province. SRANKS are rarity rankings applied to species at the 'state', or in Canada at the provincial level, and are part of a system developed under the auspices of the Nature Conservancy (Arlington, VA). Generally, community types with SRANKS of S1 to S3 (extremely rare to rare-uncommon in Ontario), as defined by the NHIC (2024), could qualify. It is to be assumed that these habitats are at risk and that they are also likely to support additional wildlife species that are considered significant. Specialized habitats are microhabitats that are critical to some wildlife species. The NHRM (MNR 2010) defines specialized habitats as those that provide for species with highly specific habitat requirements, areas with exceptionally high species diversity or community diversity, and areas that provide habitat that greatly enhances species' survival.

Habitat for Species of Conservation Concern

Species of conservation concern include those that are provincially rare (S1 to S3), provincially historic records (SH) and Special Concern species. Several specialized wildlife habitats are also included in this SWH category, including Terrestrial Crayfish habitat, and significant breeding bird habitats for marsh, open country and early successional bird species.

Habitats of species of conservation concern do not include habitats of endangered or threatened species as identified by the ESA (2019 Consolidation). Endangered and threatened species are discussed in **Section 5.1.7**.

Animal Movement Corridors

Animal movement corridors are areas that are traditionally used by wildlife to move from one habitat to another. This is usually in response to different seasonal habitat requirements, including areas used by amphibians between breeding and summer/over-wintering habitats, called amphibian movement corridors.

Table 2 (**Appendix B**) discusses all types of SWH relevant to the Subject Lands based on background review and previously completed reports. No candidate or confirmed SWH is associated with the agricultural portions of the Subject Lands.

The following SWH types may be present within the naturalized or anthropogenic features on the Subject Lands:

- Seasonal Concentration Areas:
    - Candidate Bat Maternity Colonies (FOD5-11 and FOM2-3);
    - Candidate Reptile Hibernacula (anthropogenic structures at 35 Adamson Street);
- Species of Concentration Concern:
    - Confirmed Barn Swallow habitat (barn structure at Russell Farm);
    - Candidate Barn Swallow habitat (anthropogenic structure at 35 Adamson Street);
    - Confirmed Eastern Wood-Pewee habitat (FOD5-11, FOM2-3, CUW); and
    - Candidate Walnut Caterpillar Moth habitat (FOD5-11, FOM2-3, CUW).

While it is acknowledged that the SWS identified candidate wetland amphibian breeding habitat and Terrestrial Crayfish habitat within the MAS2-1, the wetland was observed to be dry during ecological field surveys in 2016. In addition, the isolated and disturbed nature of the feature likely provides unsuitable habitat for amphibians and Terrestrial Crayfish. The Silver Creek valleyland and associated wetlands are assumed to provide better and higher quality of habitat.

The SWS also identified potential turtle nesting habitat within the agricultural fields. Agricultural fields are not a suitable ecosite for this type of SWH.

These SWH types are shown on **Figure 4** (**Appendix A**).

5.1.6. Fish Habitat

Fish habitat, as defined in the federal *Fisheries Act,* c. F-14, means "spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes." Fish, as defined in S.2 of the *Fisheries Act*, c. F-14, includes "parts of fish, shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals."

Silver Creek is identified as providing direct fish habitat. Potential indirect fish habitat occurs on the Subject Lands within the mitigation management HDFs (LC(1)1-1, SCT(1)1-1 and SCT(1)1-2)), given that these reaches may ultimately contribute some ephemeral flow that supports downstream watercourses. However, given the nature of these reaches (plowed and planted through on a regular basis), indirect fish habitat contributions are expected to be minimal. No fish habitat is identified within the No Management Required HDFs (LC(1), LC(2) and SCT(2)).

5.1.7. Habitat for Endangered and Threatened Species

Table 1 (below) discusses the potential for endangered and threatened SAR and SAR habitat, based on the species identified through the background wildlife atlas search and the Southeast Georgetown SWS (WSP, 2024).

Table 1: Potential for SAR and SAR Habitat within or adjacent to the Subject Lands

Species Name	SARO Ranking	Habitat Preferences	Habitat Potential within or adjacent to Subject Lands and Study Area?
Black Ash	Endangered	Wetlands including swamps, floodplains and fens	Yes –Wetlands and floodplains are present adjacent to the Subject Lands in the Silver Creek valleyland
Butternut	Endangered	Deciduous forests, forest edges/openings and riparian habitats. Often in areas with moist, well-drained soil.	Yes – Forests and riparian habitats associated with Silver Creek are present within and adjacent to the Subject Lands.

Species Name	SARO Ranking	Habitat Preferences	Habitat Potential within or adjacent to Subject Lands and Study Area?
Bobolink	Threatened	Tall grasslands, undercut pastures, overgrown fields, and meadows.	No – Suitable breeding habitats were not observed during the targeted grassland SAR bird surveys in 2016.
Chimney Swift	Threatened	Urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures near water.	Yes –No suitable habitat was identified within the residence at Russell Farm during Breeding Bird Surveys completed in 2016. However, potential habitat may be associated with the residence at 35 Adamson Street.
Eastern Meadowlark	Threatened	Tall grasslands, undercut pastures, overgrown fields, and meadows.	No – Suitable breeding habitats were not observed during the targeted grassland SAR bird surveys in 2016.
Golden Eagle	Endangered	Nest in remote, undisturbed areas, usually building their nests on ledges on a steep cliff, riverbank or a large tree.	No- Breeding Bird Surveys completed in 2016 did not identify Golden Eagle within the Subject Lands.
Lesser Yellowlegs	Threatened	Boreal wetlands (peatlands and marshes).	No - The Subject Lands are not located in boreal habitats.
Red-headed Woodpecker	Endangered	Open woodland and woodland edges. Woodlands should include cavities for nesting.	No- Breeding Bird Surveys completed in 2016 did not identify Red-headed Woodpecker within the Subject Lands.
American Eel	Endangered	Salt and freshwater habitats accessible from the Atlantic Ocean.	No- DFO mapping (2025) does not indicate the presence of American Eel in Silver Creek.
Redside Dace	Endangered	Clean, clear and cool streams flowing into western Lake Ontario.	No- Occupied Redside Dace habitat is not identified on or within 120 m of the Subject Lands (DFO, 2025). Levi's Creek >3 km downstream from the Subject Lands is identified as occupied Redside Dace habitat. While there is an ephemeral HDF [(LC-1)1-1] on the Subject Lands that forms the headwater of Levi's Creek, given the ephemeral agricultural nature of this short reach and the distance from occupied habitat, this HDF is not considered to be contributing Redside Dace habitat.

Species Name	SARO Ranking	Habitat Preferences	Habitat Potential within or adjacent to Subject Lands and Study Area?
Eastern Small-footed Myotis (*Myotis leibii*)	Endangered	In the spring and summer, Eastern Small-footed bats will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. In the winter, these bats hibernate, most often in caves and abandoned mines. They seem to choose colder and drier sites than similar bats and will return to the same spot each year (MECP 2021a).	Yes – Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands. Habitat was not identified within anthropogenic structures on the Subject Lands (WSP, 2024).
Little Brown Myotis (*Myotis lucifugus*)	Endangered	Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing (MECP 2021b).	Yes- Roosting habitat for the Little Brown Myotis was confirmed within the barn structures of Russell Farm on the Subject Lands (WSP, 2024). Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands. Potential habitat may be present within the anthropogenic structures located at 35 Adamson Street.
Tri-coloured Bat, (*Perimyotis subflavus*	Endangered	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They overwinter in caves where they typically roost by themselves rather than part of a group (MECP 2021c).	Yes – Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands. Habitat was not identified within anthropogenic structures of the Russell Farm on the Subject Lands (WSP, 2024). Potential habitat may be present within the anthropogenic structures located at 35 Adamson Street.

Species Name	SARO Ranking	Habitat Preferences	Habitat Potential within or adjacent to Subject Lands and Study Area?
Northern Myotis (*Myotis septentrionalis*)	Endangered	Northern long-eared bats are associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (MECP 2021d).	Yes – Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands. Habitat was not identified within anthropogenic structures of the Russell Farm on the Subject Lands (WSP, 2024). Potential habitat may be present within the anthropogenic structures located at 35 Adamson Street.
Eastern Red Bat (*Lasiurus borealis)*	Endangered	These bats use mostly treed habitats including deciduous and coniferous forests for roosting. They do not frequently roost in anthropogenic structures (ECCC, 2024).	Yes – Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands.
Hoary Bat (*Lasiurus cinereus*)	Endangered	These bats use mostly treed habitats including deciduous and coniferous forests for roosting. They do not frequently roost in anthropogenic structures (ECCC, 2024).	Yes – Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands.
Silver-haired Bat (*Lasionycteris noctivagans*)	Endangered	These bats primarily roost under bark and in the cavities of trees, making them reliant on habitats where large, decaying trees are available in coniferous and deciduous forests. They do not frequently roost in anthropogenic structures (ECCC, 2024).	Yes – Forests associated with the Silver Creek valleyland are present within and adjacent to the Subject Lands.

Within the Subject Lands, the barn structure at Russell Farm was confirmed as Little Brown Myotis roosting habitat The forest features associated with the Silver Creek Valleyland likely provide habitat for SAR bats, Butternut and Black Ash. The anthropogenic structures at 35 Adamson Street may provide habitat for the Chimney Swift and roosting habitat for SAR bats.

Levi's Creek >3km downstream from the Subject Lands is identified as occupied Redside Dace habitat. While LC(1)1-1 is a HDF of Levi's Creek, based on the ephemeral nature of the feature, the short reach present on the Subject Lands and the distance from the occupied Redside Dace habitat (> 3km), this HDF is not considered contributing habitat.

5.1.8. Significant Areas of Natural and Scientific Interest

Georgetown Credit Valley, a Regional Significant Life Science ANSI is identified north of the Subject Lands.

5.1.9. Town of Halton Hills Official Plan

No natural features are identified within the Subject Lands and within the urban boundary of the Town's OP (2024). The natural features associated with Silver Creek falls under the ROP and the Greenbelt Plan Area.

5.1.10. Region of Halton Official Plan

A review of the ROP (2024) was undertaken to understand what components of the RNHS, as defined in the ROP, are present on and adjacent to the Subject Lands.

Components of the RNHS include:

- Significant Habitat of Endangered and Threatened Species;
- Significant Wetlands;
- Significant Coastal Wetlands;
- Significant Woodlands;
- Significant Valleylands;
- Significant Wildlife Habitat;
- Significant ANSIs;
- Fish Habitat;
- Enhancements to Key Features including Centres for Biodiversity;
- Linkages;
- Buffers;
- Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or a significant woodland, and
- Wetlands other than those considered significant under Section 115.3(1)b).

Within the Urban Area of the Subject Lands the following feature is identified:

- Wetlands other than those considered significant (MAS2-1);
- Candidate habitat of endangered and threatened species (Chimney Swift, SAR bats; anthropogenic structures at 35 Adamson Street);
- Significant wildlife habitat:
    - Seasonal Concentration Areas:
        - Candidate Reptile Hibernacula (anthropogenic structures at 35 Adamson Street);
    - Species of Concentration Concern:
        - Confirmed Barn Swallow habitat (barn structure at Russell Farm); and
        - Candidate Barn Swallow habitat (anthropogenic structure at 35 Adamson Street).

Within the Greenbelt Plan Area of the Subject Lands, the following features are identified:

- Candidate and confirmed habitat of endangered species and threatened species (SAR bats, Black Ash, Butternut);
- Significant wetlands (Hungry Hollow Wetland complex);
- Significant woodlands (FOD5-11, FOM2-3, CUW);
- Significant valleylands (Silver Creek valleyland);
- Significant wildlife habitat:
    - Seasonal Concentration Areas:
        - Candidate Bat Maternity Colonies (FOD5-11 and FOM2-3);
    - Species of Concentration Concern:
        - Confirmed Eastern Wood-Pewee habitat (FOD5-11, FOM2-3, CUW); and
        - Candidate Walnut Caterpillar Moth habitat (FOD5-11, FOM2-3, CUW);
- Life Science ANSI (Georgetown Credit Valley Regional Life Science ANSI);
- Fish habitat (Silver Creek); and
- Watercourses that are within a Conservation Authority Regulation Limit (Silver Creek).

5.1.11. Greenbelt Plan Area

Within the Greenbelt NHS, KNHFs and KHFs include:

- Habitat of endangered species and threatened species;
- Fish habitat;
- Wetlands;
- Life science areas of natural and scientific interest;
- Significant valleylands;
- Significant woodlands;
- Significant wildlife habitat (including habitat of special concern species);
- Sand barrens, savannahs and tallgrass prairies;
- Permanent and intermittent streams;
- Lakes (and their littoral zones); and
- Seepage areas and springs

Within and adjacent to the Subject Lands, the following features are identified within the Greenbelt NHS:

- Candidate and confirmed habitat of endangered species and threatened species (SAR bats, Black Ash, Butternut);
- Fish habitat (Silver Creek);
- Wetlands (Hungry Hollow Wetland complex);
- Life Science ANSI (Georgetown Credit Valley Regional Life Science ANSI);
- Significant valleylands (Silver Creek valleyland);
- Significant woodlands (FOD5-11, FOM2-3, CUW);
- Significant wildlife habitat:
    - Seasonal Concentration Areas:
        - Candidate Bat Maternity Colonies (FOD5-11 and FOM2-3);

    - Species of Concentration Concern:
        - Confirmed Eastern Wood-Pewee (FOD5-11, FOM2-3, CUW);
        - Candidate Walnut Caterpillar Moth (FOD5-11, FOM2-3, CUW); and
- Permanent and intermittent streams (Silver Creek).

5.1.12. Credit Valley Conservation Regulated Features

Pursuant to O. Reg. 41/24, the CVC has the authority to regulate development within its regulated areas. The CVC regulates the following:

- Hazardous lands;
- Wetlands;
- River or stream valleys the limits of which shall be determined in accordance with the regulations;
- Areas that are adjacent or close to the shoreline of the Great Lakes-St. Lawrence River System or to an inland lake and that may be affected by flooding, erosion or dynamic beach hazards, such areas to be further determined or specified in accordance with the regulations, or
- Other areas in which development should be prohibited or regulated, as may be determined by the regulations 2017, c. 23, Sched. 4, s. 25; 2022, c. 21, Sched. 2, s. 7 (1).

Within the Subject Lands, the following regulated features are identified:

- Watercourse (Silver Creek);
- Hazardous lands (Silver Creek valleyland);
- Wetland (MAS2-1); and
- Provincially Significant Wetland (Hungry Hollow Wetland).

5.1.13. Summary of Ecological Components Subject to Impact Assessment

The PPS (MMAH 2024) defines the important natural heritage features and areas to consider in terms of impact assessment. The following components identified within and adjacent to the Subject Lands (as generally depicted on **Figure 4**, **Appendix A**) were identified for consideration in the impact assessment:

- Provincially Significant Wetland (Hungry Hollow Wetland);
- Other wetland (MAS2-1);
- Significant Woodland (FOD5-11, FOM2-3, CUW);
- Significant Valleyland (Silver Creek valleyland);
- Significant Wildlife Habitat:
    - Seasonal Concentration Areas:
        - Candidate Bat Maternity Colonies (FOD5-11 and FOM2-3);
        - Candidate Reptile Hibernacula (anthropogenic structures at 35 Adamson Street);
    - Species of Concentration Concern:
        - Confirmed Barn Swallow habitat (barn structure at Russell Farm);
        - Candidate Barn Swallow habitat (anthropogenic structures at 35 Adamson Street);
        - Confirmed Eastern Wood-Pewee habitat (FOD5-11, FOM2-3, CUW);
        - Candidate Walnut Caterpillar Moth habitat (FOD5-11, FOM2-3, CUW);

- Direct Fish Habitat (Silver Creek);
- Candidate and Confirmed Habitat for Endangered Species (SAR bats, Black Ash, Butternut, Chimney Swift); and
- Georgetown Credit Valley Regional Life Science ANSI.

6. Proposed Development

The Subject Lands are proposed to consist of residential units (e.g., single detached dwellings, dual frontage dwellings, townhouse dwellings etc.), a commercial/ mixed- use block, associated access roadways, the Norval West Bypass, parks and a SWM facility, as shown on the proposed Draft Plan on **Figure 5 (Appendix A)**. Natural communities within the Greenbelt Plan Area will generally be preserved as part of the NHS. This includes a designated wetland replication area as part of the wetland offset and enhancement strategy to support habitat restoration and biodiversity. Additionally, opportunities will be made to enhance ecological connectivity and protect wildlife habitat through targeted woodland enhancement areas.

6.1. Norval Bypass Transportation Corridor

A proposed transportation route, the Norval West Bypass, will traverse the Subject Lands, extending from 10 Side Road through the Silver Creek valleyland and connecting to Guelph Street. To support this project, Halton Region has initiated a Municipal Class Environmental Assessment (EA) Study. The bypass is designed as a four-lane roadway with a planned right-of-way width of 42 metres. It will feature a 3 m multi-use pathways on both sides, ensuring accessibility for cyclists and pedestrians.

6.2. Stormwater Management

The Subject Lands has three drainage areas: Silver Creek in the north, Credit River in the southeast, and Levis Creek in the south-central region. As described in the Stormwater Management Report (TYLin, 2025), two SWM facilities are proposed; a SWM pond and an underground storage tank.

A SWM facility will be located east of the Norval Bypass that will outlet to the Credit River. Outfall configurations and specific locations will be established at detail design. This SWM pond will accept the majority of the drainage on the Subject Lands and from the Norval Bypass. Water quality treatment has been designed in accordance with the MOE SWM Planning & Design Manual, to meet an Enhanced level of protection, which is consistent with the SWM design criteria.

In the northern portion of the Subject Lands, an underground storage tank located within the Greenbelt Plan Area is expected to accommodate site drainage. The design of the underground storage facility will incorporate a dead storage volume and an open bottom to allow for soil infiltration. Water quality treatment will be provided via an oil/grit separator (OGS) unit at the upstream extent of the underground storage facility providing an Enhanced 80% TSS removal. No surface discharge from the facility is expected to occur.

Flow to Levis Creek via HDF LC(1)1-1 (identified for Mitigation in the SWS) will be maintained by diverting runoff from the rooftop and residential rear lots of the commercial block and the surrounding residential units located west of the Norval Bypass. This runoff is considered clean with no additional water quality treatment required.

Due to the site's high groundwater table, additional bioswales are proposed within the Greenbelt Plan Area, along with increased topsoil in landscaped areas. These measures will enhance infiltration and evapotranspiration, maximizing the site's water retention capacity while mimicking existing natural conditions.

7. Impact Assessment and Mitigation Measures

This section assesses the potential impacts, predicted effects, proposed mitigation and enhancement measures associated with proposed development of the Subject Lands. Potential effects to the natural heritage features and environmental functions that exist on and adjacent to the Subject Lands are evaluated over the short and long term, with consideration given to measures to avoid and/or mitigate negative impacts, where appropriate. Areas to be maintained, and where possible, improved or restored, to promote the health, diversity and size of natural heritage features on and adjacent to the Subject Lands, are also identified.

The range of potential impacts associated with a proposed development can generally be divided into three categories:

1. Direct impacts are normally associated with the physical removal or alteration of natural features that could occur based upon a land use application;
2. Indirect impacts may be changes or impacts (these could be minor or major) to less visible functions or pathways that could cause negative impacts to natural heritage features over time; and
3. Induced impacts are associated with post-development impacts that may result in increased demand on natural resources.

7.1. Direct Effects

This section assesses the potential impacts associated with the proposed development on the Subject Lands. Potential effects to the natural heritage features and environmental functions that exist on, and adjacent to, the Subject Lands are evaluated over the short and long term.

7.1.1. Other Wetlands

One wetland community (MAS2-1; 0.23 ha) is identified within the western portion of the Subject Lands. This feature is associated with HDFs identified for mitigation SCT(1)1-1, SCT(1)1-2. Flow contributions from these HDFs will be maintained through localized runoff from the surrounding residential backyards and the VPZ. The wetland is proposed for removal and replication in accordance with CVC's Ecosystem Offsetting Guidelines (CVC, 2020) to accommodate the proposed site plan. As outlined in the SWS, the existing wetland is small, subject to disturbance from surrounding agricultural activity, and located approximately 160 meters from other natural areas, resulting in limited ecological function within the broader landscape. To enhance ecological value, the replicated wetland is proposed to be relocated to the western corner of the Greenbelt Plan Area while remaining within the Silver Creek subwatershed. Designed as a cattail shallow marsh, the new wetland will cover an area of 0.33 hectares—an increase of 0.1 hectares over the existing wetland and greater than the required 1:1 offsetting ratio from CVC (2020). This replication will provide an overall benefit to the NHS by improving the ecological integrity of the Silver Creek valleyland. Specifically, it will enhance habitat availability, quality, and diversity while being strategically positioned adjacent to an existing wildlife linkage and forested habitat, supporting woodland breeding amphibians and other native species. The proposed replication wetland is located > 30 m from the proposed limit of the development. Restoration details will be provided at detail design.

7.1.2. Significant Woodlands

Significant woodlands (FOD5-11, FOM2-3, CUW) are identified within the Subject Lands, associated with the Silver Creek valleyland. These woodlands will be generally retained on the landscape and protected with a 30 m VPZ from the proposed development limit.

However, to accommodate the site plan, vegetation removals and encroachments into the 30 m VPZ are required, resulting in the removal of 0.16 ha of significant woodland (CUW1) and 0.77 hectares of VPZ encroachment as shown on **Figure 5** (**Appendix A**). In the eastern portion of the Subject Lands, 0.16 hectares of CUW1 will be removed and 0.58 hectares of VPZ encroachment are necessary, while west of the Norval Bypass, an additional 0.19 hectares of VPZ encroachment is required. The portions of CUW1 proposed for removal are highly disturbed due to surrounding agricultural activity and road infrastructure. These areas exhibit signs of degradation such as the discarded trash. Given these existing disturbances, the ecological function of the woodland is already compromised.

Despite these impacts, positive ecological outcomes are anticipated through the establishment of a woodland enhancement zone, which will encompass the 30 m VPZ and the remaining Greenbelt Plan Area. Currently consisting of agricultural lands and an invasive Buckthorn thicket (0.23 ha), these areas will be restored with 5.36 ha of woody vegetation, including 3.23 ha within the significant woodland VPZ and 2.13 ha within the Greenbelt Plan Area. Resulting in an overall increase of 2.13 ha of woody vegetation within the NHS. This restoration effort will enhance habitat connectivity, improve foraging and breeding opportunities for terrestrial species, and contribute to overall biodiversity gains. Restoration details and invasive species management strategies will be provided at detail design.

To further mitigate potential impacts, tree protection zone fencing will be installed in accordance with the Tree Inventory and Preservation Plan (Kuntz Forestry Consulting Inc., 2025) and erosion control measures will be implemented during construction. Additionally, the valleyland's natural topography will serve as an inherent buffer, helping to minimize noise and disturbance impacts on wildlife habitat, further supporting species movement and ecological integrity within the area.

Overall, no adverse effects are expected to the significant woodland from the proposed development, when considering the proposed enhancements and indirect impacts will be mitigated through appropriate mitigation construction measures.

7.1.3. Significant Valleyland

A significant valleyland is identified within the Subject Lands, associated with Silver Creek. As stated above, this feature will be retained on the landscape and protected with a 30 m VPZ provided by the significant woodland from the proposed development. Tree protection fencing for the woodland and erosion control measures will also be implemented.

Overall, no adverse effects are expected to the significant valleyland from the proposed development and indirect impacts will be mitigated through appropriate mitigation construction measures.

7.1.4. Significant Wildlife Habitat

The following SWH has been identified within and adjacent to the Subject Lands:

- Significant Wildlife Habitat:
    - Seasonal Concentration Areas:
        - Candidate Bat Maternity Colonies (FOD5-11 and FOM2-3);
        - Candidate Reptile Hibernacula (anthropogenic structures at 35 Adamson Street);
    - Species of Concentration Concern:
        - Confirmed Barn Swallow habitat (barn structure at Russell Farm);
        - Candidate Barn Swallow habitat (anthropogenic structures at 35 Adamson Street);
        - Confirmed Eastern Wood-Pewee habitat (FOD5-11, FOM2-3, CUW) and
        - Candidate Walnut Caterpillar Moth habitat (FOD5-11, FOM2-3, CUW).

SWH identified within the Silver Creek valleyland will be retained on the landscape and provided a 30 m VPZ afforded by the significant woodland as discussed in **Section 7.1.2**. This VPZ is expected to assist in preventing negative impacts on the identified SWH types.

The anthropogenic structures on the Subject Lands are proposed for removal. The barn structures identified as confirmed Barn Swallow nesting habitat fall within the development footprint of the Norval Bypass and impacts will be addressed within the Municipal Class EA Study. Confirmation will be required to determine if Barn Swallows are using the structures at 35 Adamson Street prior to removal. If they are present Replacement habitat structures (RHS) with artificial nest cups are proposed for construction within 1 km of the original structures, within the NHS, prior to the first spring after the structures have been removed. Details are to be provided during Detail Design. The woody enhancement area will also include wildlife habitat features such as rock piles to compensate for potential reptile hibernacula being removed. Any structure removal should be done outside of the hibernacula timing window for snake species (November to April) unless additional reptile surveys are completed to confirm presence/absence of hibernacula within the structures at 35 Adamson Street.

Areas within the development footprint of the Norval Bypass will be addressed within the Municipal Class EA Study.

7.1.5. Fish Habitat

No direct fish habitat is present on the Subject Lands. The Silver Creek occurs north of the Subject Lands and provides direct fish habitat. No direct impact is anticipated as no development is proposed within Silver Creek and no stormwater will be directed to the creek.

Indirect fish habitat occurs on the Subject Lands as HDFs (LC(1)1-1, SCT(1)1-1 and SCT(1)1-2) These HDFs are identified with Mitigation management recommendations and are proposed for removal. Onsite flow conditions will be maintained through Low Impact Development (LID) stormwater options, preventing negative impacts on potential fish habitat downstream.

The proposed development is anticipated to increase impervious surfaces and has potential to impact surface water quality and quantity and thereby impact downstream fish habitat. It is anticipated that potential impacts can be effectively mitigated through an Erosion and Sediment Control (ESC) Plan and the Spill Prevention and Response Plan prior to construction.

Erosion and Sedimentation

Erosion and sedimentation from the disturbed work area associated with the proposed development could potentially result in adverse effects to water quality (e.g., increased turbidity) or sedimentation and associated effects on fish (e.g., injury or mortality due to suspended sediments or altered habitat use) or fish habitat (e.g., loss of interstitial spaces in rocky areas, smothering of aquatic vegetation and/or incubating eggs) in downstream areas.

The ESC Plan will be developed based on the guidance provided in the Erosion and Sediment Control Guideline for Urban Construction (GGHCA 2019). Basic elements of the plan should include consideration of:

- Construction phasing to minimize the amount of time soils are barren and therefore, more susceptible to erosion;
- Requirements and timing for rehabilitation of disturbed areas;
- Stormwater management strategies during construction;
- Erosion prevention measures (e.g., hydroseeding, sodding, erosion control matting, tarping of stockpiles);
- Sedimentation control measures (e.g., silt fences); and
- Inspection and performance monitoring requirements and adaptive management considerations.

Implementation of an effective ESC Plan, incorporating both erosion and sedimentation controls, coupled with regular inspection and performance monitoring and implementation of any remedial actions necessary to ensure effective performance.

Accidental Spills

Accidental spills of potentially hazardous materials (e.g., fuel and oil from heavy equipment), could cause stress or injury to downstream fish and wildlife.

In order to mitigate the potential for adverse effects on aquatic and wetland habitats due to potential accidental spills during construction, it is recommended that a spill prevention and response plan be prepared to outline the material handling and storage protocols, mitigation measures (e.g., spill kits on-site), monitoring measures and spill response plans (i.e., emergency contact procedures, including the Spills Action Centre, and response measures including containment and clean-up). Implementation of an effective spill prevention and response plan is anticipated to be largely effective in preventing adverse effects on natural heritage features.

7.1.6. Habitat of Endangered and Threatened Species

As discussed in **Section 5.1.7**, candidate habitat for Butternut, Black Ash, and SAR bats may be present within the forest vegetation communities associated with the Silver Creek Valleyland. Impacts and mitigation measures are addressed under significant woodlands in **Section 7.1.2**. No negative impacts on SAR and SAR habitat associated with the Silver Creek area are expected to occur. Areas within the development footprint of the Norval Bypass will be addressed within the Municipal Class EA Study.

No direct impacts are anticipated on Redside Dace as no contributing Redside Dace habitat from Levi's Creek is identified within the Subject Lands as discussed in **Section 5.1.7**. Several habitats are associated with the anthropogenic structures on the Subject Lands. Confirmed habitat for the Little Brown Myotis was identified within the barn structures of Russell Farm through the SWS. These structures fall within the development footprint of the Norval Bypass and impacts will be addressed within the Municipal Class EA Study. Candidate habitat for the Chimney Swift may present within the residential house of 35 Adamson Street. Targeted surveys are required to confirm presence/absence of nesting Chimney Swift. Should Chimney Swift be present consultation will be required with MECP. The barn structure located at 35 Adamson Street is also identified as providing candidate SAR bat habitat. Any structures proposed for removal shall be accompanied with bat exit surveys to confirm presence/absence of roosting bat species. Should SAR bats habitat be present, then appropriate mitigation and compensation will be determined in consultation with MECP which may include rocket boxes and/or tree plantings.

7.2. Potential Indirect Effects

Indirect effects are those potential effects on the biophysical environment that could potentially result in adverse effects on the Subject Lands and adjacent Lands.

7.2.1. Migratory Birds and Bats

The federal MBCA (1994) prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests. During construction, particularly during activities that may result in tree or native vegetation removals, with lack of appropriate mitigation, migratory birds, and eggs and nests of these birds could be harmed inadvertently.

All tree removals identified within the Tree Inventory and Preservation Plan (Kuntz Forestry Consulting Inc., 2025) should occur outside of the active bat maternity window (March 15 to November 30 and the migratory bird window (April 1 to August 31). If this window cannot be avoided, nest searches would be necessary to determine the presence/absence of nesting birds or breeding habitat every 72 hours until clearing is complete, or until August 31, whichever comes first. If an active nest is observed, a designated setback will be identified within which no construction activity will be allowed while the nest remains active. The setback distance typically ranges from 5 m to 60 m from the nest, depending on the species and its sensitivity to adjacent activities. A bat exit survey will also be required if this window cannot be avoided, and potential suitable bat snags are identified. Trees will then have to be removed within 48 hours or a rescreening will be required.

With the implementation of the above-stated mitigation measures, no disturbance to migratory birds and/or their nests or bats are anticipated during the breeding season.

7.2.2. Introduction of Exotic and Invasive Plant Species

The spread of invasive and non-native plant species along the disturbed areas may occur due to the existing presence of invasive species. In order to reduce opportunities for the colonization of invasive and non-native species, all equipment should be cleaned prior to transport to site, and areas where disturbance has exposed bare soils should be seeded with a cover crop and native species seed mix.

7.3. Potential Induced Effects

Induced impacts are potential environmental effects associated with the post-development landscape. Each of these are discussed in the following sections.

7.3.1. Dust, Light and Noise Effects on Wildlife

During construction activities such as clearing and grubbing, dust can lead to changes in vegetation due to increased heat absorption and decreased transpiration; adverse effects to plants and/or wildlife that are not adapted to high levels of sedimentation; and visual impact. To mitigate dust, it is recommended to dampen exposed soil areas with water during construction activities, thereby minimizing the presence of dust within the development zone. Erosion and sediment control measures must be implemented and will assist in the reduction of dust.

Light could be a concern where it is directed towards sensitive natural features, with functions and/or species that may be intolerant of light disturbance. Primary sources for “new light” will be from the residential houses and roadways.

Given that the existing surrounding land uses are largely residential existing wildlife communities are expected to be somewhat tolerant of disturbance from artificial lighting.

Noise associated with heavy equipment movement may temporarily disturb wildlife. However, given the heavily urban setting, the existing traffic noise along Guelph Street, 10 Side Road and local roads, as well as adjacent residential land uses, it is expected that local wildlife communities are already fairly tolerant of anthropogenic noise sources. Given the relatively short time period associated with construction and existing disturbances in the area, it is not expected that the additional noise generated from construction would have a measurable effect on the local distribution of wildlife in residual natural features.

8. Monitoring Plan

8.1. Construction Monitoring

Construction monitoring components are defined and described in the following sections and are intended to ensure that potential impacts as a result of construction are effectively managed and mitigated.

Additional monitoring efforts typically associated with construction not addressed herein are required, including the reporting of deficiencies and landscaping survival assessments. These activities should be conducted in a standard manner to provide a level of certainty to approval agencies that works have been constructed as designed and approved.

Vegetation Monitoring

All landscaped works within the woodland enhancement area and replicated wetland area will be reviewed during the construction period to ensure all planting and surface treatments are installed per specifications.

Ecological restoration oversight should be conducted on all construction and works associated with ecological design aspects (vegetative components of the VPZ, replicated wetland planting), which will include the following tasks:

- Identify suitable native species substitutions and/or stock size adjustments and secure approval for these substitutions with CVC and other reviewing agencies, if required;
- Review layout of plant material prior to/during installation, including species type, location and densities;
- Observation of installations of planting, mulch, beds, seeding, and topsoil amendments;
- Verify native vegetation at the site prior to installation, as per the Issued for Construction Drawings; and
- Provision of monitoring and identification of management options for local outbreaks of aggressive (i.e., Category 1) invasive species that threaten the establishment, health and/or success of the native vegetation or pose a danger to human health within the restoration area.

As noted above, ecological guidance will also be provided regarding suitable native plant substitutions should certain plant materials not be available for installation. All plant material substitutions will be reviewed by a Botanist to ensure that all plant materials installed follow the planting requirements determined at Detail Design.

Tree Protection Zones

Monitoring of the TPZ should be conducted or supervised by a Certified Arborist prior to and during construction to ensure compliance with tree protection guidelines. Proposed monitoring will assess the health and structure of the trees, identify changes to environmental conditions, and respond appropriately where necessary. The Certified Arborist must be on site at all times prior to and during any construction activity occurring within any TPZ to monitor root exposure, identify root disturbance, and propose site-specific mitigation where appropriate.

All other construction monitoring should be conducted on a bi-weekly basis (at a minimum) during the active construction period. Accidental damage to any part of a tree, including accidental incursion into the TPZ, must be reported to the Certified Arborist within six hours.

Erosion and Sediment Control

An ESC Plan prepared by the Project Engineer will assist in mitigating potential negative impacts on natural heritage features and functions due to erosion and sedimentation during construction. ESC measures will be applied to prevent the release of sediment from the construction site. Regular ESC measure monitoring will occur throughout the duration of construction with remedial measures implemented as necessary.

8.2. Post-Construction Compliance Monitoring

Post-construction compliance monitoring is intended to demonstrate compliance with permits or other approvals through local monitoring to verify that measures have been constructed as designed. This type of monitoring applies to the vegetated buffer and relocated wetland.

Post-development, vegetation monitoring will be conducted once per year for two years to ensure that all works are established during the warranty period. These efforts will aim to prevent non-native and/or invasive species from being installed on site. A wetland monitoring program for the replicated wetland will be prepared at detail design to ensure long-term functionality and ecological integrity of the replicated wetland.

9. Recommendations and Conclusions

This EIS addresses the natural heritage features and associated functions found on and adjacent to the Subject Lands. Presently, the Subject Lands are dominated by active agricultural land-use practices, consisting of cropped fields. Natural heritage features are present within the adjacent lands associated with Silver Creek within the Greenbelt Plan area.

The following natural heritage features as identified in the PPS (2024) and assessed under the NHRM (2010) were documented within and adjacent to the Subject Lands:

- Provincially Significant Wetland (Hungry Hollow Wetland);
- Other wetland (MAS2-1);
- Significant Woodland (FOD5-11, FOM2-3, CUW);
- Significant Valleyland (Silver Creek valleyland);
- Significant Wildlife Habitat:
    - Seasonal Concentration Areas:
        - Candidate Bat Maternity Colonies (FOD5-11 and FOM2-3);
        - Candidate Reptile Hibernacula (anthropogenic structures at 35 Adamson Street);
    - Species of Concentration Concern:
        - Confirmed Barn Swallow habitat (barn structure at Russell farm);
        - Candidate Barn Swallow habitat (anthropogenic structures at 35 Adamson Street);
        - Confirmed Eastern Wood-Pewee habitat (FOD5-11, FOM2-3, CUW);
        - Candidate Walnut Caterpillar Moth habitat (FOD5-11, FOM2-3, CUW);
- Direct Fish Habitat (Silver Creek);
- Candidate and Confirmed Habitat for Endangered Species (SAR bats, Black Ash, Butternut, Chimney Swift); and
- Georgetown Credit Valley Regional Life Science ANSI.

The proposed development will consist of residential units, a commercial block, a SWM pond and underground stormwater storage tank and parks.

The relocation of one wetland (MAS2-1, 0.23 ha) is proposed. In addition, to accommodate the site plan, vegetation removals and encroachments into the 30 m significant woodland VPZ are required, resulting in the removal of 0.16 ha of significant woodland (CUW1) and 0.77 hectares of VPZ encroachment. However, it is planned and expected that the relocated wetland the proposed woodland enhancements (+ 2.13 ha of woodland) to the NHS will provide a net gain by increasing native diversity and wildlife habitat functions while strengthening the buffer for the significant woodland and valleyland.

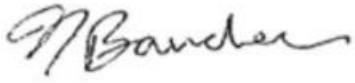
No negative impacts to the retained natural heritage features are predicted as a result of the proposed development provided the recommended mitigative are enacted and monitored for effectiveness. The implementation of mitigation measures and appropriate construction monitoring will contribute to the maintenance of important local features and functions over time, as well as enhancing and protecting natural heritage features. A monitoring plan is proposed to monitor the effectiveness of the wetland restoration area and vegetated buffers.

Prepared By:

GEI Consultants Canada Ltd.

Michelle Nieroda
Ecologist
905-699-3644
mnieroda@geiconsultants.com

Reviewed By:



Noel Boucher
Project Director
289-929-6951
nboucher@geiconsultants.com

10. References

BSC, Environment Canada's Canadian Wildlife Service, Ontario Nature, Ontario Field Ornithologists and Ontario Ministry of Natural Resources 2006. Ontario Breeding Bird Atlas (OBBA) Database. Available online at: http://www.birdsontario.org /atlas/aboutdata.jsp?lang=en

Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release – Data 228.

Credit Valley Conservation (CVC). 2020. Ecosystem Offsetting Guidelines.

Department of Fisheries and Oceans (DFO). 2025. Aquatic Species at Risk Distribution Mapping. Available online at http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

eBird. 2025. eBird: An online database of bird distribution and abundance. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org.

Environment and Climate Change Canada. 2024. Hoary Bat (*Lasiurus cinereus*) Eastern Red Bat (*Lasiurus borealis*) Silver-haired Bat (*Lasionycteris noctivagans*): COSEWIC assessment and status report 2023. Available online at: https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/cosewic-assessments-status-reports/hoary-bat-eastern-red-bat-silver-haired-bat-2023.html#toc7

Grounded Engineering Inc. 2024. Geotechnical Engineering Report- 164969 10 Sideroad, Norval, Ontario.

Government of Canada. 1985. *Fisheries Act* (R.S.C., 1985, c. F-14). (Last Amended August 2019).

Government of Canada. 1994. *Migratory Birds Convention Act* (S.C. 1994, c. 22). (Last Amended December 2017)

Government of Canada. 2021. The Atlas of Canada – Toporama. Available online at: https://atlas.gc.ca/toporama/en/index.html

Government of Ontario. 2007a. *Endangered Species Act*, 2007, S.O. 2007, c. 6. (Last Amended 2021).

Government of Ontario. 2024. Ontario Regulation 41/24: Prohibited Activities, Exemptions and Permits

iNaturalist. 2025. Available from https://www.inaturalist.org.

Kuntz Forestry Consulting Inc. 2025. Tree Inventory and Preservation Plan 16469 10 Side Road Halton Hills, Ontario

Ministry of Environment, Conversation and Parks (MECP). 2021a. Eastern small-footed myotis. Available online at: https://www.ontario.ca/page/eastern-small-footed-myotis

Ministry of Environment, Conversation and Parks (MECP). 2021b. Little brown myotis. Available online at: https://www.ontario.ca/page/little-brown-myotis

Ministry of Environment, Conversation and Parks (MECP). 2021c. Tri-colored Bat. Available online at: https://www.ontario.ca/page/tri-colored-bat

Ministry of Environment, Conversation and Parks (MECP). 2021d. Northern myotis. Available online at: https://www.ontario.ca/page/northern-myotis#:~:text=Northern%20long%2Deared%20bats%20are,in%20caves%20or%20abandoned%20mines.

Natural Heritage Information Centre (NHIC). 2025. Element summary for plants, wildlife and vegetation communities. Ontario Ministry of Natural Resources, Peterborough.

Ontario Geological Survey (OGS). 2025. Geoscience Data. Available online at: https://www.geologyontario.mndm.gov.on.ca/ogsearth.html

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2017. Greenbelt Plan (2017). Available online at: https://files.ontario.ca/greenbelt-plan-2017-en.pdf

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2024. Provincial Planning Statement. Ontario Ministry of Municipal Affairs and Housing. Toronto: King's Printer for Ontario.

Ontario Ministry of Natural Resources (MNR). 2000. Significant Wildlife Habitat Technical Guide. Fish and Wildlife Branch, Wildlife Section, Science Development and Transfer Branch, Southcentral Sciences Section. 151 pp

Ontario Ministry of Natural Resources (MNR). 2010. Natural Heritage Reference Manual (NHRM) for Policy 2.3 of the Provincial Policy Statement.

Ontario Ministry of Natural Resources and Forestry (MNRF). 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Available online at: https://www.ontario. ca/document/significant-wildlife-habitat-ecoregional-criteria-schedules-ecoregion-6e

Ontario Ministry of Natural Resources and Forestry (MNRF). 2024. Land Information Ontario (LIO).

Ontario Nature. 2020. Ontario Reptile and Amphibian Atlas. Available online at https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas

Region of Halton. 2024 Consolidation. Official Plan. Available online at: https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-(ROP)-(1)

Toronto Entomologists' Association. 2020. Ontario Moth Atlas Online. Available online at http://www.ontarioinsects.org/moth/

Toronto Entomologists' Association. 2023. Ontario Butterfly Atlas Online. Available online at http://www.ontarioinsects.org/atlas/index.html

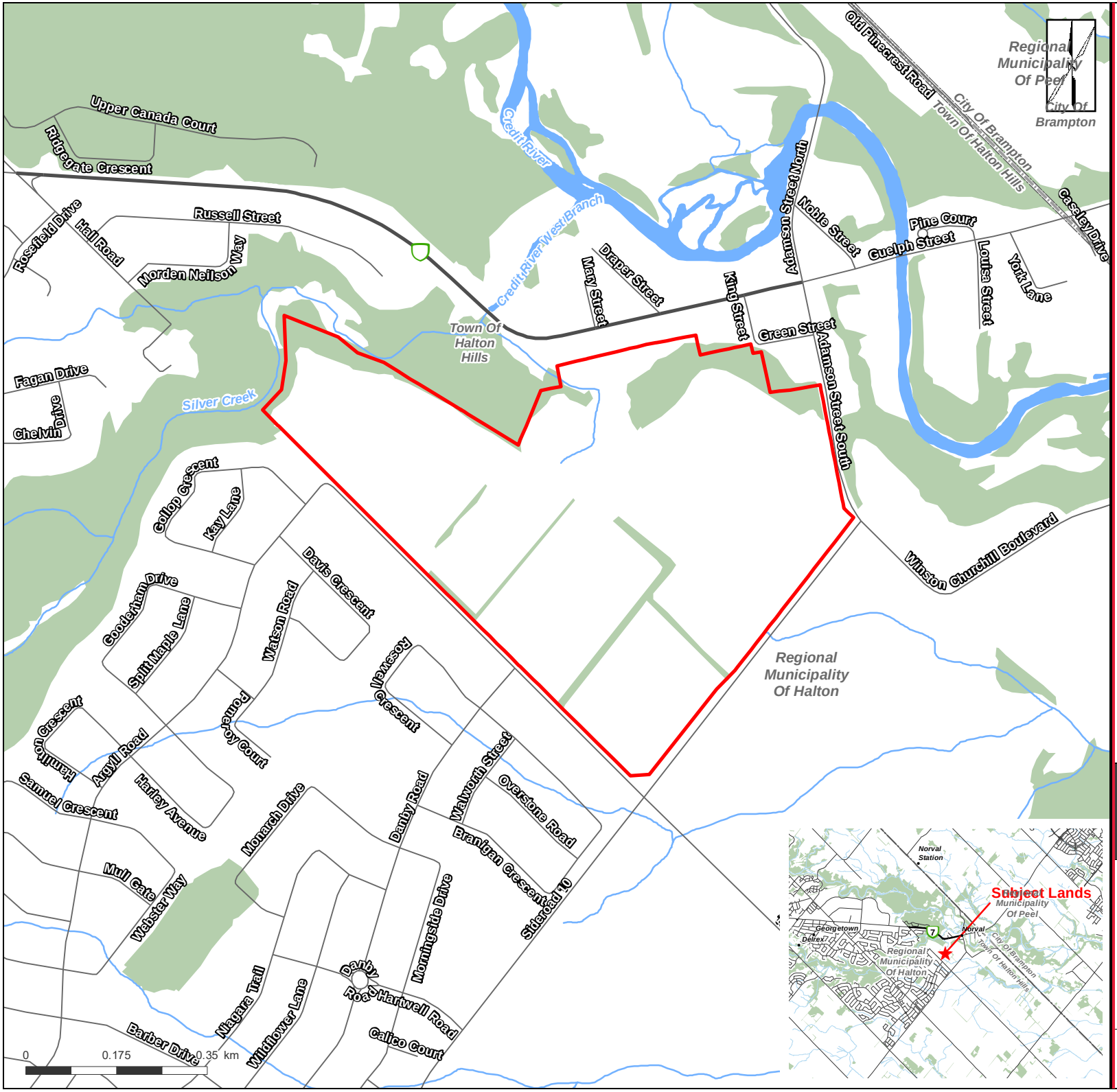
Town of Halton Hills. 2024 Consolidation. Official Plan. Available online at: https://www.haltonhills.ca/en/business/official-plan.aspx

Town of Halton Hills. October 2024. Amendment No. 59 to the Town of Halton Hills Official Plan-Southeast Georgetown Secondary Plan. Available online at: https://letstalkhaltonhills.ca/southeast-georgetown-secondary-plan

TYLin. 2025. Draft Plan Stormwater Management Report Russell Farms – Southeast Georgetown.

WSP. September 2024. Southeast Georgetown Scoped Subwatershed Study Phase 4: Implementation and Secondary Plan Policies. Available online at: https://letstalkhaltonhills.ca/southeast-georgetown-secondary-plan

Appendix A Figures



Reference(s):
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025.

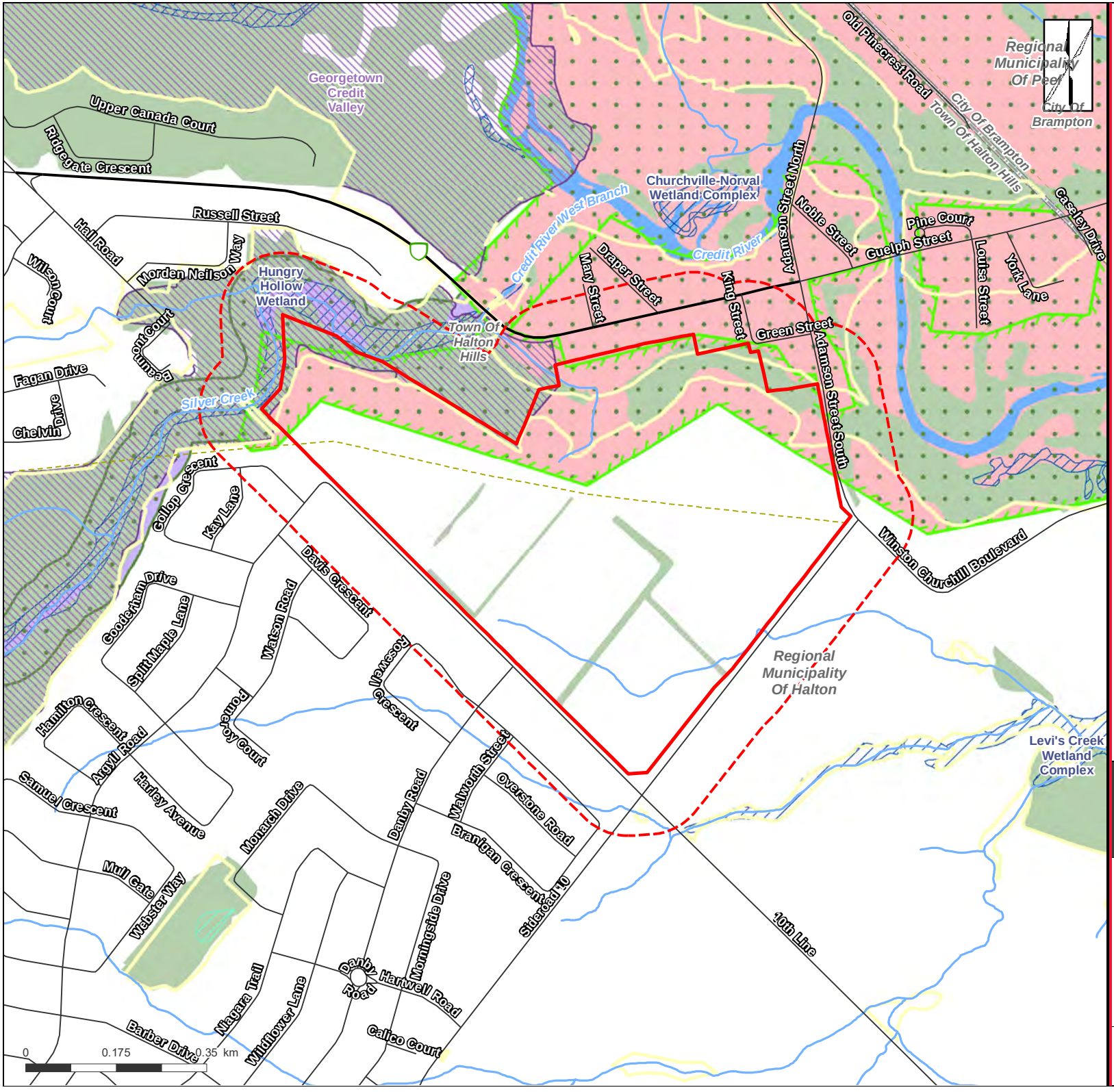
Figure 1
Location of Subject Lands

Project Name:
16469 10 Side Road, Halton Hills EIS

Client Name:
Russell Pines Property Corp.
Halton, Ontario

GEI

Last Updated: February 2025
Document ID: 1904575



- Subject Lands
- Subject Lands +120m
- Unknown Transmission Line
- Highway
- Road
- Trail Segment
- Regionally Significant Life Science ANSI
- Municipal Boundary, Lower/Single Tier
- Municipal Boundary, Upper Tier
- Greenbelt NHS
- Greenbelt Boundary
- Provincially Significant Wetland
- Wetland - Not evaluated per OWES
- Watercourse (LIO)
- Waterbody (LIO)
- Wooded Area (LIO)
- Protected Countryside
- Urban River Valley
- Approximate Key Features (Halton Region OP)

Reference(s):

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025, © Halton Region, 2025.

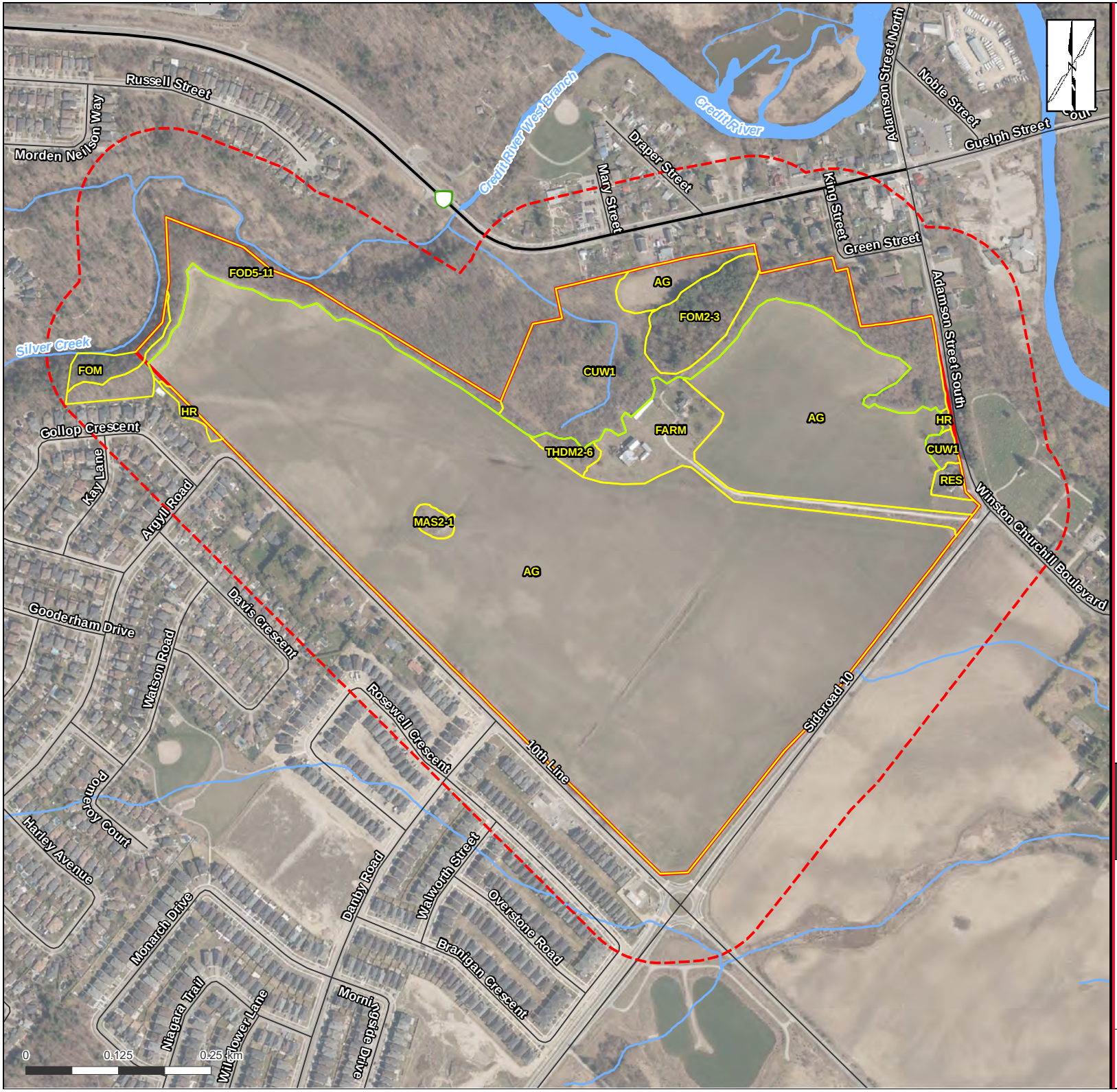
Figure 2
Landscape Setting

Project Name:
16469 10 Side Road, Halton Hills EIS

Client Name:
Russell Pines Property Corp.
Halton, Ontario

GEI

Last Updated: February 2025
Document ID: 1904575



Subject Lands
Subject Lands +120m
Highway
Road
Watercourse
Waterbody
Staked Dripline (Staked by Town of Halton Hills, January 2025)
Ecological Land Classification

ELC Legend

AG, Agricultural
CUW1, Mineral Cultural Woodland
FARM, Farm
FOD5-11, Dry-Fresh Sugar Maple-Hardwood Deciduous Forest
FOM, Mixed Forest
FOM2-3, Dry-Fresh White Pine-Hardwood Mixed Forest
HR, Hedgerow
MAS2-1, Cattail Mineral Shallow Marsh
RES, Residential
THDM2-6, Buckthorn Deciduous Shrub Thicket

Reference(s):

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025, © Halton Region, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.

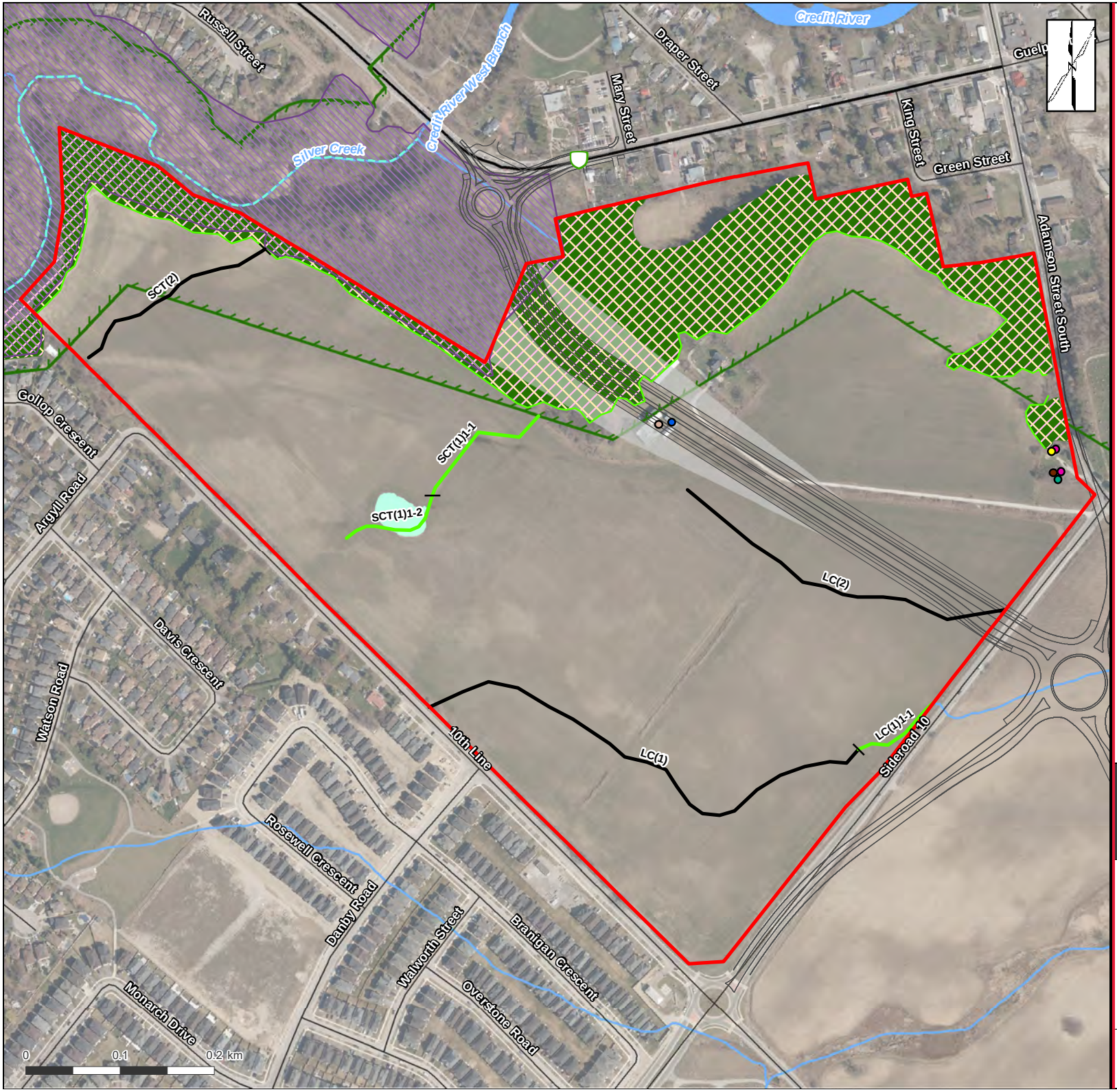
Figure 3
Ecological Land Classification

Project Name:
16469 10 Side Road, Halton Hills EIS

Client Name:
Russell Pines Property Corp.
Halton, Ontario

GEI

Last Updated: February 2025
Document ID: 1904575



- Subject Lands
- Highway
- Road
- Watercourse
- Waterbody
- Greenbelt Plan Limit
- Staked Dripline (Staked by Town of Halton Hills, January 2025)
- Norval West Bypass
- Approximate Grading for Norval Bypass
- Georgetown Credit Valley Regional Life Science ANSI
- Non-Significant Wetland
- Significant Woodland
- Candidate and Confirmed Significant Wildlife Habitat
- Candidate Reptile Hibernacula
- Candidate Barn Swallow Habitat
- Confirmed Barn Swallow Habitat
- Candidate Chimney Swift Habitat
- Candidate Habitat for Endangered and Threathened Species
- Candidate Habitat for SAR Bat
- Confirmed Habitat for SAR Bat
- Direct Fish Habitat

Headwater Drainage Feature Characterization

- Mitigation
- No Management Required
- Reach Breaks

Reference(s):

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025, © Halton Region, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.

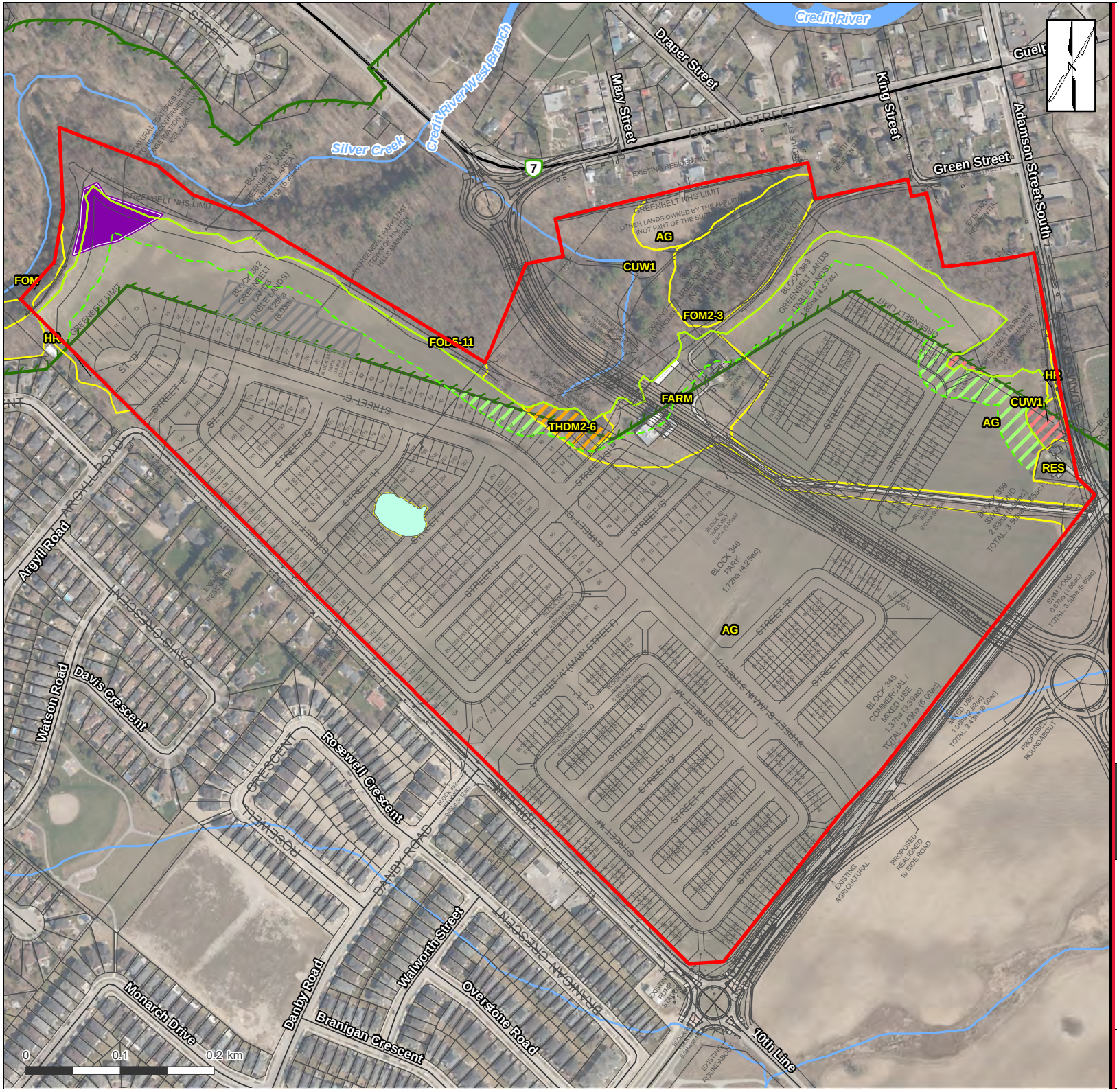
Figure 4
Significant Natural Heritage Features

Project Name:
16469 10 Side Road, Halton Hills EIS

Client Name:
Russell Pines Property Corp.
Halton, Ontario

GEI

Last Updated: February 2025
Document ID: 1904575



Subject Lands
Highway
Road
Watercourse
Waterbody
Greenbelt Plan Limit
Ecological Land Classification
Staked Dripline (Staked by Town of Halton Hills, January 2025)
Staked Dripline +30m
Wetland Proposed For Removal
Proposed Wetland Enhancement Area (0.33 ha)
Site Plan (GSAI, January 2025)
Proposed Open Bottom Underground Storage Facility

Feature Encroachments and Removals

Encroachment (0.77 ha)
Removal (0.16 ha)
Invasive Species Feature Removal (0.23 ha)

ELC Legend

AG, Agricultural
CUW1, Mineral Cultural Woodland
FARM, Farm
FOD5-11, Dry-Fresh Sugar Maple-Hardwood Deciduous Forest
FOM, Mixed Forest
FOM2-3, Dry-Fresh White Pine-Hardwood Mixed Forest
HR, Hedgerow
MAS2-1, Cattail Mineral Shallow Marsh
RES, Residential
THDM2-6, Buckthorn Deciduous Shrub Thicket

Reference(s):

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025, © Halton Region, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.
4. Site Plan: DP Jan 30 25.dwg

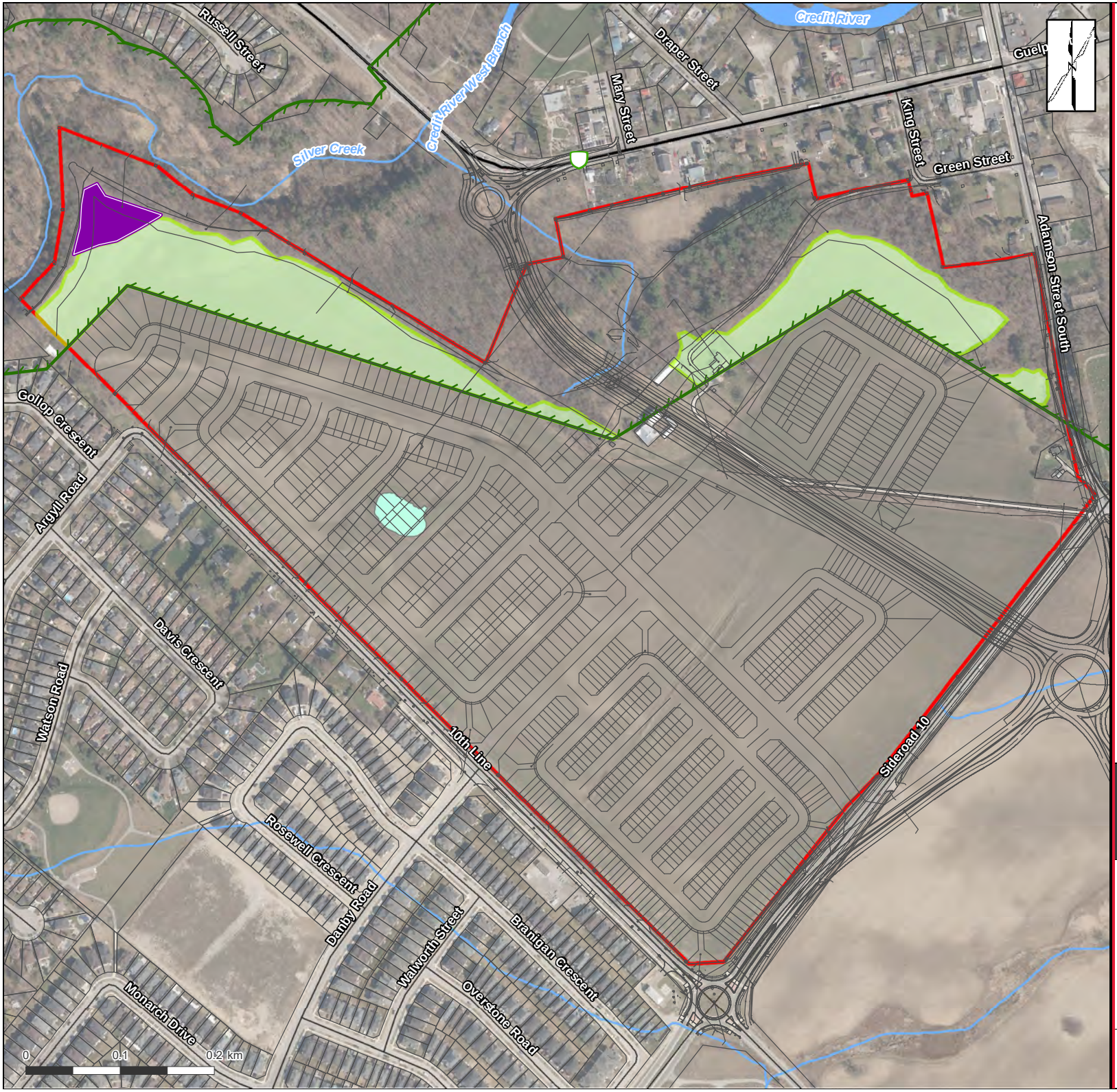
Figure 5
Proposed Draft Plan

Project Name:
16469 10 Side Road, Halton Hills EIS

Client Name:
Russell Pines Property Corp.
Halton, Ontario

GEI

Last Updated: February 2025
Document ID: 1904575



- Subject Lands
- Highway
- Road
- Watercourse
- Waterbody
- Greenbelt Plan Limit
- Proposed Woodland Enhancement Area (5.36 ha)
- Proposed Wetland Enhancement Area (0.33 ha)
- Proposed Wetland for removal
- Site Plan (GSAI, January 2025)

Reference(s):

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2025, © Halton Region, 2025.
3. Orthoimagery © First Base Solutions, 2025. Imagery taken in 2023.
4. Site Plan: DP Jan 30 25.dwg

Figure 6
Natural Heritage Opportunities

Project Name:
16469 10 Side Road, Halton Hills EIS

Client Name:
Russell Pines Property Corp.
Halton, Ontario

GEI

Last Updated: February 2025
Document ID: 1904575

Appendix B Tables

Table 1: Field Studies and Natural Inventories (2024-2025)

SURVEYORS	SURVEY ROUND	SURVEY TYPE	DATE	TIME		AIR TEMP (C°)	HUMIDITY (%)	CLOUD COVER (%)	BEAUFORT WIND SPEED	PRECIPITATION COMMENTS
				START	END					
2024										
Leslie, J. Nieroda, M.	1	Dripline Pre-staking and Stem Density Analysis	26- NO	10:00	12:00	6	85	100	4	Rain Showers
2025										
Leslie J., Nieroda, M., McMulkin, J. (Town of Halton Hills), Labrie, S. (Town of Halton Hills)	1	Agency Site Visit: Dripline Staking	27-JA	10:00	14:00	-2	49	0	4	None

LEGEND:

BEAUFORT WIND SPEED SCALE	
0	Calm (<1 km/hr)
1	Light Air (1-5 km/hr)
2	Light Breeze (6-11 km/hr)
3	Gentle Breeze (12-19 km/hr)
4	Moderate Breeze (20-28 km/hr)

MONTH (CODE)	
JA	January
FB	February
MR	March
AP	April
MA	May
JN	June
JL	July
AU	August
SE	September
OC	October
NO	November
DE	December

Table 2: Ecoregion 6E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT WITHIN THE SUBJECT LANDS
1. SEASONAL CONCENTRATION AREAS OF ANIMALS					
Waterfowl Stopover and Staging Areas (Terrestrial)	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Waterfowl Stopover and Staging Areas (Aquatic)	Yes – MAS2 vegetation community is present within the Subject Lands	No - Feature within the Subject Lands is not large enough to attract or support significant numbers. This area does not have historical waterfowl stopover use.	No	N/A	Not Present
Shorebird Migratory Stopover Areas	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Raptor Wintering Areas	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Bat Hibernacula	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Bat Maternity Colonies	Yes –FOD and FOM vegetation communities are present within and adjacent to the Subject Lands. The cultural woodland (CUW) is not identified as a suitable ecosite for this SWH type.	Yes- It is assumed that suitable snags are present in the Silver Creek valleyland	No- As the FOD and FOM woodland communities are to be retained on the landscape and buffered from the proposed development, no targeted surveys were warranted	Yes- It is assumed that the FOM2-3 and FOD5-11 communities contain suitable habitat for bat maternity colonies.	Candidate SWH type is present within the Subject Lands
Turtle Wintering Areas	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Reptile Hibernacula	Yes – Ecosites may be present within the Subject Lands	Yes- Natural/naturalized or anthropogenic features were identified within the Subject Lands that provide any subsurface access below the frost line.	Yes- Visual Snake Encounter Surveys were completed within the Subject Lands in 2016.	Yes- No snakes species were identified despite survey effort. It is assumed the residence and barn structure at 35 Adamson Street may provide suitable hibernacula habitat for reptiles	Candidate SWH type is present within the Subject Lands
Colonially-Nesting Bird Breeding Habitat (Bank and Cliff)	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Colonially-Nesting Bird Breeding Habitat (Tree and Shrub)	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Colonially-Nesting Bird Breeding Habitat (Ground)	No – No rocky islands or peninsulas are present within the Subject Lands.	No	No	N/A	Not Present
Migratory Butterfly Stopover Areas	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present

Table 2: Ecoregion 6E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT WITHIN THE SUBJECT LANDS
Landbird Migratory Stopover Areas	Yes- FOD vegetation communities are present within the Subject Lands	No- While the feature may meet the size criteria (>5 ha), the Subject Lands are not within 5 km of Lake Ontario	No	N/A	Not Present
Deer Winter Congregation Areas	Yes - FOD vegetation communities are present within the Subject Lands	No- Features do meet the size criteria (> 100 ha)	No - Mapping from LIO database does not identify the woodlands associated with the Silver Creek valleyland as a Deer Wintering Area.	N/A	Not Present
2. RARE VEGETATION COMMUNITIES OR SPECIALIZED HABITAT FOR WILDLIFE					
2a. Rare Vegetation Communities					
Rare Vegetation Types (cliffs, talus slopes, sand barrens, alvars, old-growth forests, savannahs, and tallgrass prairies)	No – Rare vegetation types are not present within the Subject Lands	No	No	N/A	Not Present
Other Rare Vegetation Types (S1 to S3 communities)	No – Other rare vegetation types are not present within the Subject Lands	No	No	N/A	Not Present
2b. Specialized Wildlife Habitat					
Waterfowl Nesting Areas	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Yes – FOD vegetation community within the Subject Lands is directly adjacent to Silver Creek	Yes- It is assumed that suitable habitat is present in the Silver Creek valleyland	Yes- Breeding Bird Surveys were completed within the Subject Lands in 2016	No- Indicator species (Bald Eagle and Osprey) were not observed despite survey effort.	Not Present
Woodland Raptor Nesting Habitat	Yes – FOD and FOM vegetation communities are present within the Subject Lands	No – Forested habitat features do not meet the minimum size criteria (> 30 ha with >4 ha of interior forest habitat)	No	N/A	Not Present
Turtle Nesting Areas	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Seeps and Springs	Yes – Forested vegetation communities (SWD, CUW) are present within the Subject Lands	No – Forested vegetation community is not associated with headwater drainage features.	No	N/A	Not Present
Amphibian Breeding Habitat (Woodland)	Yes – FOD and FOM vegetation communities are present within the Subject Lands	Yes – Wetlands are within 120 m of woodland.	Amphibian Call Count Surveys were completed within the Subject Lands in 2016	No- Amphibians species were not recorded within the station along the Silver Creek valleyland	Not Present

Table 2: Ecoregion 6E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT WITHIN THE SUBJECT LANDS
Amphibian Breeding Habitat (Wetland)	Yes – MA vegetation community is present within the Subject Lands	Yes- The wetland is isolated and 120 m from woodlands. However, given its lack of provincial or regional significance, its lack of connection to other natural heritage features or areas and surrounded by active agriculture, this wetland likely does not provide suitable breeding habitat and should not be considered significant.	Amphibian Call Count Surveys were completed within the Subject Lands in 2016	No- Wetland was observed to be dry and unsuitable for breeding.	Not Present
Woodland Area-Sensitive Bird Breeding Habitat	Yes- FOD and FOM vegetation communities are present within the Subject Lands	No – Forested habitat features do not meet the minimum size criteria (> 30 ha with interior forest habitat at least 200 m from forest edge)	No	N/A	Not Present
3. SPECIES OF CONSERVATION CONCERN					
Marsh Bird Breeding Habitat	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Open Country Bird Breeding Habitat	No – Suitable ecosites are not present within the Subject Lands	No	No	N/A	Not Present
Shrub/Early Successional Bird Breeding Habitat	Yes –CUW vegetation communities are present within the Subject Lands.	No- Subject Lands do not have large field areas succeeding into shrub and thicket habitat (> 10 ha)	Yes	N/A	Not Present
Terrestrial Crayfish	Yes – MAS2 vegetation community is present within the Subject Lands	No- Given the wetland's lack of provincial or regional significance, its lack of connection to other natural heritage features or areas and being surrounded by active agriculture, this wetland likely does not provide suitable habitat	No	N/A	Not Present
Special Concern and Rare Wildlife Species					

Table 2: Ecoregion 6E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT WITHIN THE SUBJECT LANDS
(i) Barn Swallow (*Hirundo rustica*)	N/A	Yes- Anthropogenic structures used for nesting are present on the Subject Lands.	Yes- Breeding Bird Surveys were completed within the Subject Lands in 2016.	Yes- One intact Barn Swallow nest was observed onsite in a barn structure at Russell Farm.	Confirmed SWH type is present within the Subject Lands
(ii) Caspian Tern (*Hydroprogne caspia*)	N/A	No- large coastal areas, lakes, and marshes are not present on the Subject Lands.	No	N/A	Not Present
(iii) Common Nighthawk (*Chordeiles minor*)	N/A	No- Open areas with little to no ground vegetation (logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores) are not present on the Subject Lands.	No	N/A	Not Present
(iv) Eastern Wood-Pewee (*Contopus virens)*	N/A	Yes – Forested vegetation communities (FOD, FOM) are present on and adjacent to the Subject Lands.	Yes- Breeding Bird Surveys were completed within the Subject Lands in 2016.	Yes- Eastern Wood-Pewee territories were observed on and adjacent to the Subject Lands within the FOM2-3 and FOD5-11	Confirmed SWH type is present within the Subject Lands
(v) Eastern Whip-poor-will (*Antrostomus vociferus*)	N/A	No- A mix of open and forested areas, (savannahs, open woodlands) are not present on the Subject Lands.	No	N/A	Not Present
(vi) Grasshopper Sparrow (*Ammodramus savannarum*)	N/A	No- Grassland habitat is not present on the Subject Lands.	No	N/A	Not Present
(vii) Great Egret (*Ardea alba*)		No- Shallow wetland (ponds, marshes tidal mudflats) are not present on the Subject Lands. The wetland community on the Subject Lands is isolated and disturbed, unlikely to provide suitable habitat.	No	N/A	Not Present
(viii) Pectoral Sandpiper (*Calidris melanotos*)		No- Wet, grassy habitats (marshes, meadows, and flooded fields) are not present on the Subject Lands. The wetland community on the Subject Lands is isolated and disturbed, unlikely to provide suitable habitat.	No	N/A	Not Present
(ix) Peregrine Falcon (*Falco peregrinus*)	N/A	No- Cliffs along large river systems are not present on the Subject Lands	No	N/A	Not Present
(x) Purple Martin (*Progne subis*)	N/A	No- This species nests almost exclusively in bird houses. None are present on the Subject Lands.	No	N/A	Not Present

Table 2: Ecoregion 6E Significant Wildlife Habitat Assessment

SIGNIFICANT WILDLIFE HABITAT (SWH) TYPE	ELC ECOSITE(S) PRESENT	HABITAT CRITERIA MET	TARGETED FIELD STUDIES REQUIRED	DEFINING CRITERIA MET (MINIMUM ABUNDANCES AND/OR DIVERSITY REQUIRED TO CONFIRM SWH)	SWH TYPE PRESENT WITHIN THE SUBJECT LANDS
(xi) Semipalmated Sandpiper (*Calidris pusilla*)	N/A	No- This species breeds in the coastal tundra of the subarctic and Low Arctic and therefore habitat would not be present on the Subject Lands	No	N/A	Not Present
(xii) Wood Thrush (*Hylocichla mustelina)*	N/A	Yes – Forested vegetation communities (FOD, FOM) are present on and adjacent to the Subject Lands	Yes- Breeding Bird Surveys were completed within the Subject Lands in 2016.	No- This species was not observed despite survey effort.	Not Present
(xiii) Snapping Turtle (*Chelydra serpentina)*	N/A	No – Suitable aquatic communities and nesting sites are not present within the Subject Lands. The wetland community on the Subject Lands is isolated and disturbed, unlikely to provide suitable habitat.	No	N/A	Not Present
(xiv) Monarch Butterfly (*Danaus plexippus*)	N/A	No – Meadow communities are not present on the Subject Lands	No	N/A	Not Present
(xv) Walnut Caterpillar Moth (*Datana integerrima*)	N/A	Possibly- The species relies on Juglandaceae tree species as a host. Forested vegetation communities (FOD, FOM) are present on and adjacent to the Subject Lands that may contain suitable tree species.	No- As the forest communities are to be retained on the landscape and buffered from the proposed development, no targeted surveys were warranted	Yes- It is assumed that the forested vegetation communities provide suitable habitat for the species	Candidate SWH type present on the Subject Lands
4. ANIMAL MOVEMENT CORRIDORS					
Amphibian Movement Corridors	N/A	No- Wetland amphibian breeding SWH was not identified within the Subject Lands	No	N/A	Not Present

Appendix C Terms of Reference (TOR)

January 29, 2025
Project No. 1904575

VIA EMAIL: jmcmulkin@haltonhills.ca; elizabeth.paudel@cvc.ca

John McMulkin
Town of Halton Hills

Elizabeth Paudel
Credit Valley Conservation

Re: Terms of Reference
16469 10 Side Road Environment Impact Study
Georgetown, Ontario

Dear John McMulkin and Elizabeth Paudel,

This Terms of Reference (ToR) for an Environmental Impact Study (EIS) provides an overview of the ecological work being completed on behalf of Russell Pines Property Corp. in support of a draft plan application for 16469 10 Side Road, Georgetown, Ontario (herein referred to as the Subject Lands). An EIS is required to assess potential impacts associated with the proposed development on the natural heritage features and functions of the Subject Lands and the adjacent 120 m, in particular the Black Creek valleyland and the associated woodland. This feature is designated as a Key Features of the Greenbelt Protected Countryside and part of the Georgetown Credit Valley, a Regional Significant Life Science Area of Natural and Scientific Interest (ANSI). The Subject Lands are also located within the Credit Valley Conservation (CVC) watershed. Based on regulation mapping, the northern woodland and valleyland features are regulated.

The Subject Lands are approximately 53 hectares (131 acres) in size and located in the Town of Halton Hills, bordered to the east by Adamson Street South and Guelph Street, to the south by Sideroad 10, to the west by 10th Line, and to the north generally by Black Creek, a tributary of the Credit River and the rear of existing residential lots that front Guelph Street.

The Subject Lands are situated within an agricultural landscape with woodlands associated with Black Creek to the north. In addition, two tributaries are mapped on the subject lands: one to the north toward Black Creek and the other south toward Levi's Creek Provincially Significant Wetland (PSW) Complex. Defined channels were not observed on the Subject lands for either tributary during field work completed by GEI (previously Savanta) in 2016. Several pockets of unevaluated wetlands consisting of cattail shallow marsh (MAS) and meadow marsh (MAM) were also identified during the 2016 ecological surveys. As of 2025, they have been ploughed due to the active agricultural activities and are no longer present on the site. One wetland community (MAS) remains within the central western portion of the Subject Lands. This wetland is identified on Schedule H9-3 of the Southwest Georgetown Scoped Subwatershed Study (WSP, 2024) as a wetland that has been proposed for removal and replication. The wetland has not been included in the Natural Heritage System based on its lack of provincial or regional significance and its lack of connection to other natural heritage features or areas.

1. NATURAL HERITAGE PLANNING CONSIDERATIONS

The Subject Lands are subject to federal, provincial, and municipal legislation as well as land use policies established by the Town of Halton Hills, Regional Municipality of Halton, and the CVC. The EIS will reference natural heritage components of the following regulatory agencies, local and regional municipalities, and/or legislation:

- Provincial Planning Statement (PPS; 2024);
- Region of Halton (2024 Consolidation);
- Town of Halton Hills (2024 Consolidation);
- Ontario Regulation 41/24 under the Conservation Authorities Act (1990);
- CVC Regulation Mapping (2024);
- *Endangered Species Act* (ESA; 2007);
- *Fisheries Act* (1985); and
- *Migratory Birds Convention Act* (1994).

2. BACKGROUND REVIEW

The following resources are being reviewed for information relating to natural features and species that may be found on the Subject Lands:

- Land Information Ontario (LIO) Natural Features database;
- Natural Heritage Information Centre (NHIC) database;
- Provincial Wildlife Atlas Data;
- Aquatic species at risk distribution maps; and
- Other sources (e.g., subwatershed studies, watershed management plans, fisheries management plans, eBird, iNaturalist).

This information assisted in defining the search effort and target species for studies on and immediately adjacent to the Subject Lands.

3. ECOLOGICAL FIELD INVESTIGATIONS

Due to the Subject Land's natural heritage features being confined within the Black Creek valleyland in the Greenbelt Plan Area and will be retained on the landscape with appropriate vegetation protection zones (VPZs), no additional ecological field investigations are proposed. An agency site visit will be completed with the Town of Halton Hills and the CVC to delineate the existing dripline for the woodland and the top of bank for the valleyland. These features will ultimately delineate the limit of development. The limits of the wetland community outside the Greenbelt Plan Area will also be staked with the CVC.

4. ENVIRONMENTAL IMPACT ASSESSMENT

The EIS will characterize the biophysical environment of the Subject Lands by outlining the results of the background information review and the feature staking event. The following aspects of the natural environment will be described: topography, physiography, soils and geology; surface water and groundwater; flora and fauna; and natural hazards. A detailed assessment of the significance of natural

features and functions based on the results from the background review and the ecological fieldwork program will be provided. These assessments will reference the PPS (MMAH 2024), the Natural Heritage Reference Manual (MNR 2010), Significant Wildlife Technical Guide (MNR 2000), and the Significant Wildlife Habitat Eco-Region Criterion Schedule: Ecoregion 6E (MNRF 2015).

The EIS will identify and assess the potential impacts of the proposal on the environment and the significant features and functions within and adjacent to the Subject Lands. This assessment will consider direct and indirect potential effects, including those occurring during construction (e.g., short-term disturbance type effects), those more permanent effects, that will persist throughout the life of the development (e.g., long-term footprint effects) and potential cumulative effects. The impact assessment will be completed for the physical and biological resources within and adjacent to the Subject Lands.

Where potential negative impacts are identified (i.e., and where they can't be avoided), the EIS will list and describe mitigation measures that are proposed to eliminate or reduce potential negative impacts on natural area features and functions. As well, those measures will be identified that could restore or improve natural area features and functions and/or to compensate/offset net losses that may occur. The EIS will also determine the requirements for buffers and/or setbacks to protect natural features and address municipal requirements. As per the Town of Halton Hills Official Plan (2024), this EIS is intended to demonstrate that the proposed development will (policy C2.2):

a) *not have a negative impact on significant natural heritage features and related ecological functions;*
b) *not discharge any substance that could have an adverse effect on air quality, groundwater, surface water and associated plant and animal life;*
c) *be serviced by an adequate supply of water and that the groundwater taking associated with the use will not have an adverse effect on existing water supplies, surface water features and associated plant and animal life;*
d) *not cause erosion or siltation of watercourses or unacceptable changes to watercourse morphology;*
e) *not interfere with groundwater recharge to the extent that it would adversely affect groundwater supply for any use;*
f) *not cause an increase in flood potential on or off the site;*
g) *maintain/enhance/restore/rehabilitate the natural condition of affected watercourses, and protect/enhance/restore/rehabilitate aquatic habitat;*
h) *not encourage the demand for further development that would negatively affect wetland function or contiguous wetland areas;*
i) *enhance and restore endangered terrestrial and aquatic habitat where appropriate and feasible;*
j) *not unduly interfere with the function of existing or potential natural corridors that are determined to be of significance;*
k) *not lead to a reduction to the extent of significant woodlands within the Greenlands System; and,*
l) *not lead to species loss or negative impacts on endangered, threatened or rare species and/or their habitat.*

5. Conclusion

We trust this TOR letter is satisfactory. Please don't hesitate to contact us at your earliest convenience with any questions or concerns.

Sincerely,

GEI Consultants Canada Ltd.

Michelle Nieroda
Ecologist, Project Manager
905-699-3644
mnieroda@geiconsultants.com

Antonette Zimic
Project Director
289-221-2156
azimic@geiconsultants.com