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Mayfield West Phase 2 – Stage 3 Lands Environmental Impact Study

Town of Caledon, Peel Region

Palmer Project #
1701628

Prepared For
Brookvalley Project Management Inc.

April 11, 2024

April 11, 2024

Frank Filippo
Brookvalley Project Management Inc.
137 Bowes Road
Concord, ON L4K 1H3

Dear Mr. Filippo:

Re: Mayfield West Phase 2 – Stage 3 Lands Environmental Impact Study

Project #: 1701628

Palmer Environmental Consulting Group Inc. (Palmer) is pleased to submit the attached report to Brookvalley Project Management Inc. (Brookvalley) describing the results of our Environmental Impact Study Report for the Mayfield West Phase 2 Stage 3 lands (MW2-3). This report has been completed as a companion to previous reports by Palmer (2018 and 2022) and other studies completed for the Study Area.

This study has been completed as part of a Draft Plan application for the MW2-3 lands as part of the Secondary Plan study for the Brookvalley properties in the Mayfield West Phase 2 area. The proposed Land Use Plan (**Appendix A**) includes low density and medium density residential, commercial, schools, parks, roadways, stormwater management (SWM) facilities, Natural Heritage System (NHS) features and the Greenbelt Lands.

The EIS provides a detailed characterization of the eastern and western portions of the lands owned by Brookvalley and provides an assessment of the proposed development and recommendations for appropriate mitigation measures.

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

Yours truly,

Dirk Janas, B.Sc.
Principal Ecologist

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1. Introduction

Palmer was retained by Brookvalley Project Management Inc. (Brookvalley) to prepare an Environmental Impact Study for the Mayfield West Phase 2, Stage 3 (MW2-3) as part of Draft Plan Approval (DPA) for the Brookvalley lands. The MW2-3 lands are identified as The Mayfield West Community Development Plan Study Area, established under Official Plan Amendment (OPA 114) and mapped on Region of Peel Official Plan Schedule D. The MW2-3 lands comprise approximately 403 hectares (ha), with 208 ha of tableland development area, bounded by Chinguacousy Road to the west, Hurontario Street to the east, Old School Road to the north and Etobicoke Creek to the south (**Figure 1**). The proposed Land Use Plan (**Appendix A**) includes low density and medium density residential, commercial, schools, parks, roadways, stormwater management (SWM) facilities, Natural Heritage System (NHS) features and the Greenbelt Lands.

Preliminary reports were completed by Palmer, November 2018 and July 2022. The intent of the current EIS is to provide a detailed characterization of the eastern and western portions of the land owned by Brookvalley and provide a detailed assessment of the proposed development and identify the appropriate mitigation measures. Our EIS assessment of existing environmental features is based on field surveys completed by Palmer during recent years as well as background information from previous studies. This EIS has been completed based on the extensive existing conditions data that is available for the study area. Additional field investigations for 2024 are ongoing to augment the existing information.

LEGEND

- Brookvalley West Lands
- Brookvalley East Lands
- Mayfield West Phase 2 Stage 3 lands

0 100 200 300 400 500
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:20,000
Page Size: Tabloid (11 x 17 inches)

Drawn: RS
Checked: CH
Date: Apr 10, 2024

NORTH

Source Notes: Imagery (2023) sourced from Caledon Maps.

CLIENT
Brookvalley Project Management Inc.

PROJECT
Mayfield West Phase 2 Stage 3

TITLE
Site Location

Palmer | PART OF SLR

REF. NO. 1701628-1-2

Figure 1

Document Path: G:\Shared drives\Projects 2017\17016 - Brook Valley Homes\1701628 - Mayfield West - Phase 2 - Stage 3\GIS\1_Workspace\Task 2 - Ecology Figures\1701628 - Ecology Figures\1701628 - Ecology Figures.aprx

2. Policy

2.1 Provincial Policy Statement

The *Provincial Policy Statement, 2020* (PPS) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (Ontario Ministry of Municipal Affairs and Housing, 2020). Section 2.1 of the PPS defines ten Natural Heritage Features (NHF) and adjacent lands and provides planning policies for each. Of these NHF, development is not permitted in:

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

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

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

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

The Provincial Policy Statement lists natural heritage features for which development and site alternation are not permitted under the policies of the PPS, or are not permitted *"unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions*". Within the project study area, the following natural heritage features have been identified:

- Significant Woodlands;
- Significant Valleylands;
- Candidate Significant Wildlife Habitat;
- Fish habitat; and
- Potential Habitat of Endangered and Threatened species.

Woodlands, Provincially Significant Wetlands, potential habitat of Endangered or Threatened species, watercourses and fish habitat is present within the Study Area. However, the proposed development plan does not encroach into these features.

2.2 Growth Plan for the Greater Golden Horseshoe

The Growth Plan for the Greater Golden Horseshoe (GGH) 2019 was approved by the Council in 2019 and underwent office consolidation in 2020. The GGH directs growth and the development to ensure economic prosperity, environmental protection, and community support (Ministry of Municipal Affairs and Housing, 2020). This is intended to direct municipalities towards the establishment of appropriate policies to maintain, restore, or enhance biodiversity and connectivity of the system and long-term ecological function (MMAH, 2020).

The GGH was developed as a supplement to the PPS, and "builds upon the policy foundation provided by the PPS and provides additional and more specific land use planning policies to address issues facing specific geographic areas in Ontario. This Plan is to be read in conjunction with the PPS. The policies of this Plan take precedence over the policies of the PPS to the extent of any conflict, except where the relevant legislation provides otherwise."

The following proposed development guidelines of the Growth Plan are applicable:

4.2.2 Natural Heritage System

Within the *Natural Heritage System*:

i. new development or site alteration will demonstrate that:
ii. there are no negative impacts on key natural heritage features or key hydrologic features or their functions;
iii. connectivity along the system and between key natural heritage features and key hydrologic features located within 240 metres of each other will be maintained or, where possible, enhanced for the movement of native plants and animals across the landscape;
iv. the removal of other natural features not identified as key natural heritage features and key hydrologic features is avoided, where possible. Such features should be incorporated into the planning and design of the proposed use wherever possible.

The portions of the NHS within subject properties that are not contained within the Greenbelt Area are located within the GGH Growth Plan Area.

2.3 Greenbelt Plan

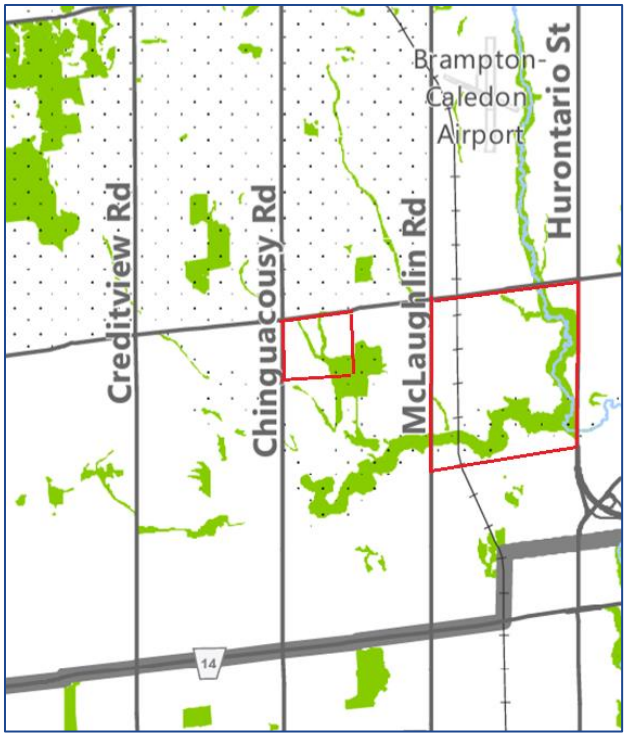
The Greenbelt Plan builds on the PPS to identify limits to urbanization and to provide permanent protection to the agricultural land base and the ecological and hydrological feature areas and their functions occurring on the landscape of the Greater Golden Horseshoe (Ontario Ministry of Municipal Affairs and Housing, 2017). Within the Greenbelt Area there are Protected Countryside and Urban River Valley land designations. Additionally, Settlement Areas and a Natural Heritage System have been mapped within the Protected Countryside land designation. These areas within the Greenbelt Area are afforded varying protections through their applicable policies.

Under the Greenbelt Plan, lands along the southern Etobicoke Creek boundary and within the western portion of the MW2-3 Lands are designated as part of the Natural Heritage System of the Greenbelt Protected Countryside. Proposed development must demonstrate that there will be no negative impacts to key natural heritage features and key hydrologic features or their functions, as well as no negative impact on biodiversity or connectivity of the Natural Heritage System. There are Rural Lands within the Greenbelt limits that do not support natural heritage features and are not part of the 30 m setbacks to natural features.

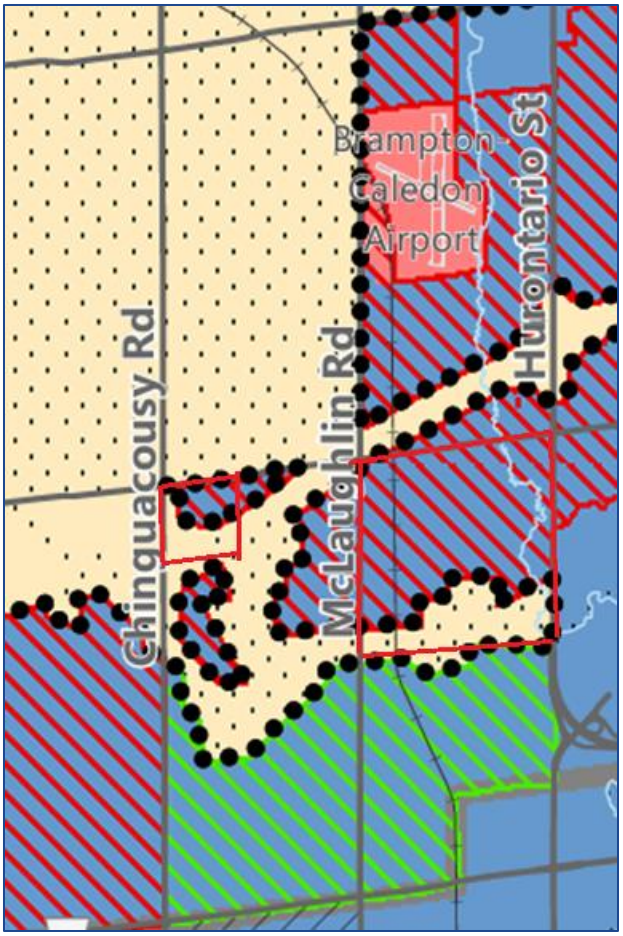
2.4 Region of Peel Official Plan

The new *Region of Peel Official Plan* (OP) was adopted by Regional Council on April 28, 2022. It was approved with modification by the Ontario Ministry of Municipal Affairs and Housing (OMMAH) in 2022 (Region of Peel, 2022). The decision of the Minister of Municipal Affairs and Housing regarding an OP is considered final and not subject to appeal (Region of Peel, 2022).

Natural heritage and water resource features in Peel Region are protected by its Greenlands System, which consists of Core Areas, Natural Areas and Corridors (NACs), and Potential Natural Areas and Corridors (PNACs). Core Areas are designated on Schedule C-2 of the Official Plan and are intended to represent the most important natural features in Peel, connected natural systems and high biodiversity as identified through the OP (**Map A**). NACs and PNACs are to be identified and protected in lower tier municipal official plans in accordance with the policies outlined in the Peel Official Plan. Criteria for these Core Areas, NACs, and PNACs are dependent on the Regional System that the Subject Lands are within (**Map B**).



Map A. The Region's OP Schedule C-2 Core Areas of the Greenlands System in Peel depicts the Study Area within the Core Areas of the Greenlands System (green layer) and Areas Subject to Provincial Plans (dotted layer).



Map B. The Region's OP Schedule E-1 Regional Structure depicts the Study Area within the rural system (yellow layer), urban system (blue layer), 2051 New Urban Area (diagonal red lines) and Areas Subject to Provincial Plans (dotted layer).

According to Section 2.14.12 of the OP, Core Areas include significant wetlands, significant coastal wetlands, woodlands meeting one or more of the criteria for Core Area woodland in Table 1, Environmentally Sensitive or Significant Areas, Provincial Life Science Areas of Natural and Scientific Interest (ANSI), Escarpment Natural Areas of the Niagara Escarpment Plan, and valley and stream corridors meeting one of more of the criteria for Core Area valley and stream corridors in Table 2 and as shown on Schedule C-2. Development is generally prohibited within Core Areas.

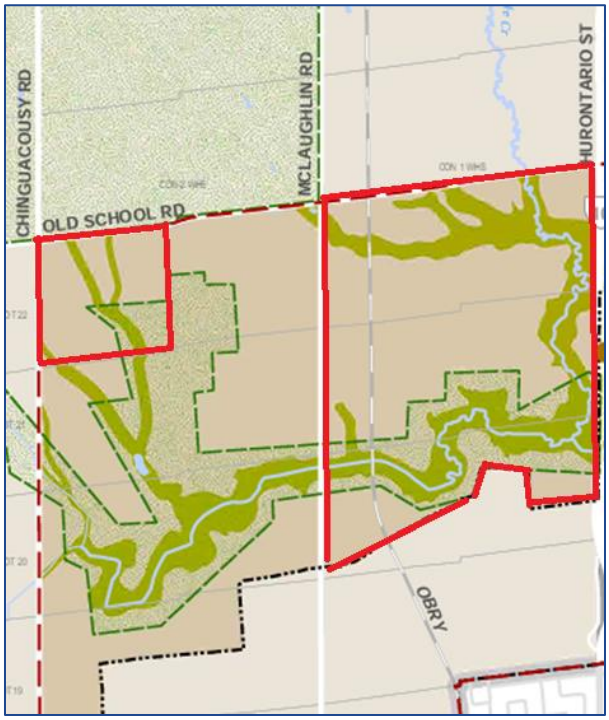
As defined in the Region's OP, valley and stream corridors are the natural resources associated with the river systems characterized by their landform, features and functions, and include associated ravines. Valley and stream corridors are distinguished from ravines by the presence of a distinct landform. Additionally, Table 2 *(Criteria and Thresholds for the Identification of Core Valley and Stream Corridors*) of the Region's OP identifies the various feature and spatial criteria required for stream valleys or corridors to meet the threshold of Core Areas within the Region's Greenlands System. These features generally include main branches or major tributaries that have direct drainage into Lake Ontario, or other tributaries that provide habitat to a range of species that cross municipal boundaries and connect other Core Areas of the Greenlands System.

The natural heritage features in the Region of Peel are protected by its Greenlands System (Official Plan – Schedule A). The valleyland corridors within the MW2-3 Lands are designated as Core Areas of the Regional Greenlands System. These areas are designated as significant woodland and are protected as part of the development plan.

2.5 Town of Caledon Official Plan

The Town of Caledon Official Plan (OP) underwent office consolidation in April 2018. The OP's Environmental Policy Area (EPA) designation includes all Natural Core Areas and Natural Corridors. As stated in the OP's Section 5.7.3.1.1, new development is prohibited within areas designated EPA on the OP Land Use Schedules, with the exception of the specified permitted uses. The uses permitted in EPA are limited to legally existing residential and agricultural uses; a building permit on a vacant existing lot of record; portions of new lots; activities permitted through approved Forest Management and Environmental Management Plans; limited extractive industrial; non-intensive recreation and essential infrastructure (Town of Caledon, 2018).

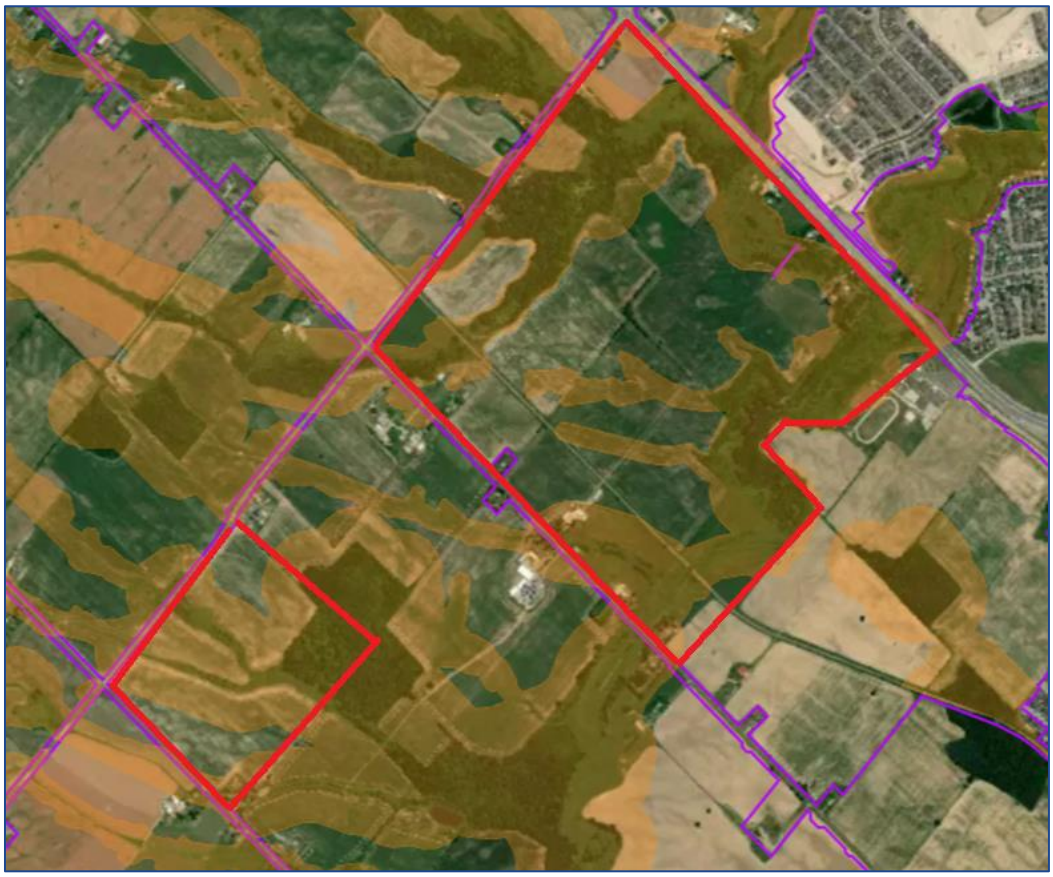
Schedule B of the Town of Caledon Official Plan identifies designated Environmental Policy Area (EPA) through the valleyland corridors within the MW2-3 Lands (**Map C**). These EPAs are primarily within designated Protected Countryside under the Greenbelt Plan and the established NHS. EPAs within the Site are protected and appropriate buffers determined through the EIS that consider the ecological functions.



Map C. The Town's OP Schedule B Mayfield West Land Use Plan depicts the Study Area within prime agricultural area (brown layer), environmental policy area (olive layer), greenbelt plan area (green dots).

2.6 Toronto and Region Conservation Authority (TRCA)

The project Site falls within the jurisdiction of the TRCA (**Map D**). Watercourses and their associated flood limit within the Site, are regulated under the TRCA O. Reg. 166/06 – Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. TRCA Regulated Area lands exist within the limits of the Site, in association with watercourse, wetland and valleyland features. Development within these areas will be subject to approvals and permitting from the TRCA.



Map D. TRCA Regulated Area mapping depicts the Subject Property (approximately boundaries in red) within TRCA regulated lands (yellow layer).

The proposed development plan conforms to the buffer requirements as stated in the Living City Policies (TRCA, 2014), for valley or stream corridors. The proposed plan provides for a *10 m buffer from the greater of the long-term stable top of slope/bank, stable toe of slope, Regulatory flood plain, meander belt and any contiguous natural features or areas*. A 30 m setback has been applied from PSW wetland communities and a 15 m setback from small (less than 2 ha), unevaluated wetland communities.

2.7 Endangered Species Act

Species designated as Endangered or Threatened by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk (SAR) in Ontario (Government of Ontario, 2007). These

SAR and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation, and migration) are afforded legal protection under the *Endangered Species Act, 2007* (ESA). This *Act* is administered by the Ministry of Environment, Conservation and Parks (MECP).

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

3. Study Approach

3.1 Background Review

Palmer has reviewed relevant background material to provide a focus to field investigations and ensure compliance with applicable regulations and policy. Ecological background information collection is guided by the *Natural Heritage Information Request Guide* (Ministry of Natural Resources and Forestry, 2018). Current direction from the Ministry of Natural Resources and Forestry (MNRF) and Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the Natural Heritage Information Centre (NHIC) Make Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2023). Information gathered is recommended to be balanced and supplemented by professional ecological review of potential habitats and characteristics of a project site.

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

- **Land Information Ontario (LIO):** certain data types including aquatic resource area (ARA) information is available through these publicly available data layers (2023).
- **Conservation Authorities:** The Toronto and Region Conservation Authority (TRCA) collect and maintain natural heritage mapping and data, and publish reports, that all provide regional and often site-specific ecological context.
- **Atlas of the Breeding Birds of Ontario:** Provides a range maps and other information regarding breeding birds in Ontario (Bird Studies Canada, 2023).
- **Ontario Reptile and Amphibian Atlas:** Ontario Nature maintains an identification resource including range maps (Ontario Nature, 2023).
- **Fisheries and Oceans Canada (DFO):** The DFO maintains mapping of aquatic species at risk (SAR) habitats, including the critical habitat, occupied and contributing habitat ranges of SAR and Special Concern species (Fisheries and Oceans Canada, 2023).

Background reports reviewed include:

- Mayfield West Phase 2, Stage 2 Secondary Plan Lands Comprehensive Environmental Impact Study and Management Plan Part C: Preliminary Implementation Plan (Crozier & Associates Inc., 2020)
- Mayfield West Phase 2, Stage 2 Secondary Plan Lands Comprehensive Environmental Impact Study and Management Plan Part A: Existing Conditions and Characterization (Hensel Design Group Inc., 2017)
- Mayfield West Phase 2 – Stage 3 Comprehensive Environmental Impact Study and Management Plan Part A: Existing Conditions and Characterization Part B: Impact Assessment Part C: Detailed Analysis and Implementation (Palmer 2022)
- Mayfield West Phase 2 – Stage 3 Comprehensive Environmental Impact Study and Management Plan Part A: Existing Conditions and Characterization (Palmer 2018)

- Mayfield West Comprehensive Environmental Impact Study and Management Plan. Part C: Detailed Analysis and Implementation (AMEC, 2014).

3.2 Agency Consultation

One Pre-Consultation Meeting with the Town of Caledon and Peel Region occurred on November 23, 2023. A list of required applications and approvals were provided along with a scope and checklist prior to submission of development applications.

3.3 Methods

There has been extensive field work completed over past years for the study area, including data from the 2014 AMEC study. Palmer continues to collect data through 2024 for vegetation communities, flora, breeding bird survey, and general wildlife observations (**Table 1**). Detailed methods are given below.

The characterization of existing environmental features is based on field surveys completed by Palmer during recent years as well as background information from previous studies.

Table 1. Ecological Field Surveys

Palmer's Field Investigations	Dates	Weather Conditions
Terrestrial Site Reconnaissance Visit – east side	December 22, 2023	-2°C, 100% cloud cover and 11 km/h wind
Aquatic Site Reconnaissance Visit – east and west side	February 1, 2024	3°C, 100% cloud cover and 16 km/h wind

3.3.1 Vegetation and Flora

Ecological field investigations were undertaken by Dougan and Associates with additional surveys by Palmer in the fall of 2023. Spring flora was observed mainly in the forests and woodlands in May 2008 and other areas (cultural, wetlands) were surveyed in the summer and early fall (August to November 2008) when the greatest number of herbaceous species are easily identified. Vegetation communities were mapped by Dougan and Associates in 2008 and described following the Ecological Land Classification (ELC) System for Southern Ontario (Lee, et al., 1998).

Palmer ecologists completed a series of field surveys over two (2) days in July and September 2018, and a site visit in May 2022. The primary focus of the field investigations was to continue to confirm the results of the background information provided by TRCA, Dougan and Associates, and reviewed from AMEC (2010), as well as to more accurately delineate the vegetation limits within the study area to better define the Natural Heritage System (NHS) boundary. Field work was focused on lands owned by the participating landowners, and only visual observations were made on adjacent lands.

Vegetation community boundaries delineated through the interpretation of recent aerial imagery and will be refined in the field. Further botanical surveys will be conducted by traversing the site and recording species

observed in representative vegetation communities. Any changes to ELC and additional flora recorded in 2024 will be provided as part of an Addendum.

3.3.2 Wildlife

3.3.2.1 Breeding Amphibian Surveys

Nocturnal amphibian calling surveys were previously conducted in spring of 2005 – 2008 by Dougan and Associates. Previous surveys were conducted in April and May, missing the final survey in June. Locations of survey stations are unknown. One round of amphibian surveys was completed by Palmer June 7, 2022, at ten roadside stations throughout the Study Area.

Amphibian breeding surveys will be completed following Marsh Monitoring Program protocols, conducting three surveys during April – June of 2024. The surveys will be completed following the protocols of Bird Studies Canada Marsh Monitoring Program (2012). Surveys will be conducted during ideal conditions to the best extent possible, aiming for a night with high evening temperatures, low wind and low precipitation. Findings from these surveys will be provided as part of an Addendum.

The goal of the survey(s) is to help inform overall wetland quality. The survey method provides an indication of amphibian abundance during the breeding season. Species were identified by call, and an abundance code for each species heard calling was assessed by the following the Amphibian Monitoring protocol:

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

3.3.2.2 Breeding Bird Surveys

Breeding bird surveys were undertaken by Dougan and Associates in June and July of 2008. Locations of surveyed area is unknown.

Two standard breeding bird surveys will be completed in the summer of 2024, as per accepted Bird Studies Canada protocols (Bird Studies Canada, 2001). Following these two standard breeding bird surveys and botanical surveys, an additional breeding bird survey may be required to confirm the absence/presence of SAR birds (i.e., Bobolink and Eastern Meadowlark), as per protocols for these species. Findings from these surveys will be provided as part of an Addendum.

3.3.2.3 Incidental Wildlife Observations

Incidental observations of wildlife were recorded during field investigations from June to November of 2008 by Dougan and Associates. Incidental observations included direct sightings and indirect evidence such as

nests, tracks, scat, and browse. Any additional wildlife recorded in 2024 will be provided as part of an Addendum. Odonate surveys were completed by Dougan and Associates in July 2008.

3.3.2.4 Species at Risk

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

3.3.2.5 Significant Wildlife Habitat

Palmer has developed a screening tool for Significant Wildlife Habitat (SWH) for Ecoregion 6E, following the relevant criteria established by the province (Ontario Ministry of Natural Resources, 2015). Upon completion of further surveys in 2024, the screening will be reviewed based on observed site characteristics. This is supplemented by additional analysis, field observations, and mapping to determine if candidate SWH types exist and/or can be confirmed for the Subject Property.

3.3.3 Aquatic

The aquatic habitat assessment consisted of a survey of the permanent and intermittent watercourses within the MW2-3 lands shown on **Figure 1**. Data recorded during the assessment included general stream morphology, flow conditions, location of inflows, in-stream features, and habitat conditions. Also, while completing the habitat assessment, riparian characteristics, and any disturbances to the natural environment within the subject MW2-3 lands were documented.

3.3.3.1 Headwater Drainage Features

As part of continuing field surveys within 2024, that HDFs within both the western and eastern land parcels be surveyed as per requirements and timing outlined in the *Evaluation, Classification and Management of Headwater Drainage Features Guideline* (TRCA and CVC, 2014).

4. Existing Environmental Conditions

The inventory of plants, wildlife and wildlife habitat completed by the Dougan and Associates team has been reviewed and evaluated as a part of this study and was used as establishing the baseline existing conditions for the Mayfield West Phase 2 Stage 3 lands. Existing terrestrial and aquatic environmental conditions are shown on **Figure 2** and **Figure 3**, respectively.

4.1 West Side

4.1.1 Vegetation Communities and Flora

The study area is dominated by agricultural and associated anthropogenic uses. The most extensive natural communities in the study area are associated with the Etobicoke Creek valleylands and adjacent uplands, most of which are within the limits of the Greenbelt Plan area (reference map and figures).

A total of 12 individual vegetation communities, categorized into six ecosites, were previously delineated within the western Study Area (**Table 2, Figure 2**). Palmer ecologists will update and confirm these vegetation communities and boundaries where required during the growing season in 2024. A list of flora completed through the 2014 AMEC study is provided in **Appendix B,** which covers all of the Mayfield West study area and is not specific to the Brookvalley west lands.

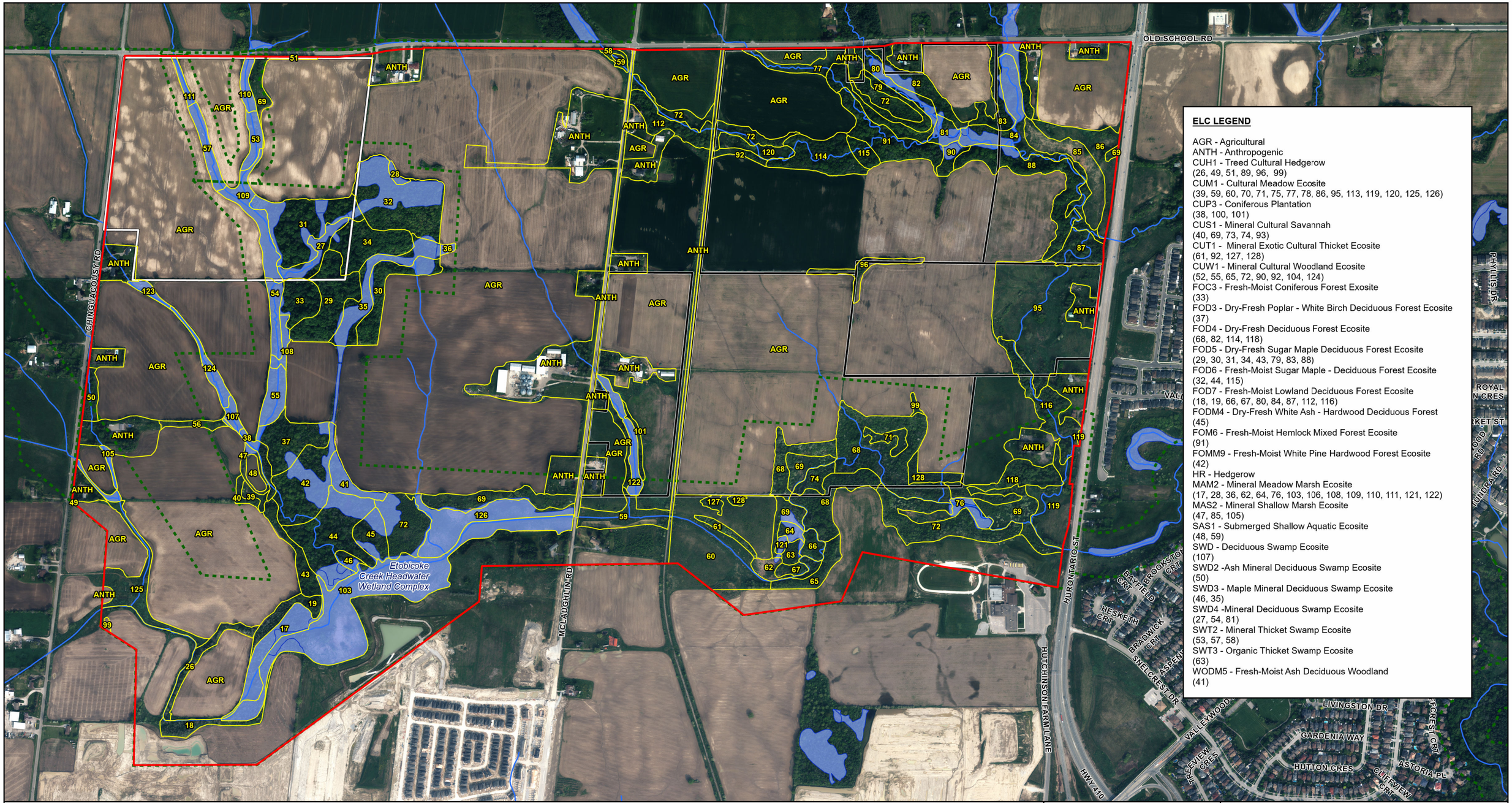
Table 2. Vegetation Communities within the Western Study Area

ELC Vegetation Type	Community Description	Occurrences
Cultural		
Treed Cultural Hedgerow (CUH1)	Individual trees in a row isolated from other natural features.	1
Mineral Cultural Woodland Ecosite (CUW1)	Tree cover between 35-60% often having a large proportion of non-native species. Community resulting from or maintained by cultural or anthropogenic based disturbances.	1
Forest		
Dry-Fresh Sugar Maple Deciduous Forest Ecosite (FOD5)	Deciduous tree cover >75% of canopy cover. Sugar Maple with Beech, Red Oak, White Oak, Ironwood, Basswood, Black Cherry, Bitternut Hickory, Shagbark Hickory, White Ash, Red Maple, White Birch, Trembling Aspen and Largetooth Aspen. Heavily managed, grazed or disturbed sites tend to be relatively lacking in shrub and understorey growth.	3
Wetland		
Mineral Meadow Marsh Ecosite (MAM2)	Mineral substrates (e.g. sand, gravel, cobble) with dominant species such as grasses or sedges. Tree and shrub cover is <25%. Soils flooded in spring, moist to dry by summer. This community represents the wetland – terrestrial interface.	3
Mineral Deciduous Swamp Ecosite (SWD4)	Mineral substrate where areas of short duration flooding. Tree cover is >25% cover and 5 m in height with deciduous tree >75% of the	1

ELC Vegetation Type	Community Description	Occurrences
	canopy cover. Common species include Fowl Manna grass, spotted touch-me-not, bugleweed, skunk cabbage, marsh marigold, bedstraws and stinging nettles. Typically, fern and sedge rich. Community is common on floodplains.	
Mineral Thicket Swamp Ecosite (SWT2)	Mineral substrate where areas of short duration flooding. Standing water or vernal pooling >20% of ground coverage. Tree cover <25%, hydrophytic shrubs >25%.	3

Flora data was documented by Dougan and Associates in 2008 and by the TRCA for the Mayfield West Phase 2 (AMEC 2010) covering the entire Study Area. The results were not specifically separated into the identified into east and west Brookvalley lands. In total 344 vascular plants were recorded from the overall Study Area, of which 117 (34%) are introduced or exotic plant species. The largest number of species belong to the Asteraceae, Cyperaceae, Poaceae and Rosaceae families. It was found that upland plants dominated the study area.

Provincial status rankings (S ranking) of species ranked S1-S3 are considered to be rare in Ontario. Sharp-leaved Goldenrod (*Solidago arguta* var. *arguta*), a Imperiled species (S3) was recorded. This species is associated with woodlands, which are to be protected as part of the NHS. A cultivated variety of Honey Locust (*Gleditsia triacanthos*) was noted but the specimen is not considered the be a vulnerable native sepcies (S2). A total of 42 species recorded are considered uncommon or rare in Peel Region and 108 species are also considered of regional concerns according to TRCA's local ranking (L-Rank).



ELC LEGEND

AGR - Agricultural
ANTH - Anthropogenic
CUH1 - Treed Cultural Hedgerow
(26, 49, 51, 89, 96, 99)
CUM1 - Cultural Meadow Ecosite
(39, 59, 60, 70, 71, 75, 77, 78, 86, 95, 113, 119, 120, 125, 126)
CUP3 - Coniferous Plantation
(38, 100, 101)
CUS1 - Mineral Cultural Savannah
(40, 69, 73, 74, 93)
CUT1 - Mineral Exotic Cultural Thicket Ecosite
(61, 92, 127, 128)
CUW1 - Mineral Cultural Woodland Ecosite
(52, 55, 65, 72, 90, 92, 104, 124)
FOC3 - Fresh-Moist Coniferous Forest Exosite
(33)
FOD3 - Dry-Fresh Poplar - White Birch Deciduous Forest Ecosite
(37)
FOD4 - Dry-Fresh Deciduous Forest Ecosite
(68, 82, 114, 118)
FOD5 - Dry-Fresh Sugar Maple Deciduous Forest Ecosite
(29, 30, 31, 34, 43, 79, 83, 88)
FOD6 - Fresh-Moist Sugar Maple - Deciduous Forest Ecosite
(32, 44, 115)
FOD7 - Fresh-Moist Lowland Deciduous Forest Ecosite
(18, 19, 66, 67, 80, 84, 87, 112, 116)
FODM4 - Dry-Fresh White Ash - Hardwood Deciduous Forest
(45)
FOM6 - Fresh-Moist Hemlock Mixed Forest Ecosite
(91)
FOMM9 - Fresh-Moist White Pine Hardwood Forest Ecosite
(42)
HR - Hedgerow
MAM2 - Mineral Meadow Marsh Ecosite
(17, 28, 36, 62, 64, 76, 103, 106, 108, 109, 110, 111, 121, 122)
MAS2 - Mineral Shallow Marsh Ecosite
(47, 85, 105)
SAS1 - Submerged Shallow Aquatic Ecosite
(48, 59)
SWD - Deciduous Swamp Ecosite
(107)
SWD2 -Ash Mineral Deciduous Swamp Ecosite
(50)
SWD3 - Maple Mineral Deciduous Swamp Ecosite
(46, 35)
SWD4 -Mineral Deciduous Swamp Ecosite
(27, 54, 81)
SWT2 - Mineral Thicket Swamp Ecosite
(53, 57, 58)
SWT3 - Organic Thicket Swamp Ecosite
(63)
WODM5 - Fresh-Moist Ash Deciduous Woodland
(41)

LEGEND

- Watercourse [1]
- Wetland - Evaluated Provincial
- Ecological Land Classification (ELC)
- Greenbelt NHS [2]
- Brookvalley West Lands
- Brookvalley East Lands
- Mayfield West Phase 2 Stage 3 lands

1 - Ontario Hydro Network (OHN)
2 - Toronto and Region Conservation Authority (TRCA)

DRAFT

0 100 200 300 400 500
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:10,000
Page Size: Tabloid (11 x 17 inches)

Drawn: RS
Checked: CH
Date: Mar 18, 2024

NORTH

Source Notes: Imagery (2023) sourced from Caledon Maps.

CLIENT: Brookvalley Project Management Inc.

PROJECT: Mayfield West Phase 2 Stage 3

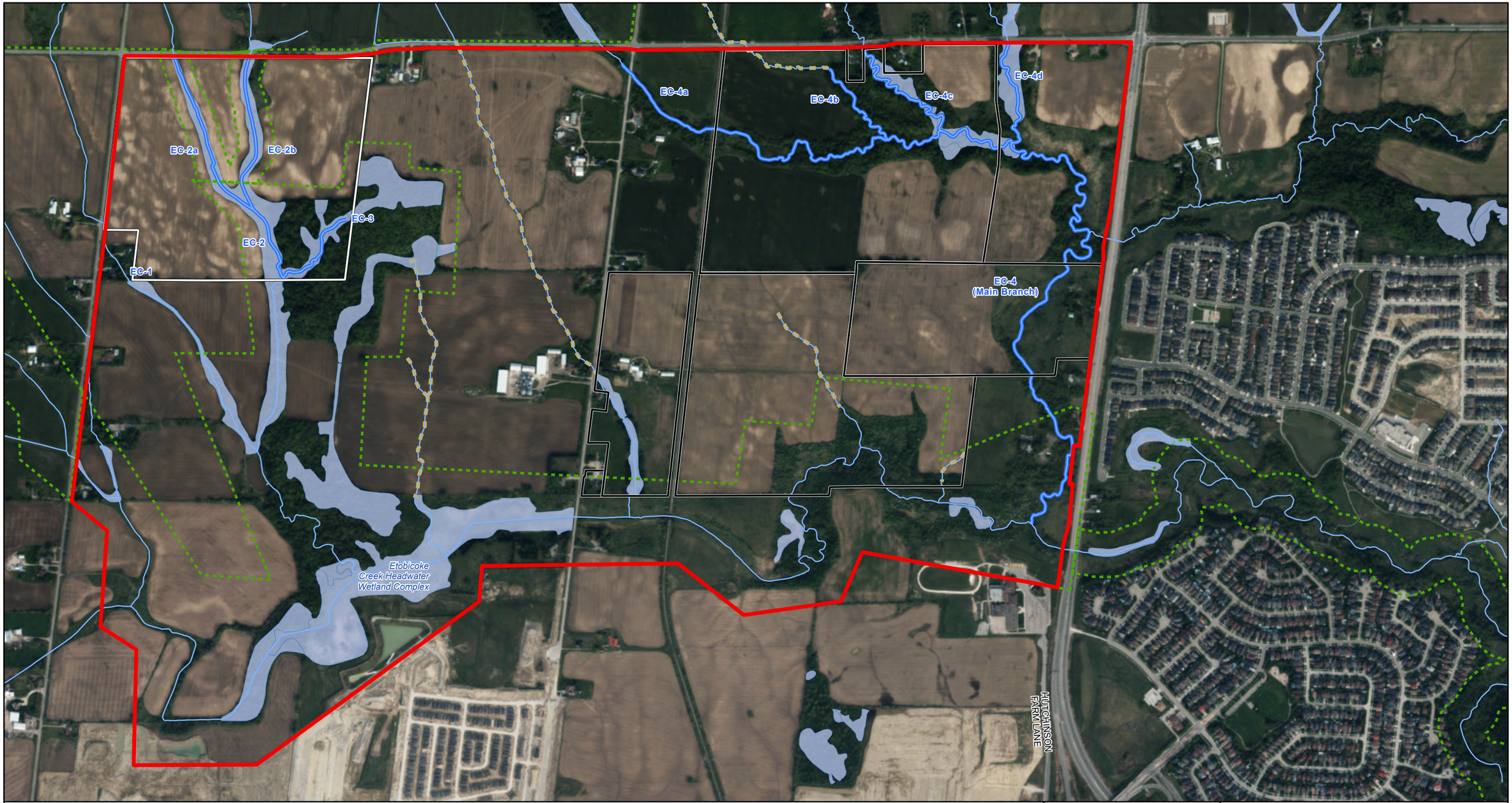
TITLE: **Existing Terrestrial Environment**

Palmer | PART OF SLR

REF. NO. 1701628-2-2

Figure 2

Document Path: G:\Shared drives\Projects 2017\17016 - Brook Valley Homes\1701628 - Mayfield West - Phase 2 - Stage 3\GIS\1_Workspace\Task 2 - Ecology Figures\1701628 - Ecology Figures\1701628 - Ecology Figures.aprx



LEGEND

- Watercourse [1]
- Potential Headwater Drainage Feature (to be assessed)
- Surveyed Reach
- Wetland - Evaluated Provincial
- Greenbelt NHS [2]
- Brookvalley West Lands
- Brookvalley East Lands
- Mayfield West Phase 2 Stage 3 lands

1 - Ontario Hydro Network (OHN)
2 - Toronto and Region Conservation Authority (TRCA)

0 100 200 300 400
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:10,000
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Drawn: RS
Checked: CH
Date: Apr 10, 2024

NORTH

Source Notes: Imagery (2023) sourced from Caledon Maps.

CLIENT: Brookvalley Project Management Inc.

PROJECT: Mayfield West Phase 2 Stage 3

TITLE: **Existing Aquatic Environment**

Palmer PART OF SLR

REF. NO. 1701618-3-1

Figure 3

Document Path: G:\Shared drives\Projects 2017\17016 - Brook Valley Homes\1701628 - Mayfield West - Phase 2 - Stage 3\GIS\1_Workspace\Task 2 - Ecology Figures\1701628 - Ecology Figures\1701628 - Ecology Figures.aprx

4.1.2 Wildlife

Wildlife observations and survey stations identified from the background information cover the entire Study Area.

4.1.2.1 Breeding Amphibians

Dougan and Associates' breeding amphibian surveys identified two species American Toad (*Anaxyrus americanus*) and Spring Peeper (*Pseudacris crucifer*) during breeding surveys within the Study Area. Suitable amphibian breeding habitat may be limited due to the low amphibian abundance observed during previous surveys. Gray Treefrog (*Hyla versicolor*), Northern Leopard Frog (*Lithobates pipiens*) and Wood Frog (*Lithobates sylvaticus*) were recorded as incidentals. No breeding amphibians were heard during the Palmer roadside survey in June 2022.

American Toad was the most commonly heard species. Species were generally distributed across the Study Area but closely linked with waterbodies and uplands with existing natural features. All amphibians recorded with the exception of American Toad are considered locally significant according to TRCA.

4.1.2.2 Breeding Birds

An Ontario Breeding Bird Atlas query found 109 species of breeding birds are documented in the general vicinity (Birds Canada, 2023). Breeding bird surveys were completed by Dougan and Associates between 2005 and 2008. A total of 72 species were recorded with 64 showing breeding evidence. Abundances were not provided. Open country birds present in agricultural areas were generally widespread and common within the Study Area. The abundance and diversity of forest birds were mostly characteristic of smaller habitat patches and species tolerant of forest edges.

Eighteen of the observed bird species are considered locally significant according to TRCA, thirteen area-sensitive bird species, and six Species at Risk (**Appendix C**). Additionally, one Short-eared Owl (Threatened) was observed on April 18, 2008, by Dougan & Associates.

4.1.2.3 Incidental Wildlife

? observations by Dougan and Associates and/or Palmer 2023 include Beaver (*Castor canadensis*), Coyote (*Canis latrans*), Eastern Chipmunk (*Tamias striatus*), Eastern Cottontail (*Sylvilagus floridanus*), Gray Squirrel (*Sciurus carolinensis*), Meadow Jumping Mouse (*Zapus hudsonius*), Raccoon (*Procyon lotor*), White-tailed Deer (*Odocoileus virginianus*), shrew species and bat species. Meadow Jumping Mouse is considered locally significant according to TRCA. This species was observed by TRCA staff in riparian habitat along Etobicoke Creek west of Hurontario Street.

General reptile observations by Dougan and Associates include two observations of both DeKay's Brownsnake (*Storeria dekayi*) and Red-bellied Snake (*Storeria occipitomaculata*). Red-bellied Snake is considered locally significant according to TRCA. Given that snakes are not generally easily detected, it is possible additional species such as Common Gartersnake (*Thamnophis sirtalis*) may also be present within the Study Area.

4.1.3 Aquatics

The MW2-3 lands are situated within the Etobicoke Creek watershed, a system which drains a total of 224 km^2. Etobicoke Creek arises from headwaters along the southern edge of the Oak Ridges Moraine, within the Town of Caledon, before flowing through the cities of Brampton, Mississauga, and finally, Toronto, where it empties into Lake Ontario (TRCA, 2021). The landscape within the Etobicoke Creek watershed is noted to be heavily urbanized with approximately 60% of the watershed composed of urban land uses. Only 12.3% of the watershed remains as natural cover. As a result of these land uses, there are issues related to flooding and erosion, water quality, low natural cover, and degraded terrestrial and aquatic habitat with the Etobicoke Creek watershed (TRCA, 2021).

Where the MW2-3 lands are situated within the Etobicoke Creek watershed, the predominant land use is agricultural, with some residential areas. Similar to urban influences, degradation in water quality and overall stream health may be experienced within agricultural lands due to unmitigated storm runoff, high organic and nutrient inputs, and lack of robust natural cover and stream buffer areas (TRCA, 2021).

The main aquatic resources, including permanent and intermittent watercourses, within the MW2-3 lands outlined on **Figure 3** were surveyed on February 1, 2024.

EC-1

The EC-1 channel is located at the far west of the MW2-3 lands (**Figure 3**). The EC-1 watercourse passes beneath the Chinguacousy Road corridor within a large concrete culvert. Channel roughness is high with an abundance of Cattails (*Typha sp*.) and other vegetation noted within the active channel. During the February 2024 survey, the watercourse area was observed flowing west of the road corridor but was stagnant along the eastern side of the road corridor where in-stream vegetation was densest. The channel area appears to have been historically straightened and functionally altered to accommodate nearby residential and agricultural land uses. Channel banks appeared uniform, and well vegetated with grasses.

EC-2

The EC-2 channel area exists within the central portion of the western MW2-3 property parcel (**Figure 3**), located downstream of the confluence of EC-2a and EC-2b channel segments. During the February 2024 site survey, the EC-2 channel was found flowing within the dense vegetation associated with the existing mineral meadow marsh (ELC unit MAM2). Flow was noted diffusing through the existing portions, with portions of braided channel flow also noted. Within the MAM2 area, the channel morphology is generally straight with a gentle gradient. Near its downstream extent, near the western parcel's southern extent, the EC-2 channel gradient increases, with a series of tight meanders being noted.

EC-2a

The EC-2a channel comprises the western upstream tributary of EC-2 (**Figure 3**), crossing the Old School Road corridor immediately east of Chinguacousy Road. Similar to the EC-2 channel, EC-2a was observed flowing during the February 2024 site visit, with flows generally diffusing through thick vegetation. The riparian corridor of the EC-2a channel is identified as mineral meadow marsh within its upstream and

downstream portions (ELC unit MAM2) and mineral thicket swamp (ELC unit SWT2) along its central portion (**Figure 2** and **3**).

EC-2b

The EC-2b channel comprises the eastern upstream tributary of EC-2 (**Figure 3**). The feature was observed flowing beneath Old School Road during the February 2024 site visit. At the roadway, flow enters a dense area of Common Reed. Downstream of the Old School Road corridor, the EC-2b channel traverses a similar vegetation community as the EC-2a channel.

EC-3

Within the southeast portion of the MW2-3 western parcel is the EC-3 channel (**Figure 3**). The channel area, through aerial interpretation, arises within the agricultural lands to the east, and enters the wooded portions of the MW2-3 lands as a narrow, defined channel with a relatively steep gradient. From review of existing vegetation community information, the EC-3 channel traverses an area predominantly identified as mineral deciduous swamp (ELC unit SWD4). Due to existing snowpack during the February 2024 site visit, portions of the channel area were obscured from the detailed survey.

4.1.3.1 Fish Community

From review of historical fisheries records retrieved from the MNRF's Aquatic Resource Area (ARA) point count database (MNRF, 2023), sampling records completed within, and adjacent to the EC-1, and EC-2 channels found the presence of the following species (**Table 3**):

Table 3. Fish Community Records for Western Aquatic Resource Features

Scientific Name	Common Name	Thermal Preference	Tolerance
Rhinichthys atratulus	Blacknose Dace	Coolwater	Intermediate
Culaea inconstans	Brook Stickleback	Coolwater	Intermediate
Pimephales promelas	Fathead Minnow	Warmwater	Tolerant
Etheostoma nigrum	Johnny Darter	Coolwater	Tolerant
Catostomus commersonii	White Sucker	Coolwater	Tolerant

4.2 East Side

4.2.1 Vegetation Communities and Flora

The study area is dominated by agricultural and associated anthropogenic uses. The most extensive natural communities in the study area are associated with the Etobicoke Creek valleylands and adjacent uplands, most of which are within the limits of the Greenbelt Plan area. A secondary tributary valley feature, located in the northeast corner of the study area near Old School Road, contains substantial forest cover but is not contained within the Greenbelt. In general, the area of natural cover largely comprises forest, followed by cultural communities (such as meadows, thickets, and woodlands), and wetlands.

Active agriculture is the most abundant land cover type in the eastern portion of the Study Area. Hedgerows in the Study Area are generally small, linear features. The majority have significant gaps in the canopy which limits their linkage function.

A total of 28 individual vegetation communities, categorized into 13 ecosites, were previously delineated within the western study area (**Table 4, Figure 2**). Deciduous forests are the most numerous natural habitats in the Study Area. Upland forests are typically dominated by Sugar Maple and associated canopy species. Lowland deciduous forest occurs as individual communities or pockets within or adjacent to larger upland forest. Palmer ecologists will update and confirm the vegetation community boundaries in the Study Area during the growing season in 2024. A list of flora completed through the 2014 AMEC study is provided in **Appendix B,** which covers all of the Mayfield West study area and is not specific to the Brookvalley east lands.

Table 4. Vegetation Communities within the Eastern Study Area

ELC Vegetation Type	Community Description	Occurrences
Cultural		
Cultural Meadow Ecosite (CUM1)	Tree and shrub cover <25%. Parent mineral material or mineral soil. Community resulting from or maintained by cultural or anthropogenic based disturbances.	6
Coniferous Plantation (CUP3)	Coniferous tree species >75% of canopy cover.	2
Mineral Cultural Savannah Ecosite (CUS1)	Tree cover between 25-35%. Parent mineral material or mineral soil.	1
Mineral Exotic Cultural Thicket Ecosite (CUT1)	Tree cover <25%, shrub cover >25%. Parent mineral material or mineral soil.	1
Mineral Cultural Woodland Ecosite (CUW1)	Tree cover between 35-60% often having a large proportion of non-native species. Parent mineral material or mineral soil. Community resulting from or maintained by cultural or anthropogenic based disturbances.	2
Forest		
Dry-Fresh Deciduous Forest Ecosite (FOD4)	Deciduous tree cover >75% of canopy cover. Tree species associates that are either relatively uncommon or a result of disturbance or management. Sugar Maple absent or less than 10% of canopy cover.	3
Dry-Fresh Sugar Maple Deciduous Forest Ecosite (FOD5)	Deciduous tree cover >75% of canopy cover. Sugar Maple with Beech, Red Oak, White Oak, Ironwood, Basswood, Black Cherry, Bitternut Hickory, Shagbark Hickory, White Ash, Red Maple, White Birch, Trembling Aspen and Largetooth Aspen. Heavily managed, grazed or disturbed sites tend to be relatively lacking in shrub and understorey growth.	3
Fresh-Moist Sugar Maple – Deciduous Forest Ecosite (FOD6)	Deciduous tree cover >75% of canopy cover. Sugar Maple with Green Ash, Black Ash, Red Maple, White Elm, Yellow Birch, Basswood and Beech associates. Mixture of terrestrial and wetland species. Represents the wetland (swamp) – terrestrial transitional.	1

ELC Vegetation Type	Community Description	Occurrences
Fresh-Moist Lowland Deciduous Forest Ecosite (FOD7)	Deciduous tree cover >75% of canopy cover, however, typically more open canopies, may be <60% tree cover. White Elm, Willows, Black Walnut, Black Maple, Basswood, Green Ash and Black Ash dominates separately or in variable mixtures. Greater presence of vines and mixture of herbaceous species common to wet sites. Typically, in rich areas where deposition due to flooding occurs yet drying occurs by mid-late summer.	5
Fresh-Moist Hemlock Mixed Forest Ecosite (FOM6)	Coniferous and deciduous tree species >25% of the canopy cover. Hemlock with Sugar Maple and Yellow Birch. Low shrub and herbaceous cover.	1
Wetland		
Mineral Meadow Marsh Ecosite (MAM2)	Mineral substrates (e.g. sand, gravel, cobble) with dominant species such as grasses or sedges. Tree and shrub cover is <25%. Soils flooded in spring, moist to dry by summer. This community represents the wetland – terrestrial interface.	1
Mineral Shallow Marsh (MAS2)	Tree and shrub over <25% with hydrophytic emergent macrophyte cover >25%. Grasses, sedges, and rushes are common. Water depth is less than 2 m. Parent mineral substrates are sand, gravel, shingle, or cobble.	1
Mineral Deciduous Swamp Ecosite (SWD4)	Mineral substrate where areas of short duration flooding. Tree cover is >25% cover and 5 m in height with deciduous tree >75% of the canopy cover. Common species include Fowl Manna grass, spotted touch-me-not, bugleweed, skunk cabbage, marsh marigold, bedstraws and stinging nettles. Typically, fern and sedge rich. Community is common on floodplains.	1

Flora data was documented by Dougan and Associates in 2006-2007 and by the TRCA for the Mayfield West Phase 2 (AMEC 2010) covering the entire Study Area and were not identified into east and west sections of the Study Area. In total 344 vascular plants were recorded, of which 117 (34%) are introduced or exotic plant species. The largest number of species belong to the Asteraceae, Cyperaceae, Poaceae and Rosaceae families. It was found that upland plants dominated the study area.

Provincial status rankings (S ranking) of species ranked S1-S3 are considered to be rare in Ontario. Sharp-leaved Goldenrod (*Solidago arguta* var. *arguta*), a Imperiled species (S3) was recorded. A cultivated variety of Honey Locust (*Gleditsia triacanthos*) was noted but the specimen is not considered the be a vulnerable native sepcies (S2). A large number of species recorded are considered uncommon or rare in Peel Region and many species are also considered of regional concerns according to TRCA's local ranking (L-Rank) .

Two Butternut trees (*Juglans cinerea*), Endangered provincially and federally, were previously observed near the East Etobicoke watercourse within the valleyland in the southeast portion of the study area in close proximity to Hurontario street. During the December 2023 site visit, Palmer observed four Butternut trees in the similar general area.

4.2.2 Wildlife

Wildlife observations and survey stations cover the entire Study Area and were not identified into east and west sections. Updated surveys will be completed in 2024.

4.2.2.1 Breeding Amphibians

Dougan and Associates' breeding amphibian surveys identified two species American Toad (*Anaxyrus americanus*) and Spring Peeper (*Pseudacris crucifer*) during breeding surveys within the Study Area. Suitable amphibian breeding habitat is considered limited due to the low to moderate amphibian abundance observed. Gray Treefrog (*Hyla versicolor*), Northern Leopard Frog (*Lithobates pipiens*) and Wood Frog (*Lithobates sylvaticus*) were recorded as incidentals.

American Toad was the most commonly heard species. Species were generally distributed across the Study Area but closely linked with waterbodies and uplands with existing natural features. All amphibians recorded with the exception of American Toad are considered locally significant according to TRCA.

4.2.2.2 Breeding Birds

An Ontario Breeding Bird Atlas query found 109 species of breeding birds are documented in the general vicinity (Birds Canada, 2023). Breeding bird surveys were completed by Dougan and Associates between 2005 and 2008. A total of 72 species were recorded with 64 showing breeding evidence. Abundances were not provided. Open country birds present in agricultural areas were generally widespread and common within the Study Area. The abundance and diversity of forest birds were mostly characteristic of smaller habitat patches and species tolerant of forest edges.

Eighteen of the observed bird species are considered locally significant according to TRCA, thirteen area-sensitive bird species, and six Species at Risk (**Appendix C**). Additionally, one Short-eared Owl (Threatened) was observed on April 18, 2008, by Dougan & Associates.

4.2.2.3 Incidental Wildlife

Incidental mammal observations by Dougan and Associates and/or Palmer 2023 include Beaver (*Castor canadensis*), Coyote (*Canis latrans*), Eastern Chipmunk (*Tamias striatus*), Eastern Cottontail (*Sylvilagus floridanus*), Gray Squirrel (*Sciurus carolinensis*), Raccoon (*Procyon lotor*), White-tailed Deer (*Odocoileus virginianus*), shrew species and bat species.

Incidental reptile observations by Dougan and Associates include two observations of both DeKay's Brownsnake (*Storeria dekayi*) and Red-bellied Snake (*Storeria occipitomaculata*). Red-bellied Snake is considered locally significant according to TRCA. Given that snakes are not generally easily detected, it is possible additional species such as Common Gartersnake (*Thamnophis sirtalis*) may also be present within the Study Area.

4.2.3 Aquatics

EC-4 (Etobicoke Creek Main Branch)

At the eastern extent of the MW2-3 lands, adjacent to the Highway 10 (Hurontario Street) corridor exists the main branch of Etobicoke Creek. Due to the presence of steep embankments, and private landownership not associated with the subject development, the entirety of this reach was not surveyed. For surveyed areas, the EC-4 channel area was found to be a tightly meandering river system that traversed several vegetation communities including Dry-Fresh Sugar Maple Deciduous Forests (ELC unit FOD5), Fresh-Moist Lowland Deciduous Forests (ELC unit FOD7), and Cultural Meadows (ELC unit CUM1-1). The in-stream habitat consisted primarily of elongated pools and runs, with riffle habitat being limited. Due to winter conditions, and turbid water conditions, in-stream substrates, vegetation, and cover was not fully quantified. Bank conditions were mostly stable with good, vegetated cover. In certain areas, undercut banks were noted.

EC-4a

The EC-4a channel forms the western-most tributary to the main branch of Etobicoke Creek (EC-4), entering the MW2-3 lands south of the intersection of Old School Road and McLaughlin Road (**Figure 3**). Approximately 300 m into the MW2-3 lands, the EC-4a channel passes beneath the existing railway line through a large, stone arched culvert. From there, the EC-4a channel is intersected by an existing farm crossing, before meandering through several vegetation communities including a Mineral Cultural Savannah (ELC unit CUS1), Cultural Meadow (CUM1), Dry-Fresh Deciduous Forest (ELC unit FOD4), and Mineral Cultural Woodlands (CUW1). Depending on the vegetation, and anthropogenic influences, the EC-4a channel fluctuates heavily from a broad, relatively slow-flowing channel, to a narrow, quickly flowing channel area.

EC-4b

East of the EC-4 channel is EC-4b, which enters the MW2-3 lands across Old School Road (**Figure 3**). The channel enters the property within a Cultural Meadow vegetation community, and tightly meanders through dense vegetation, with occasional fallen trees. The channel braids in areas and includes small cascades leading to several deepened pools. At its downstream extent, the channel gradient steepens as the watercourse enters a wooded valley area. The channel then meanders tightly within an existing wooded valley area, identified generally a Fresh-Moist Lowland Deciduous Forest (ELC unit FOD7).

EC-4c

The EC-4c channel enters the MW2-3 lands between two residential properties located along Old School Road (**Figure 3**). The channel morphology is similar to conditions found within the downstream half of the EC-4b channel, where the channel meanders tightly through an existing lowland wooded valley.

EC-4d

The EC-4d channel enters the MW2-3 lands southeast of the intersection of Old School Road and Highway 10 (Hurontario Street) (**Figure 3**). Surveyed conditions were similar to those observed along the EC-4c channel where an existing channel tightly meanders through a lowland wooded valley.

4.2.3.1 Fish Community

From review of historical fisheries records retrieved from the MNRF's Aquatic Resource Area (ARA) point count database (MNRF, 2023), sampling records completed within, and adjacent to the EC-4, and its associated tributary channels found the presence of the following species:

Table 5. Fish Community Records for Eastern Aquatic Resource Features

Scientific Name	Common Name	Thermal Preference	Tolerance
Rhinichthys atratulus	Blacknose Dace	Coolwater	Intermediate
Pimephales notatus	Bluntnose Minnow	Warmwater	Intermediate
Culaea inconstans	Brook Stickleback	Coolwater	Intermediate
Cyprinus carpio	Common Carp	Warmwater	Tolerant
Luxilus cornutus	Common Shiner	Coolwater	Intermediate
Semotilus atromaculatus	Creek Chub	Coolwater	Intermediate
Etheostoma flabellare	Fantail Darter	Coolwater	Intolerant
Pimephales promelas	Fathead Minnow	Warmwater	Tolerant
Notemigonus crysoleucas	Golden Shiner	Coolwater	Intermediate
Etheostoma nigrum	Johnny Darter	Coolwater	Tolerant
Rhinichthys cataractae	Longnose Dace	Coolwater	Intermediate
Lepomis gibbosus	Pumpkinseed	Warmwater	Intermediate
Ambloplites rupestris	Rock Bass	Coolwater	Intermediate
Hudsonius hudsonius	Spottail Shiner	Coolwater	Intermediate
Catostomus commersonii	White Sucker	Coolwater	Tolerant

5. Assessment of Significance

The assessment of significance includes the identification of environmental and physical constraints including natural heritage features, flood limit, top of slope, and setbacks. These constraints are to be used to define the limits of development. **Figure 4** provides an illustration of the primary wetland and watercourse constraints with the proposed development overlay. **Figure 5** illustrates the detailed overlay of the components of the NHS and associated constraints that determine the proposed development limits.

5.1 Species at Risk

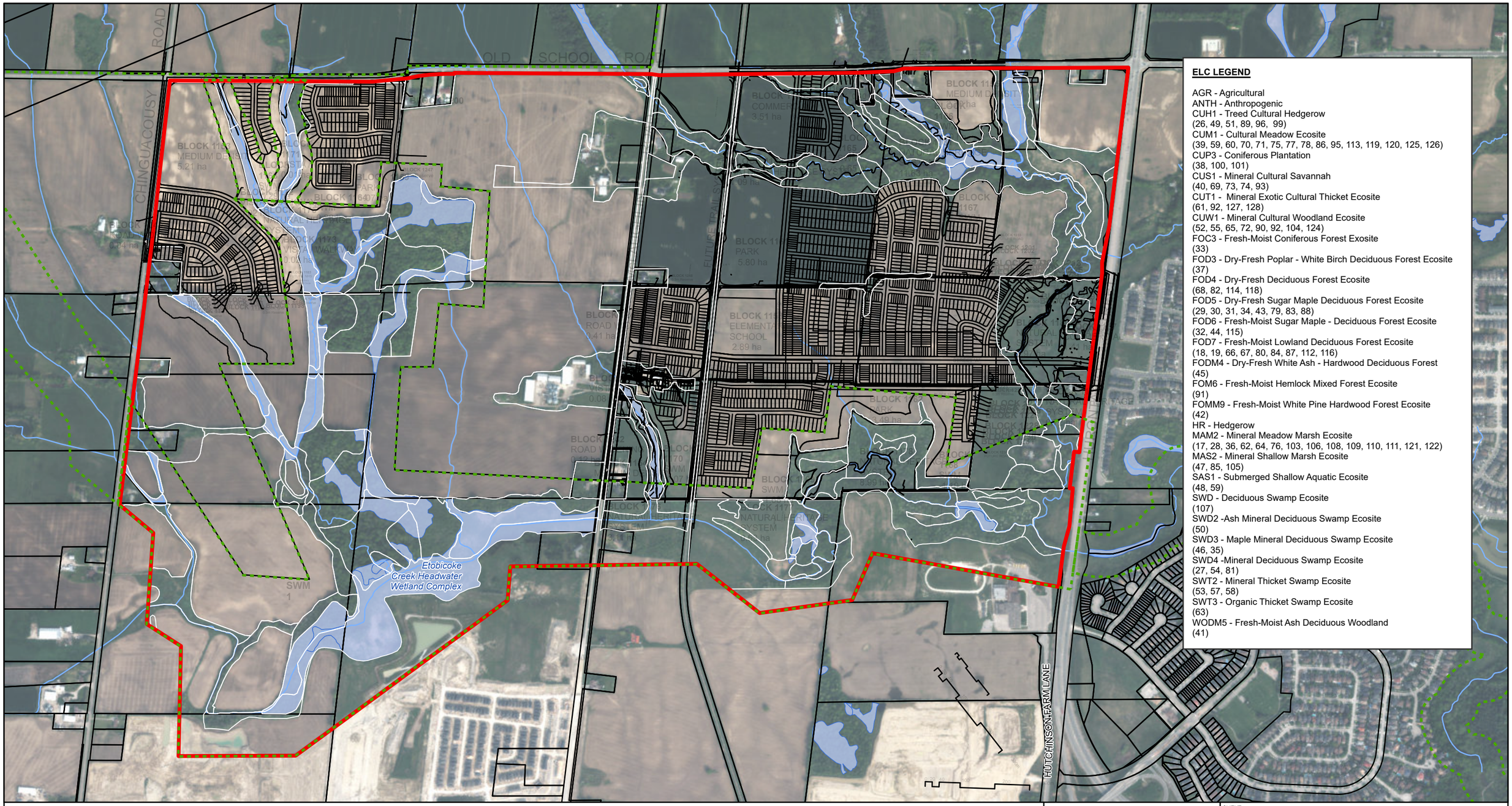
5.1.1 West Side and East Side

The ESA provides protection for species listed as Endangered or Threatened in Ontario, including their habitat. The Species at Risk in Ontario (SARO) List also identifies species of Special Concern that may become Threatened or Endangered in the future. Species of Special Concern and their habitats are not protected under the ESA, rather through designation of Significant Wildlife Habitat.

Prior to the December 2023 field investigation, a background review was completed for potential SAR habitat opportunities. The NHIC database and other relevant sources were reviewed for SAR records. The study area was screened for potential SAR habitat opportunities by comparing habitat preferences of the species identified from the background and site records against current site conditions. This SAR habitat assessment can be found in **Appendix D**, providing a detailed description of each species' habitat, as well as a discussion of habitat suitability within and surrounding the study area. The following nine SAR were previously confirmed within the Study Area (all of which are older records to be confirmed):

- Vascular Plant (1)
  - Butternut (*Juglans cinerea*), Endangered
- Birds (7)
  - Barn Swallow (*Hirundo rustica*), Special Concern
  - Bobolink (*Dolichonyx oryzivorus*), Threatened
  - Eastern Meadowlark (*Sturnella magna*), Threatened
  - Eastern Wood-pewee (*Contopus virens*), Special Concern
  - Grasshopper Sparrow (Ammodramus savannarum), Special Concern
  - Short-eared Owl (*Asio flammeus*), Endangered
  - Wood Thrush (*Hylocichla mustelina*), Special Concern
- Insect (1)
  - Monarch (*Danaus plexippus*), Special Concern

Additional SAR including one vascular plant, four birds, four reptiles and four mammals have potential to occur within the Study Area (**Appendix D**). Further assessment and confirmation of SAR will be undertaken.



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CUP3 - Coniferous Plantation
(38, 100, 101)
CUS1 - Mineral Cultural Savannah
(40, 69, 73, 74, 93)
CUT1 - Mineral Exotic Cultural Thicket Ecosite
(61, 92, 127, 128)
CUW1 - Mineral Cultural Woodland Ecosite
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FOD7 - Fresh-Moist Lowland Deciduous Forest Ecosite
(18, 19, 66, 67, 80, 84, 87, 112, 116)
FODM4 - Dry-Fresh White Ash - Hardwood Deciduous Forest
(45)
FOM6 - Fresh-Moist Hemlock Mixed Forest Ecosite
(91)
FOMM9 - Fresh-Moist White Pine Hardwood Forest Ecosite
(42)
HR - Hedgerow
MAM2 - Mineral Meadow Marsh Ecosite
(17, 28, 36, 62, 64, 76, 103, 106, 108, 109, 110, 111, 121, 122)
MAS2 - Mineral Shallow Marsh Ecosite
(47, 85, 105)
SAS1 - Submerged Shallow Aquatic Ecosite
(48, 59)
SWD - Deciduous Swamp Ecosite
(107)
SWD2 -Ash Mineral Deciduous Swamp Ecosite
(50)
SWD3 - Maple Mineral Deciduous Swamp Ecosite
(46, 35)
SWD4 -Mineral Deciduous Swamp Ecosite
(27, 54, 81)
SWT2 - Mineral Thicket Swamp Ecosite
(53, 57, 58)
SWT3 - Organic Thicket Swamp Ecosite
(63)
WODM5 - Fresh-Moist Ash Deciduous Woodland
(41)

LEGEND

- Watercourse [1]
- Wetland - Evaluated Provincial
- Ecological Land Classification (ELC)
- Greenbelt NHS [2]
- Brookvalley West Lands
- Brookvalley East Lands
- Mayfield West Phase 2 Stage 3 lands
- Development Plan

1 - Ontario Hydro Network (OHN)
2 - Toronto and Region Conservation Authority (TRCA)

0 100 200 300 400
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:10,500
Page Size: Tabloid (11 x 17 inches)

Drawn: RS
Checked: CH
Date: Apr 10, 2024

NORTH

Source Notes: Imagery (2023) sourced from Caledon Maps.

CLIENT
Brookvalley Project Management Inc.

PROJECT
Mayfield West Phase 2 Stage 3

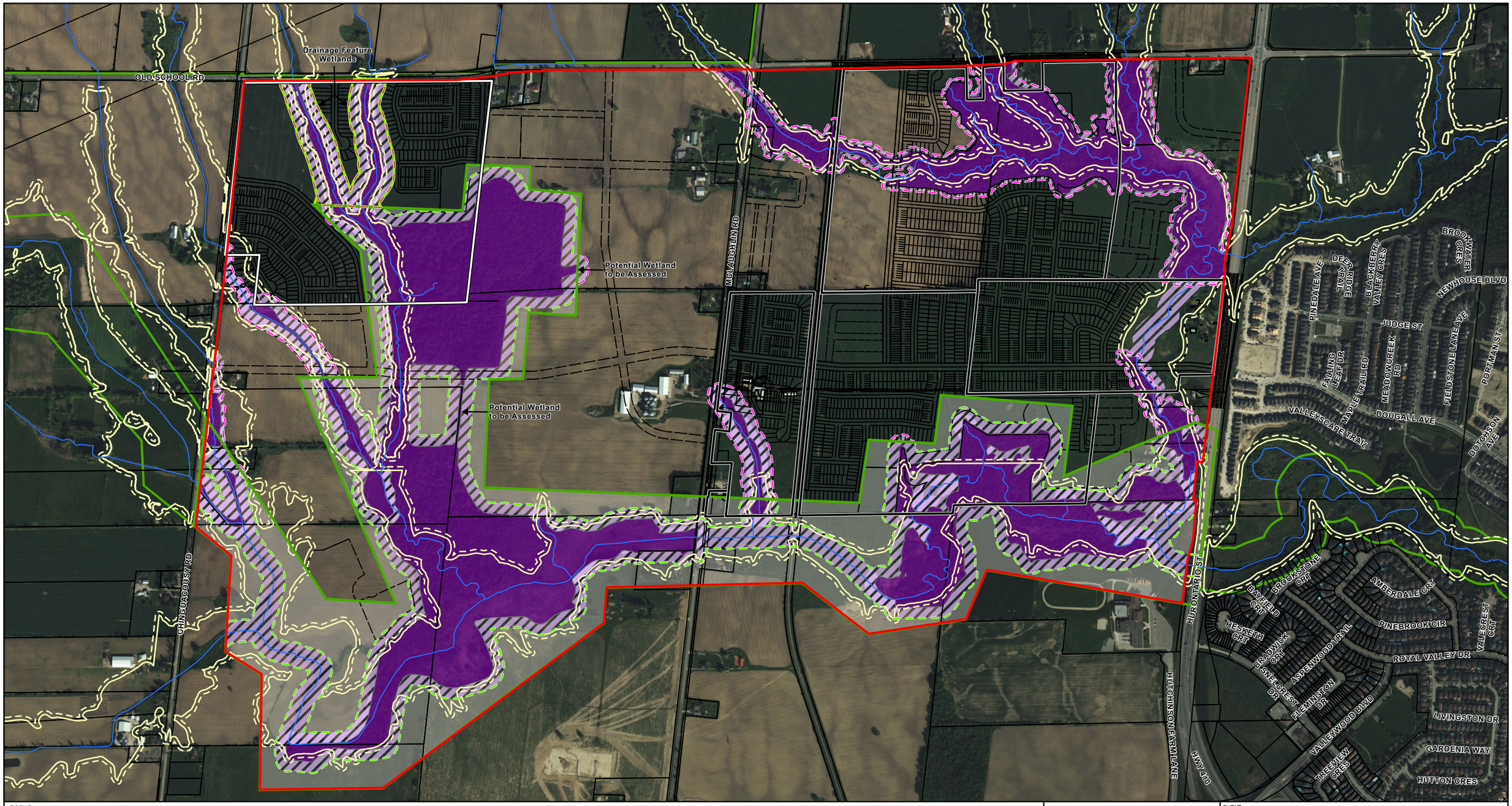
TITLE
Proposed Development

Palmer | PART OF SLR

REF. NO. 1701628-4-3

Figure 4

Document Path: G:\Shared drives\Projects 2017\17016 - Brook Valley Homes\1701628 - Mayfield West - Phase 2 - Stage 3\GIS\1_Workspace\Task 2 - Ecology Figures\1701628 - Ecology Figures\1701628 - Ecology Figures.aprx



LEGEND

- Watercourse (Field Confirmed) [1]
- Greenbelt Plan [1]
- Growth Plan [1]
- Floodplain *(2022)* [2, 3]
- Floodplain Setback [3]
- Rural Lands
- Greenbelt Plan NHS Boundary
- Growth Plan NHS Boundary
- Town of Caledon NHS Boundary
- Brookvalley West Lands
- Brookvalley East Lands
- Mayfield West Phase 2 Stage 3 lands
- Key Natural Heritage Feature (NHF)
  - *Provincially SIgnificant Wetland* [3]
  - *Other Wetland*
  - *Woodland*
- NHS Vegetatation Protection Zone (VPZ)
  - *Greenbelt Plan: 30 m (woodlands, wetlands, and watercourses)*
  - *Growth Plan: 30 m (woodlands, wetlands, and watercourses)*
  - *Town of Caledon: 10 m (woodlands); 15 m (watercourse); 30 m (wetlands)*

1 - Land Information Ontario (LIO)
2 - Toronto and Region Conservation Authority (TRCA)
3 - To be refined at Detailed Design

0 100 200 300 400
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:10,000
Page Size: Tabloid (11 x 17 inches)

Drawn: SM/RS
Checked: DJ
Date: Apr 10, 2024

NORTH

Source Notes: Base imagery (2020) provided by Peel region GIS services.

CLIENT
Brookvalley Project Management Inc.

PROJECT
Mayfield West Phase 2 Stage 3

TITLE
Environmental Constraints and Natural Heritage System

Palmer | PART OF SLR

REF. NO. 1701628-5-4

Figure 5

Document Path: G:\Shared drives\Projects 2017\17016 - Brook Valley Homes\1701628 - Mayfield West - Phase 2 - Stage 3\GIS\1_Workspace\Task 2 - Ecology Figures\1701628 - Ecology Figures\1701628 - Ecology Figures.aprx

5.2 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) can be difficult to appropriately determine at the site-specific level, as the assessment must incorporate information from a wide geographic area and consider other factors such as regional resource patterns and landscape effects. To help with site level assessments was completed based on a draft criteria and thresholds developed by the Region of Peel and Town of Caledon (NSE *et al.,* 2009) based on the MNRF's *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (Ontario Ministry of Natural Resources, 2015).

SWH is defined by the MNRF in the Significant Wildlife Habitat Technical Guide (Ontario Ministry of Natural Resources, 2000) and Natural Heritage Reference Manual (Ontario Ministry of Natural Resources, 2010) and includes the following categories:

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

Criteria for the identification of these features are also provided in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015). These criteria were used to provide an initial screening for wildlife habitat within the study area and immediately adjacent to the subject lands. The following is a preliminary summary which discusses the SWH components and Candidate SWH that were identified as having the potential to occur within the study area limits. Based on the high-level background review completed by Palmer staff, the western and eastern Study Area has been identified to have the potential to support several SWH. The majority of these potential SWH areas would be expected to be associated with the larger areas of contiguous upland forests and some of the associated wetlands. These results are likely contained within the established NHS and/or Greenbelt Lands and subject to further field surveys to confirm presence or absence in 2024.

5.2.1 West Side

West Side Potential Significant Wildlife Habitat:

- Old Growth Forest
  - Localized old growth forest may occur within the forest block
- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)
  - Swamp habitat types will be searched for suitable habitat (nests in live or dead standing trees in wetlands)
- Bat Maternity Roosts
  - Mature deciduous or mixed forest stands with trees >25cm dbh (diameter at breast height) are present, which may provide maternity roosting habitat
- Forests Providing a High Diversity of Habitats
  - Potential for all Significant Woodlands within the Region of Peel
- Seeps and Springs
  - Forested areas within headwaters of Etobicoke Creek

- Amphibian Breeding Habitat (Forested Sites - vernal pools)
    - Forests may contain wetlands, ponds, or pools suitable for amphibian breeding habitat
- Turtle Nesting and Turtle Overwintering Areas
    - It is unlikely that waterbodies are deep enough to provide overwintering, however nesting locations may be present along Etobicoke Creek
- Habitat for Area Sensitive Forest Interior Breeding Bird Species
    - Large forest block may provide suitable habitat
- Raptor Nesting Habitat
    - Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests
- Species Identified as Special Concern – SARO
    - Special Concern wildlife species were recorded within the Study Area
- Species that are Rare within Peel/Caledon
    - Rare plant and wildlife species to Peel Region were recorded within the Study Area

5.2.2 East Side

East Side Potential Significant Wildlife Habitat:

- Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)
    - Swamp habitat types will be searched for suitable habitat (nests in live or dead standing trees in wetlands)
- Snake Hibernacula
    - Two snake species were recorded within the Study Area, specific locations are unknown. Rock piles or slopes, old stone fences, and abandoned crumbling foundations may be present. Dougan and Associates (2014) previously flagged the CUS1 (Polygon 69 – Figure 2) in the eastern corner as potential hibernacula.
- Bat Maternity Roosts
    - Mature deciduous or mixed forest stands with trees >25cm DBH are present, which may provide maternity roosting habitat
- Forests Providing a High Diversity of Habitats
    - Potential for all Significant Woodlands within the Region of Peel
- Seeps and Springs
    - Forested areas within headwaters of Etobicoke Creek
- Turtle Nesting and Turtle Overwintering Areas
    - It is unlikely that waterbodies are deep enough to provide overwintering, however nesting locations may be present along Etobicoke Creek
- Habitat of Open Country & Early Successional Breeding Birds
    - Large meadows and pastures present
- Raptor Nesting Habitat
    - Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests
- Nationally Endangered or Threatened by COESWIC (but not ESA)
    - Butternut (END), Bobolink (THR) and Eastern Meadowlark (THR) have been identified in the eastern portion of the Study Area.
- Species Identified as Special Concern – SARO

    - Special Concern wildlife species were recorded within the Study Area
- Species that are Rare within Peel/Caledon
    - Rare plant and wildlife species to Peel Region were recorded within the Study Area

5.3 Woodland Assessment

The MW2-3 site supports several woodland areas of varying sizes and community types. An assessment of the significance of on-site woodlands has been completed and will be subject to refinement following further spring and summer field investigations, and detailed features and functions assessment. As depicted on **Figure 5**, several larger woodland units (many comprised of several individual ELC communities) have been identified for reference use in this assessment. Note, several smaller woodland units/fragments also exist and will be discussed collectively. As aforementioned and reiterated below, the Town of Caledon considers significant woodlands as part of their Natural Heritage System however, detailed criteria for significant woodland assessment are not stated. To assess whether these features may be considered significant, the policies outlined in the Greenbelt Plan, the Region of Peel Official Plan (Table 1) and the Natural Heritage Reference Manual (Ontario Ministry of Natural Resources, 2010) have been reviewed.

Region of Peel OP

As per the Region's OP, significant woodlands are considered components of the Core Areas of the Greenlands System. Woodlands that are included as part of the Core Area, and considered 'significant', are mapped in the OP's Schedule A and are considered "ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history". The Region OP defines relevant criteria and thresholds for the identification of Core, Natural Areas and Corridors (NAC) Woodlands in Table 1.

The recommended criteria / standards for the evaluation of significant woodlands are the following:

1. Woodland Size (based on the total forested area in the regional landscape)
2. Woodland Age (based on both woodland size and presence of native trees older than 100 years);
3. Significant Linkage function (based on woodland linkage to other significant features in the regional landscape);
4. Woodland Proximity (based on both woodland size and proximity to other significant features that support significant ecological relationships);
5. Surface Water Quality (based on woodland size and proximity to a watercourse, surface water feature, or wetland that can be identified with the Ontario Wetland Evaluation System);
6. Significant Species and Communities (based on woodland size, as well as GRANKS or SRANKS species, species at risk identified by COSEWIC or COSSARO, and/or specific forested communities)

Greenbelt Plan ad MNRF's Natural Heritage Reference Manual

The determination of significant woodlands in the Greenbelt Plan is generally consistent with the MNRF's Natural Heritage Reference Manual.

In the absence of specific woodland significance assessment criteria from the Town's OP, the Natural Heritage Reference Manual (Ontario Ministry of Natural Resources, 2010) has been reviewed to provide further guidance in determining significant woodlands within the Subject Property. This document provides the Province's recommended technical criteria / approaches in protecting the natural heritage features in Ontario while being consistent with the PPS. These are provided for municipalities to use when they are developing municipally specific criteria for the identification of significant woodlands.

The recommended criteria / standards for the evaluation of significant woodlands are the following:

1. Woodland Size (based on the percent forest cover in the regional landscape or planning area, should account for landscape-level physiographic differences);
2. Ecological Functions (woodland interior, shape and proximity, linkages, water protection, woodland diversity);
3. Uncommon Characteristics (rare communities, unique species composition, quality, older woodlands); and
4. Economic and Social Values (high economic productivity and social value)

Based on the manual guidelines, woodlands that meet the standards for any one of the criteria listed above may be considered significant. For woodlands that do not meet the simple size criterion #1, other criteria (based on ecological functions and characteristics) can be considered. For criteria #2-4, when the simple size criterion is not met, a range of size thresholds for significance is provided, where relevant.

Based on AMEC's report, all forested valleylands are considered significant woodlands and three tableland woodlands are also considered as significant woodlands (i.e. northeast segment of the subject area directly south of Old School Rd, southeast segment of subject area west of Hurontario Street, and west segment of the study area between Chinguacousy Road and McLaughlin Road).

The assessment of significance in this report is subject to refinement and confirmation as part of further field surveys and assessment in 2024. One woodland block is present in the western Study Area (southeast portion). Based on previous surveys the woodland the feature is identified as a mix of upland and lowland forest communities and wetland areas.

A woodland limit staking exercise will be completed in areas where limits are adjacent to proposed development and will form part of the EIR Report.

5.4 Wetlands

As identified on **Figure 2, 4,** and **5**, wetlands were identified within the Study Area, including PSW and other wetlands identified as part of previous TRCA and AMEC background information. Further assessment and confirmation of feature limits will be completed as part of Palmer's 2024 field surveys.

5.4.1 Provincially Significant Wetlands

The Etobicoke Creek Headwater Provincially Significant Wetland (PSW) Complex occurs within the east and west portions of the study area. Wetland units of this complex are found both within the Greenbelt and outside of Greenbelt lands (**Figure 5**). This PSW complex was mapped and refined by MNRF (between

2008 and 2014). A wetland limits staking exercise will be completed in areas where limits are adjacent to proposed development and will form part of the EIR Report.

5.4.2 Other Wetlands

There are other wetlands that have been identified within the Study Area from the background information including TRCA and Dougan ELC mapping (**Figure 5**). Other wetland areas that overlap with and potentially extend beyond the PSW areas will be reviewed during the 2024 survey focusing on areas in proximity to proposed development. Summer surveys are needed to confirm the presence and type of other wetlands as well as assess for potential wildlife habitat opportunities.

5.5 Valleylands

Based on AMEC's report, valleylands associated with Etobicoke Creek (i.e. northeast segment of the subject area directly south of Old School Rd, southeast segment of subject area west of Hurontario Street, and the southwest segment of the study area between Chinguacousy Road and McLaughlin Road) are all considered Significant Valleylands. Most of these Significant Valleylands are naturally vegetated and with a well-defined and district landform, with the exception of the southwestern segment of the study area where the valleylands have shallow slopes and agricultural lands extend to the edge of Etobicoke Creek. The limits of the Long Term Stable Top of Slope (LTSTOS) will be confirmed as part of the detailed design.

5.6 Aquatic Habitat

All permanent and intermittent streams were surveyed within the western and eastern property parcels associated with the MW2-3 lands on February 1, 2024. Headwater Drainage Features (HDFs) area being completed in 2024.

The ecological significance of certain catchments is outlined in the following subsections, one describing the aquatic resources features pertaining to the western land parcel, and the other describing the eastern aquatic resource features.

5.6.1 West Side

Within the western land parcel, all features were identified as flowing during the February 2024 site visit, indicating that the features at least serve some ephemeral drainage function, facilitating overland runoff to downstream reaches within the Etobicoke Creek watershed. During the February 2024 site visit, it was noted that recent mild temperatures and remaining snowpack was likely contributing to 'spring freshet' like conditions as snowmelt drained from local catchment areas.

The majority of aquatic resources within the western MW2-3 land parcel exhibit high levels of channel roughness due to the presence of thick, overhanging and instream vegetation. High channel roughness, combined with areas of steeper channel gradient, particularly along the EC-2 channel, may limit fish passage into the EC-2a and EC-2b channel areas.

From review of fish species records within and adjacent to the western aquatic resource features (**Table 3**), the fish community is composed of mostly warm and coolwater species, that are, at a minimum, intermediately tolerant to environmental perturbations. MNRF records indicate that the segments of Etobicoke Creek that traverse the western MW2-3 lands are warmwater systems (MNRF, 2023).

5.6.2 East Side

Within the eastern land parcel area, all features were identified as flowing during the February 2024 site visit, indicating that all watercourse features at least serve some ephemeral drainage function, facilitating overland runoff to downstream reaches within the Etobicoke Creek watershed.

Divergent from the western aquatic resource features, the majority of the eastern watercourses exhibited low channel roughness and appeared to generally be larger in wetted depth and width. However, certain areas, particularly those immediately adjacent to Old School Road exhibited steep channel gradients. At a preliminary level, the larger, deeper watercourses observed within the eastern MW2-3 lands likely provide more substantial, permanent potential than their counterparts in the western MW2-3 lands.

This is reflected in the historical fisheries records outlined in **Table 3**, which shows a wider variety of fish species, including larger bodied fish species such as Common Carp.

From review of fish species records within and adjacent to the eastern aquatic resource features (**Table 3**), the fish community within the eastern MW2-3 lands is composed of mostly warm and coolwater species, that are, for the most part, intermediately tolerant to environmental perturbations. MNRF records indicate that the segments of Etobicoke Creek that traverse the eastern MW2-3 lands are warmwater systems (MNRF, 2023).

6. Impact Assessment

Based on the assessment of environmental constraints and opportunities, the proposed development footprint is generally within areas of low constraint, predominately consisting of agricultural and rural residential land use. Through appropriate setbacks, methods of low impact design, mitigation and enhancement, potential adverse impacts to the natural heritage features and features can be avoided. Additional field assessment, feature delineation and mitigative design measures will be completed in consultation with TRCA and the Town of Caledon as part of future design phases.

Based on the environmental constraints identified on **Figure 5**, subject to potential refinement, all development is proposed to remain outside of the existing natural heritage features of the study area consisting of significant wetland, woodlands, valleylands and hazards. The natural heritage features or hazards and associated setback with the greatest outer limit and constraint will generally represent the limit of development. Some encroachment into setbacks and buffers (e.g., grading, trails) may be proposed subject and subject to detailed design.

Although no direct removal or encroachment is proposed into natural heritage features (i.e., development is prohibited from occurring within them), potential for indirect or secondary impacts from development on adjacent lands will continue to be carefully assessed by the consulting team through a collaboration of the project ecologists, hydrogeologists and civil engineers as the detailed design process advances. Through this process the appropriate SWM design and mitigation measures will be identified through the EIR stage to ensure that the features and functions of the natural features are maintained.

Although encompassed within the boundaries NHS, potential indirect impacts to the on-site watercourses and drainage features may also occur. Impacts such as increased sediment loading from adjacent construction earthworks will need to be considered and addressed through mitigation at the EIR and detailed design stage.

6.1 Wildlife

Construction timing windows are recommended for the proposed works to avoid direct or indirect impacts to wildlife species. Vegetation/tree removal from construction works could affect birds during the breeding bird season.

Per the MBCA, any destructive or disruptive activity such as vegetation removal cannot occur during the breeding bird period (April 1 – August 31). If vegetation removal is required during this period, a qualified ecologist should undertake a bird nesting survey before the works. If active nests are observed, then a site-specific mitigation plan may need to be prepared, including delaying tree removals until the young have fledged the nest. Other sensitive time during which all tree removal should be avoided is the maternity roosting period for Endangered bats (April 1 to September 30). If tree removals need to occur within this window, a qualified ecologist must screen for potential snag trees that may be used for roosting.

6.2 Creek Crossing

As part of the proposed development plan, watercourse crossings are proposed for the future 'Street A' and 'Street C' roadways (**Figure 4** and Draft Plan). Watercourse crossings shall be designed to adhere to appropriate watercourse and associated natural heritage buffers and setbacks. Sizing of road crossings shall be such that long-term fluvial processes (ex. meander amplitude), and wildlife passage requirements, are comprehensively considered.

Further crossings are also proposed across existing HDFs; however, due to the requirement of future surveys to fully described site HDFs, as outlined in Section 3.3.3.1, these crossings are not discussed in detail as part of this report.

During the future construction phase of the project, erosion and sedimentation control, and protection of the watercourse, shall follow requirements specified in the Contract. The watercourse shall not be diverted, or blocked, and temporary watercourse crossings shall not be constructed or utilized, unless otherwise specified in the Contract. Construction material, excess material, construction debris, and empty containers shall be stored a minimum of 30 m away from watercourses and watercourse banks. All equipment maintenance and refuelling shall be controlled so as to prevent any discharge of petroleum products. Vehicular maintenance and refuelling shall be conducted a minimum of 30 m away from watercourses and watercourse banks.

From review of existing fisheries data, as outlined in Sections 4.1.3 and 4.2.3, it is recommended that all necessary in-water work, if required, be completed outside of April 1 to June 30 to protect the general spawning windows of noted fish species.

6.3 Buffers

The term "buffer" refers to an area of land neighbouring natural features that are alongside lands that are planned to undergo site alteration or development. The purpose of the buffer is to protect the ecological functions and features of the woodlands, wetlands and valleylands by reducing impacts from site alteration or the proposed development. Generally, the buffer width depends on the sensitivity of the feature being protected and the potential risks of the proposed land use resulting in impacts to the natural heritage feature. Lesser buffers for woodlands that extend past the Greenbelt boundary will be considered based on maintain the buffer function and protection of the feature.

6.4 Species at Risk

Potentially suitable maternity roost habitat (e.g., snag trees) is present within the Study Area (any coniferous, deciduous, or mixed wooded ecosite and hedgerows). Significant woodlands represent areas with the greatest potential for snag trees and these areas will be protected.

Four Butternuts have been identified within the eastern portion of the Study Area. A Butternut Health Assessment will be completed for each tree to determine hybridity based on physical traits and genetic testing.

6.5 Timing Windows

In general, an avoidance window of April 1 – August 31 is recommended to avoid potential conflicts with nesting birds and provide compliance with the Migratory Bird Convention Act. Within the context of this project where limited natural vegetation is proposed to be removed, these timing windows are recommended for any treed or vegetated areas and for the building structures. Should removals be necessary within the recommended timing windows, a screening for potential nesting activities should be completed by a qualified ecologists with specific mitigation measures provided pending the results of the site level screening.

Additionally, as SAR bats may be present within the Study Area, it is recommended that the removal of treed habitat be conducted outside of the active period for most bats (April 1 – September 30) to ensure these species are not present during such time.

6.6 Stormwater Management

Stormwater management facilities are permitted within the Greenbelt Plan, Protected Countryside Area. Facility and outfall designs (determined through the Functional Servicing Report and detailed engineering design) will be established in a manner that minimizes ecological impacts to the valley system and associated watercourse and drainage features and natural heritage ecological features and functions. The general location of the proposed SWM ponds has been identified in the Servicing Report. Where applicable, the proposed naturalized SWM facility design details will be provided in the accompanying Servicing Report provides as part of the development application submission. Mitigation details and a construction plan can be provided to TRCA and the Town for comment during detailed design.

6.7 Low Impact Design

Low Impact Design LID (LID) Swales (rear-yard infiltration trenches) will be located at the rear of lots and areas of the development plan where appropriate to enhance infiltration. In general, the trenches will be designed to a width of 1.0 m, accommodate water to a depth of 1.0 m, and achieve a void ratio of 0.4 using filler material. Proposed LID features will have a target design to be at least 1 m above the true water table (which is considered representative of the spring high groundwater elevation). Where applicable, LIDs will be designed to capture approximately 50% of rooftop runoff, as well as runoff from the contributing rear yards.

6.8 Erosion and Sediment Control

The following erosion and sediment control recommendations are provided for incorporation into the final Erosion and Sediment Plan:

- To minimize the potential for erosion and off-site transport of sediment into surface drainage areas and the natural environment, the project will implement Best Practices related to erosion and sediment control (ESC). ESC measures used by the contractor on all construction should meet guidelines as outlined in Erosion and Sediment Control Guideline for Urban Construction,

December 2006 (ESC Guideline), prepared by the Greater Golden Horseshoe Area Conservation Authorities (GGHACA), or equivalent standards.

- Sediment and erosion control fencing should remain in place until the woodland buffer and enhancement plantings have been completed.
- All exposed and newly constructed surfaces should be stabilized using appropriate means in accordance with the characteristics of the exposed soils. These surfaces should be fully stabilized and re-vegetated as quickly as possible following the completion of the works, with native vegetation ground cover.
- Construction of the SWM pond headwall will be completed to minimize vegetation removals and works in proximity to natural features. A construction plan can be provided to TRCA and the Town for comment during detailed design.

7. Policy Conformity

7.1 Provincial Policy Statement

The Provincial Policy Statement lists natural heritage features for which development and site alternation are not permitted under the policies of the PPS, or are not permitted *"unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions*". Within the project study area, the following natural heritage features have been identified:

- Significant Woodlands;
- Significant Valleylands
- Candidate Significant Wildlife Habitat;
- Fish habitat; and
- Potential Habitat of Endangered and Threatened species.

The development plan proposes to avoid encroachment into the natural heritage features, with the exception of the Street A and Street C crossing over the Etobicoke Creek. Through additional field surveys completed by Palmer in 2024, further site level assessment and confirmation of feature limits will be completed to inform detailed design and development limits. Through the implementation of setbacks and proposed mitigation measures, the objective is to maintain the identified natural features and their ecological functions.

7.2 Greenbelt Plan

Under the Greenbelt Plan, lands through in the southeastern portion of the West study area and along the south side of the East Study Area are designated as part of the Natural Heritage System of the Protected Countryside. Proposed development must demonstrate that there will be no negative impacts to key natural heritage features and key hydrologic features or their functions, as well as no negative impact on biodiversity or connectivity of the Natural Heritage System.

General infrastructure and Stormwater Management policies for lands within the Protected Countryside are set out in Section 4.2.1 and Section 4.2.3 of the Greenbelt Plan, respectively. **Table 6** below summarizes relevant policies of the Greenbelt Plan and the manner in which the proposed development plan meets the requirements of the Plan.

Table 6. Conformity with the Greenbelt Plan – Natural Environment

Policy Section	Plan Intent/Objective	Proposed Development Plan Implications and Conformity
3.2.2 Natural Heritage System Policies	(3) New development or site alteration in the Natural Heritage System (as permitted by the policies of this Plan) shall demonstrate that:	

Policy Section	Plan Intent/Objective	Proposed Development Plan Implications and Conformity
	(a) There will be no *negative* impacts on *key natural heritage features* or *key hydrologic features* or their functions;	KNHF and KHF have been identified within and adjacent to the project Site, and a 30 m MVPZ applied to these features. No development or site alternation is proposed within the identified KNHF or their MVPZ, with the exception of temporary grading necessary to develop the stormwater management pond. Restoration will improve the grading area to conditions better than current conditions. No negative impacts are anticipated to KNHF or KHF or their functions as a result of the implementation of the proposed development plan.
	(b) *Connectivity* along the system and between *key natural heritage features* and *key hydrologic features* located within 240 m of each other will be maintained or, where possible enhanced for the movement of native plants and animals across the landscape;	Connectivity between features is maintained and enhanced through the incorporation of setbacks/buffers and the proposed restoration of buffer areas and additional restoration areas with the objective to enhance existing features and their functions, and connectivity between features of the Natural Heritage System.
	(c) The removal of other natural features not identified as *key natural heritage features* or *key hydrologic features* should be avoided. Such features should be incorporated into the planning and design of the proposed use whenever possible;	The proposed plan has aimed to avoid and minimize the removal and/or impact to natural heritage features where possible. The restoration plan for the Site aims to offset the removal of any natural heritage features in a manner that enhances the quality and function of existing features.
3.2.5 Key Natural Heritage Features and Key Hydrologic Features Policies	For lands within a key natural heritage feature or a key hydrologic feature in the Protected Countryside, the following policies shall apply:	
	(1) Development or site alteration is not permitted in *key hydrologic features* and *key natural heritage features* within the Natural Heritage System, including any associated *vegetation protection zone*, with the exception of: • c) *Infrastructure*, aggregate, recreational, shoreline and existing uses, as described by and subject to the policies of section 4.	As noted above, no development or site alternation is proposed within the identified KNHF, KHF or their VPZ, with the exception of temporary grading within the VPZ to develop the stormwater management pond, which will be restored to better than current conditions.
	• (4) In the case of *wetlands*, *seepage areas and springs, fish habitat, permanent and*	A 30 m VPZ has been applied to KNHF and KHF, within which no development or site

Policy Section	Plan Intent/Objective	Proposed Development Plan Implications and Conformity
	intermittent streams, lakes and *significant woodlands*, the minimum vegetation protection zone shall be a minimum of 30 m measured from the outside boundary of the key natural heritage feature or key hydrologic feature.	alternation is proposed (with the exception of potential temporary grading, which will be restored to better than current conditions).
4.1.2 Recreational Use Policies	(2) An application to establish or expand a major recreational use in the Natural Heritage System shall be accompanied by a vegetation enhancement plan that incorporates planning, design, landscaping and construction measures that:	
	a) Maintain or, where possible, enhance the amount of self-sustaining vegetation on the site and the connectivity between adjacent *key natural heritage features* or *key hydrologic features;*	Adjacent to KNHF, park and recreational uses are limited to a trail and potential bench area along the stormwater management berms (depending on final design) located outside the 30 m MVPZ. Any such areas would be planted with *natural, self-sustaining vegetation*, to enhance the ecological functions and connectivity of the adjacent KNHF and VPZ.
	b) Wherever possible, keep intermittent stream channels and drainage swales in a free-to-grow, low-maintenance conditions,	
	c) Minimize the application and use of pesticide and fertilizers; and	
	d) Locate new *natural self-sustaining vegetation* in areas that maximize the *ecological functions* and *ecological value* of the area.	
	3. An application to expand or establish a *major recreational use* shall be accompanied by a conservation plan demonstrating how water, nutrient and biocide use shall be kept to a minimum, including through the establishment and monitoring of targets.	
	4. Small-scale structure for recreational use (such as boardwalks, footbridges, fences, docks and picnic facilities) are permitted within *key natural heritage features* and *key hydrologic features*; however, the number of such structures and the negative impacts on these features should be minimized.	
4.2.3 Stormwater Management Policies	Stormwater management systems are prohibited in the key natural heritage feature and their associated vegetation protection zones… e) Within those portions of the Protected Countryside that define major river valleys that connect the Niagara Escarpment and	The project Servicing Plan demonstrates in principle conformity with the requirements/intent of the policies of Section 4.2.3 related to the planning, design and construction practices. Proposed stormwater management facilities may be located within the Greenbelt but should be entirely outside of key natural

Policy Section	Plan Intent/Objective	Proposed Development Plan Implications and Conformity
	Oak Ridges Moraine to Lake Ontario, naturalized stormwater management systems may be permitted within the *vegetation protection zone* of a *significant valleyland*, provided they are located a minimum of 30 m from the river or stream, and they are located outside the *vegetation protection zone* of any other *key natural heritage feature* or *key hydrologic feature.*	heritage and key hydrologic features and their MVPZ. Any temporary grading that may be required within the MVPZ to develop stormwater management ponds will be restored to better than current conditions.

7.3 Region of Peel Official Plan

The natural heritage features in the Region of Peel are protected by its Greenlands System (Official Plan – Schedule A). Within the Study Area there are designated Core Areas of the Regional Greenlands System. These areas are designated as significant woodland, valleyland and wetland and are to be protected as part of the development plan. Site specific assessment and detailed design for Street A and Street C crossings will be needed to minimize impacts and provide for restoration and enhancement.

7.4 Town of Caledon Official Plan

Schedule B of the Town of Caledon Official Plan identifies designated Environmental Policy Area (EPA) through the valleyland corridors within the MW2-3 Lands. These EPAs are primarily within designated Protected Countryside under the Greenbelt Plan and the established NHS. EPA within the Site will be protected, and an appropriate buffer has been provided along the significant woodland features.

7.5 Endangered Species Act

Screening for significant habitat of endangered or threatened species and/or significant wildlife habitat show that there are potential SAR habitats within and adjacent to the Study Area. However, these habitats will either be avoided by development or hold ecological limitations as viable habitats. As part of the proposed mitigation/management plan, enhancement of buffer habitats will be implemented. Consultation with the MECP will be completed at the appropriate stages of the development process to ensure that the proposed development plan proceeds in a manner that conforms to the ESA.

7.6 TRCA Ont. Reg. 166/06

The project Study Area falls within the jurisdiction of the TRCA. Watercourses and their associated flood limit within the Site, are regulated under the TRCA O. Reg. 166/06 – Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. TRCA Regulated Area lands exist within the limits of the Site, at the northwestern and southeastern corners, in association with

watercourse and valleyland features. Development within these areas will be subject to approvals and permitting from the TRCA.

8. Summary

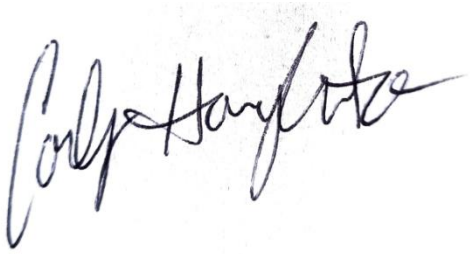
This Environmental Impact Study provides a characterization and summary of the natural heritage features, functions and constraints and the associated Natural Heritage System to guide the development potential of the Study Area. Environmental constraints have been determined, as part of this process, through review of numerous past studies, field investigations, assessment of significance and the applicable natural heritage polices.

A review and confirmation of the constraints and opportunities was completed with the design and planning teams before proposing the preferred land use planning scenarios. Through collaboration with technical experts and the land use planning team, the proposed development plan, which minimizes environmental impact and meets integrated community design objectives was developed. The EIS utilizes the background information for the identification of the existing ecological conditions as a foundation for the determination/confirmation of appropriate development limits.

9. Certification

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

Prepared By:



Carly Houghton, B.E.S.
Ecologist, Certified Arborist

Prepared and Approved By:

Dirk Janas, B.Sc.
Principal Ecologist

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Appendix A

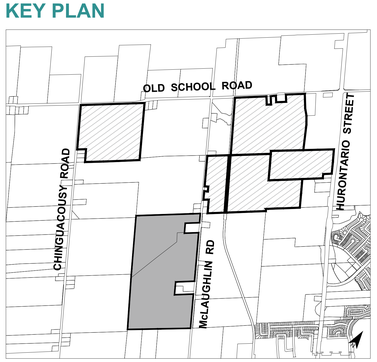
Proposed Draft Plan

DRAFT PLAN OF SUBDIVISION

19T - _____

Part of Lot 21 and 22,
Concession 1 and Part of Lot 22,
Concession 2
West of Hurontario Street,
(Geographic Township of Chinguacousy)
Town of Caledon,
Regional Municipality of Peel

KEY PLAN



SCHEDULE OF LAND USE

LOT/BLOCK	LAND USE		UNITS	AREA (ha)
1-1031	11.6m x 20.0m Single Detached	+	575	20.87
	9.20m x 28.0m Single Detached	o	456	12.72
1032-1152	6.1m x 28.0m Townhouse Street	x	726	14.43
1153-1157	6.1m x 27.0m Townhouse Lane	=	32	0.66
1158-1160	Medium Density Blocks		630	7.87
1161-1162	Commercial			4.92
1163	Elementary School			2.89
1164-1167	Park			10.80
1168-1175	Storm Water Management Facilty			7.14
1176-1177	Vista / Walkways			0.09
1178-1187	Natural Heritage System			45.17
1188	Future Natural Heritage System			0.03
1189-1226	Future Development / Part Lots		(49)	1.27
1227-1234	Future Roadway/Lane	145 m		0.30
1235-1237	Arterial Road Widening			0.60
1238-1247	0.3m Reserves			0.01
1248	Pumping Station			0.09
Streets A-B	22.0m Road length	1,545 m		3.42
Streets C-D	20.0m Road length	1,360 m		2.75
Streets 1-40	18.0m Road length	10,096 m		18.48
Sts. 2,7 & 31	16.0m Road length	687 m		1.09
Lane 1-2	8.0m Lane length	276 m		0.22
TOTAL		**13,964 m**	**2,419**	**155.82**
		(14,109 m)	**(2,468)**	

SURVEYOR'S CERTIFICATE

I hereby certify that the boundaries of the lands to be subdivided as shown on this Plan and their relationship to the adjacent lands are accurately and correctly shown.

Budziak — March 4, 2024

MONIKA BUDZIAK, OLS
J.D. Barnes Ltd.

Date

OWNER'S AUTHORIZATION

I hereby authorize Malone Given Parsons Ltd. to prepare and submit this Draft Plan of Subdivision to the City of Vaughan.

Date

ADDITIONAL INFORMATION

AS REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT, CHAPTER P.13(R.S.O. 1990).

(a),(e),(f),(g),(j),(l) - As shown of the Draft Plan.
(b),(c) - As shown on the Draft and Key Plan.
(d) - Land to be used in accordance with the Schedule of Land Use.
(i) - Soil is clay loam.
(h),(k) - Full municipal services to be provided.

Date: March 28, 2024

Date	Revision	By

MGP Malone Given Parsons.
140 Renfrew Drive, Suite 201 | Markham, ON | L3R 6B3
905 513 0170 | mgp.ca

Appendix B

Plants of Mayfield West Study Area

APPENDIX H-3: List of vascular plant species documented in the study area.

No.	Scientific Name	Common Name	Conservation Status							CC	CW	Native Status
			Global	National	Provincial		Regional	Local				
			GRank	COSEWIC	MNR	SRank	GTA	Peel	TRCA	CVC			
1	*Acer negundo*	Manitoba Maple	G5			S5			L+?		0	-2	N
2	*Acer pensylvanicum*	Striped Maple	G5			S5					7	3	N
3	*Acer rubrum*	Red Maple	G5			S5			L4		4	0	N
4	*Acer saccharinum*	Silver Maple	G5			S5			L4		5	-3	N
5	*Acer saccharum var. saccharum*	Sugar Maple	G5T?			S5			L5		4	3	N
6	*Acer X freemanii*	Freeman's Maple	G?			S5			LH			0	N
7	*Alisma plantago-aquatica*	Broad-leaved Water-plantain	G5			S5			L4		3	-5	N
8	*Sagittaria latifolia*	Broadleaf Arrowhead	G5			S5			L4		4	-5	N
9	*Amaranthus hybridus*	Smooth Amaranth	G?			SE5?			L+		0	5	I
10	*Amaranthus retroflexus*	Red-root Amaranth	G?			SE5			L+		0	2	I
11	*Rhus aromatica*	Fragrant Sumac	G5			S5	R				8	5	N
12	*Toxicodendron rydbergii*	Western Poison Ivy	G5T			S5			L5		0	0	N
13	*Carum carvi*	Common Caraway	G?			SE1?			L+		0	5	I
14	*Cicuta maculata*	Spotted Water-hemlock	G5			S5			L5		6	-5	N
15	*Conium maculatum*	Poison-hemlock	G5			SE2?					0	-3	I
16	*Daucus carota*	Queen Anne's Lace	G?			SE5			L+		0	5	I
17	*Eryngium planum*	Plain Coyote-thistle	G?			SE1					0	5	I
18	*Apocynum androsaemifolium ssp. androsaemifolium*	Spreading Dogbane	G5T?			S5			L4		3	5	N
19	*Vinca minor*	Periwinkle	G?			SE5			L+		0	5	I
20	*Arisaema triphyllum ssp. triphyllum*	Jack-in-the-pulpit	G5T5			S5			L4		5	-2	N
21	*Asclepias incarnata ssp. incarnata*	Swamp Milkweed	G5T5			S5			L4		6	-5	N
22	*Asclepias syriaca*	Common Milkweed	G5			S5			L5		0	5	N
23	*Ambrosia trifida*	Great Ragweed	G5			S5			L5		0	-1	N
24	*Antennaria rosea*	Rose Pussytoes	G4G5			S1							N
25	*Arctium lappa*	Greater Burdock	G?			SE5			L+			0	I
26	*Arctium minus*	Lesser Burdock	G?T?			SE5			L+		0	5	I
27	*Artemisia annua*	Annual Wormwood	G?			SE1			L+		0	3	I
28	*Aster lanceolatus ssp. lanceolatus*	Panicled Aster	G5T?			S5			L5		3	-3	N
29	*Aster lateriflorus var. lateriflorus*	Calico Aster	G5T5			S5			L5		3	-2	N
30	*Aster puniceus var. puniceus*	Purple-stemmed Aster	G5T?			S5			L5		6	-5	N
31	*Aster sp*	Aster Species									0	0	
32	*Bidens vulgata*	Tall Beggar's Ticks	G5			S5	U	R1	L4	L	5	-3	N
33	*Bidens frondosa*	Devil's Beggar's Ticks	G5			S5			L5		3	-3	N
34	*Carduus acanthoides*	Spiny Plumeless-thistle	G?			SE5			L+		0	5	I
35	*Carduus nutans ssp. nutans*	Musk Thistle	G?T?			SE?			L+				I
36	*Centaurea jacea*	Brown Knapweed	G?			SE5			L+		0	5	I
37	*Cichorium intybus*	Chicory	G?			SE5			L+		0	5	I
38	*Cirsium arvense*	Creeping Thistle	G?			SE5			L+		0	3	I
39	*Conyza canadensis*	Fleabane	G5			S5			L5		0	1	N
40	*Crepis tectorum*	Narrow-leaf Hawksbeard	G?			SE5			L+		0	5	I
41	*Erigeron annuus*	White-top Fleabane	G5			S5			L5		0	1	N

No.	Scientific Name	Common Name	Conservation Status								CC	CW	Native Status
			Global	National	Provincial		Regional	Local					
			GRank	COSEWIC	MNR	SRank	GTA	Peel	TRCA	CVC			
42	*Eurybia macrophylla*	Large-leaved Aster	G5			S5			L5		5	5	N
43	*Euthamia graminifolia*	Grass-leaved Goldenrod	G5			S5			L5		2	-2	N
44	*Galinsoga parviflora*	Small-flower Quickweed	G?			SE			L+		0	5	I
45	*Inula helenium*	Elecampane	G?			SE5			L+		0	5	I
46	*Iva xanthifolia*	Coarse Sumpweed	G5			SE1			L+		0	5	I
47	*Matricaria recutita*	German Mayweed	G?			SE			L+		0	5	I
48	*Prenanthes altissima*	Tall Rattlesnake-root	G5?			S5			L5		5	3	N
49	*Rudbeckia hirta*	Black-eyed Susan	G5			S5			L4		0	3	N
50	*Solidago arguta var. arguta*	Sharp-leaved Goldenrod	G5T4			S3	R		L2		8	3	N
51	*Solidago caesia*	Bluestem Goldenrod	G5			S5			L5		5	3	N
52	*Solidago canadensis*	Canada Goldenrod	G5			S5			L5		1	3	N
53	*Solidago canadensis var. scabra*	Tall Goldenrod	G?			S5			L5		1	3	N
54	*Solidago flexicaulis*	Broad-leaved Goldenrod	G5			S5			L5		6	3	N
55	*Solidago patula*	Rough-leaved Goldenrod	G5			S5	R	R4	L3	R/L	8	-5	N
56	*Solidago sp*	Goldenrod Species									0	0	
57	*Sonchus arvensis ssp. arvensis*	Field Sowthistle	G?T?			SE5			L+		0	1	I
58	*Symphyotrichum lateriflorum var. angustifolium*	Calico Aster	G5T?			S4?			L5				N
59	*Symphyotrichum novae-angliae*	New England Aster	G5			S5			L5		2	-3	N
60	*Tanacetum vulgare*	Common Tansy	G?			SE5			L+		0	5	I
61	*Taraxacum officinale*	Common Dandelion	G5			SE5			L+		0	3	I
62	*Tragopogon dubius*	Meadow Goat's-beard	G?			SE5			L+		0	5	I
63	*Tussilago farfara*	Colt's Foot	G?			SE5			L+		0	3	I
64	*Xanthium strumarium*	Rough Cockle-bur	G?			S5			L5		2	0	N
65	*Impatiens capensis*	Spotted Jewel-weed	G5			S5			L5		4	-3	N
66	*Berberis vulgaris*	European Barberry	G?			SE5			L+		0	3	I
67	*Caulophyllum giganteum*	Blue Cohosh	G			S5			L4	R/L			N
68	*Podophyllum peltatum*	May Apple	G5			S5			L4		5	3	N
69	*Alnus incana spp. rugosa*	Speckled Alder	G5T5			S5			L3		6	-5	N
70	*Betula alleghaniensis*	Yellow Birch	G5			S5			L4		6	0	N
71	*Betula papyrifera*	Paper Birch	G5			S5			L4		2	2	N
72	*Carpinus caroliniana ssp. virginiana*	American Hornbeam	G5T			S5			L4		6	0	N
73	*Ostrya virginiana*	Eastern Hop-hornbeam	G5			S5			L5		4	4	N
74	*Anchusa officinalis*	Common Bugloss	G?			SE1					0	5	I
75	*Echium vulgare*	Common Viper's-bugloss	G?			SE5			L+		0	5	I
76	*Myosotis scorpioides*	True Forget-me-not	G?			SE4			L+		0	-5	I
77	*Alliaria petiolata*	Garlic Mustard	G?			SE5			L+		0	0	I
78	*Barbarea vulgaris*	Yellow Rocket	G?			SE5			L+		0	0	I
79	*Brassica oleracea*	Northern Winter-cress	G?			SE1			L+				I
80	*Capsella bursa-pastoris*	Common Shepherd's Purse	G?			SE5			L+		0	1	I
81	*Cardamine concatenata*	Cutleaf Toothwort	G5			S5			L3		6	3	N
82	*Cardamine diphylla*	Broad-leaved Toothwort	G5			S5			L4		7	5	N
83	*Cardamine pensylvanica*	Pennsylvania Bitter-cress	G5			S5	U	U	L4		6	-4	N
84	*Cardamine pratensis var. pratensis*	Meadow Bitter-cress	G5T?			SE1	R	R1		R/L			N
85	*Cardamine bulbosa*	Spring-Cress	G5			S4	R6	E	L2	R/L	8	-5	N

No.	Scientific Name	Common Name	Conservation Status								CC	CW	Native Status
			Global	National	Provincial		Regional	Local					
			GRank	COSEWIC	MNR	SRank	GTA	Peel	TRCA	CVC			
86	*Hesperis matronalis*	Dame's Rocket	G4G5			SE5			L+		0	5	I
87	*Lepidium campestre*	Field Pepper-grass	G?			SE5			L+		0	5	I
88	*Raphanus raphanistrum*	Wild Radish	G?			SE3			L+		0	5	I
89	*Rorippa nasturtium-aquaticum*	True Watercress	G?			SE					0	-5	I
90	*Sinapis arvensis*	Charlock	G?			SE5			L+		0	5	I
91	*Thlaspi arvense*	Field Penny-cress	G?			SE5			L+		0	5	I
92	*Campanula rapunculoides*	Creeping Bellflower	G?			SE5			L+		0	5	I
93	*Diervilla lonicera*	Northern Bush-honeysuckle	G5			S5			L4		5	5	N
94	*Lonicera morrowii*	Morrow's Honeysuckle	G?			SE3			L+		0	5	I
95	*Lonicera tatarica*	Tartarian Honeysuckle	G?			SE5			L+		0	3	I
96	*Sambucus racemosa var. racemosa*	Red-berried Elder	G5T4T5			S5			L5		5	2	N
97	*Dianthus armeria*	Deptford-pink	G?			SE5			L+		0	5	I
98	*Euonymus europaea*	European Spindle-tree	G?			SE2			L+		0	5	I
99	*Euonymus obovata*	Running Strawberry-bush	G5			S5			L3		6	5	N
100	*Ceratophyllum demersum*	Common Hornwort	G5			S5	U	R3	L3	R/L	4	-5	N
101	*Atriplex patula*	Halberd-leaf Saltbush	G5			S5			L+?		0	-2	N
102	*Chenopodium album var. album*	White Goosefoot	G5T5			SE5			L+		0	1	I
103	*Hypericum perforatum*	St. John's-wort	G?			SE5			L+		0	5	I
104	*Convolvulus arvensis*	Field Bindweed	G?			SE5			L+		0	5	I
105	*Cornus alternifolia*	Alternate-leaf Dogwood	G5			S5			L5		6	5	N
106	*Cornus sericea ssp. sericea*	Red-osier Dogwood	G5			S5			L5		2	-3	N
107	*Echinocystis lobata*	Wild Mock-cucumber	G5			S5			L5		3	-2	N
108	*Thuja occidentalis*	Northern White Cedar	G5			S5			L4		4	-3	N
109	*Carex blanda*	Woodland Sedge	G5?			S5			L5		3	0	N
110	*Carex bromoides*	Brome-like Sedge	G5			S5	R	R3	L3	R/L	7	-4	N
111	*Carex brunnescens ssp. brunnescens*	Brownish Sedge	G5T?			S5	R	R3	L3	R/L	7	-3	N
112	*Carex communis*	Fibrous-root Sedge	G5			S5			L4		6	5	N
113	*Carex crawfordii*	Crawford Sedge	G5			S5	R	R1	L3	R/L	7	-1	N
114	*Carex crinita*	Fringed Sedge	G5			S5	U	U	L3		6	-4	N
115	*Carex eburnea*	Ebony Sedge	G5			S5	U	R2	L3	L	6	4	N
116	*Carex gracillima*	Graceful Sedge	G5			S5			L4		4	3	N
117	*Carex grayi*	Asa Gray Sedge	G4			S4	R	R3	L2	R/L	8	-4	N
118	*Carex hirtifolia*	Pubescent Sedge	G5			S5	U	R3	L4	L	5	5	N
119	*Carex intumescens*	Bladder Sedge	G5			S5			L4		6	-4	N
120	*Carex lacustris*	Lake-bank Sedge	G5			S5			L4		5	-5	N
121	*Carex laxiflora*	Loose-flowered Sedge	G5			S5	U	R7	L4	L	5	0	N
122	*Carex lupulina*	Hop Sedge	G5			S5			L3		6	-5	N
123	*Carex molesta*	Troublesome Sedge	G4			S4?	U	R5	L3	L	5	2	N
124	*Carex pensylvanica*	Pennsylvania Sedge	G5			S5			L4		5	5	N
125	*Carex radiata*	Stellate Sedge	G4			S5			L5		4	5	N
126	*Carex rosea*	Rosy Sedge	G5			S5			L5		5	5	N
127	*Carex scoparia*	Pointed Broom Sedge	G5			S5	R	R5	L3	R/L	5	-3	N
128	*Carex sp*	Sedge Species									0	0	
129	*Carex sparganioides*	Burreed Sedge	G5			S5			L4		5	0	N

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			GRank	COSEWIC	MNR	SRank	GTA	Peel	TRCA	CVC			
130	*Carex spicata*	Spiked Sedge	G?			SE5			L+		0	5	I
131	*Carex sprengelii*	Longbeak Sedge	G5?			S5	R	R1	L4	R/L	6	0	N
132	*Carex stipata*	Stalk-grain Sedge	G5			S5			L5		3	-5	N
133	*Carex tenera*	Slender Sedge	G5T			S5			L4		4	-1	N
134	*Carex tribuloides*	Blunt Broom Sedge	G5			S4S5	R	R5	L4	R/L	5	-4	N
135	*Carex tuckermanii*	Tuckerman Sedge	G4			S4	U	R6	L3	L	7	-5	N
136	*Carex vulpinoidea*	Fox Sedge	G5			S5			L5		3	-5	N
137	*Eleocharis erythropoda*	Bald Spikerush	G5			S5			L5		4	-5	N
138	*Schoenoplectus tabernaemontani*	Soft-stemmed Bulrush	G?			S5			L4		5	-5	N
139	*Scirpus atrovirens*	Woolgrass Bulrush	G5?			S5			L5		3	-5	N
140	*Scirpus cyperinus*	Cottongrass Bulrush	G5			S5			L3		4	-5	N
141	*Scirpus microcarpus*	Small-fruit Bulrush	G5			S5	U		L4		4	-5	N
142	*Dipsacus fullonum ssp. sylvestris*	Common Teasel	G?T?			SE5			L+		0	5	I
143	*Athyrium filix-femina var. angustum*	Lady-fern	G5T5			S5			L5		4	0	N
144	*Cystopteris tenuis*	Machay's Fragile Fern	G4G5			S5	U	U	L2		6	5	N
145	*Dryopteris carthusiana*	Spinulose Wood Fern	G5			S5			L5		5	-2	N
146	*Dryopteris clintoniana*	Clinton Wood Fern	G5			S4	U	R6	L2	L	7	-4	N
147	*Dryopteris intermedia*	Evergreen Wood Fern	G5			S5			L4		5	0	N
148	*Dryopteris marginalis*	Marginal Wood Fern	G5			S5			L4		5	3	N
149	*Matteuccia struthiopteris var. pensylvanica*	Ostrich Fern	G5			S5			L5		5	-3	N
150	*Onoclea sensibilis*	Sensitive Fern	G5			S5			L5		4	-3	N
151	*Elaeagnus angustifolia*	Russian Olive	G?			SE3			L+		0	4	I
152	*Equisetum arvense*	Field Horsetail	G5			S5			L5		0	0	N
153	*Equisetum pratense*	Meadow Horsetail	G5			S5	R	R7	L3	R/L	8	-3	N
154	*Equisetum sylvaticum*	Woodland Horsetail	G5			S5	R	U	L3	R	7	-3	N
155	*Euphorbia cyparissias*	Cypress Spurge	G5			SE5			L+		0	5	I
156	*Caragana arborescens*	Siberian Peashrub	G?			SE1			L+		0	5	I
157	*Coronilla varia*	Crown-vetch	G?			SE5			L+		0	5	I
158	*Gleditsia triacanthos*	Honey Locust	G5			S2			L+		3	0	N
159	*Lotus corniculatus*	Bird's-foot Trefoil	G?			SE5			L+		0	1	I
160	*Medicago lupulina*	Black Medic	G?			SE5			L+		0	1	I
161	*Medicago sativa ssp. falcata*	Alfalfa	G?T?			SE5			L+				I
162	*Melilotus alba*	White Sweet Clover	G5			SE5			L+		0	3	I
163	*Melilotus officinalis*	Yellow Sweet Clover	G?			SE5			L+		0	3	I
164	*Robinia pseudo-acacia*	Black Locust	G5			SE5			L+		0	4	I
165	*Trifolium pratense*	Red Clover	G?			SE5			L+		0	2	I
166	*Trifolium repens*	White Clover	G?			SE5			L+		0	2	I
167	*Vicia cracca*	Tufted Vetch	G?			SE5			L+		0	5	I
168	*Fagus grandifolia*	American Beech	G5			S5			L4		6	3	N
169	*Quercus alba*	White Oak	G5			S5			L2		6	3	N
170	*Quercus macrocarpa*	Bur Oak	G5			S5			L4		5	1	N
171	*Quercus rubra*	Northern Red Oak	G5			S5			L4		6	3	N
172	*Dicentra canadensis*	Squirrel-corn	G5			S5	U	U	L3		7	5	N
173	*Geranium robertianum*	Herb-robert	G5			SE5			L+?		0	5	I

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174	*Ribes americanum*	Wild Black Currant	G5			S5			L5		4	-3	N
175	*Ribes cynosbati*	Prickly Gooseberry	G5			S5			L5		4	5	N
176	*Ribes sp*	Currant Species									0	0	
177	*Elodea canadensis*	Broad Waterweed	G5			S5	U	R3	L3	L	4	-5	N
178	*Hydrophyllum virginianum*	Virginia Waterleaf	G5			S5			L5		6	-2	N
179	*Iris pseudacorus*	Yellow Iris	G?			SE3			L+		0	-5	I
180	*Iris versicolor*	Blueflag	G5			S5			L3		5	-5	N
181	*Sisyrinchium montanum*	Strict Blue-eyed-grass	G5			S5		R5	L3	L	4	-1	N
182	*Carya cordiformis*	Bitternut Hickory	G5			S5			L4		6	0	N
183	*Carya ovata var. ovata*	Shagbark Hickory	G5			S5	U		L3		6	3	N
184	*Juglans cinerea*	Butternut	G4	END	END	S4			L3		6	2	N
185	*Juncus bufonius*	Toad Rush	G5			S5			L5		1	-4	N
186	*Juncus dudleyi*	Dudley's Rush	G5			S5			L5		1	0	N
187	*Juncus effusus ssp. solutus*	Soft Rush	G5T?			S5			L4		4	-5	N
188	*Luzula acuminata*	Hairy Woodrush	G5			S5	U	U	L3		6	1	N
189	*Elscholtzia ciliata*	Ciliate Elsholtzia	G?			SE1							I
190	*Glechoma hederacea*	Ground Ivy	G?			SE5			L+		0	3	I
191	*Lycopus americanus*	American Bugleweed	G5			S5			L4		4	-5	N
192	*Lycopus europaeus*	European Bugleweed	G?			SE5			L+		0	-5	I
193	*Mentha spicata*	Spearmint	G?			SE4			L+		0	-4	I
194	*Nepeta cataria*	Catnip	G?			SE5			L+		0	1	I
195	*Scutellaria galericulata*	Hooded Skullcap	G5			S5			L5		6	-5	N
196	*Lemna minor*	Lesser Duckweed	G5			S5			L5		2	-5	N
197	*Allium tricoccum*	Wild Leek	G5			S5			L3		7	2	N
198	*Asparagus officinalis*	Asparagus	G5?			SE5			L+		0	3	I
199	*Convallaria majalis*	European Lily-of-the-valley	G5			SE5			L+		0	5	I
200	*Erythronium americanum ssp. americanum*	Yellow Trout-lily	G5T5			S5			L5		5	5	N
201	*Hemerocallis fulva*	Orange Daylily	G?			SE5			L+		0	5	I
202	*Lilium michiganense*	Michigan Lily	G5			S5	U	U	L3		7	-1	N
203	*Maianthemum canadense*	Wild-lily-of-the-valley	G5			S5			L4		5	0	N
204	*Maianthemum racemosum ssp. racemosum*	False Solomon's Seal	G5T			S5			L5		4	3	N
205	*Maianthemum stellatum*	Starflower False Solomon's Seal	G5			S5			L5		6	1	N
206	*Polygonatum pubescens*	Downy Solomon's Seal	G5			S5			L3		5	5	N
207	*Scilla siberica*	Squill	G?			SE2			L+		0	5	I
208	*Streptopus lanceolatus var. roseus*	Rosy Twisted-stalk	G5			S5			L3		7	0	N
209	*Trillium erectum*	Red Trillium	G5			S5			L3		6	1	N
210	*Trillium grandiflorum*	White Trillium	G5			S5			L3		5	5	N
211	*Uvularia grandiflora*	Large-flowered Bellwort	G5			S5			L3		6	5	N
212	*Linum usitatissimum*	Common Flax	G?			SE3			L+		0	5	I
213	*Lythrum salicaria*	Slender-spike Loosestrife	G5			SE5			L+		0	-5	I
214	*Althaea officinalis*	Common Marsh-mallow	G?			SE1			L+		0	0	I
215	*Malva moschata*	Musk Mallow	G?			SE5			L+		0	5	I
216	*Monotropa uniflora*	Indian-pipe	G5			S5			L3		6	3	N
217	*Fraxinus americana*	White Ash	G5			S5			L5		4	3	N

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218	*Fraxinus nigra*	Black Ash	G5			S5			L4		7	-4	N
219	*Fraxinus pennsylvanica*	Green Ash	G5			S5			L5		3	-3	N
220	*Epilobium ciliatum ssp. ciliatum*	Hairy Willow-herb	G5			S5			L5		3	3	N
221	*Epilobium coloratum*	Purple-leaf Willow-herb	G5			S5	R	R6	L4	R/L	3	-5	N
222	*Epilobium sp*	Willow-herb Species									0	0	
223	*Epifagus virginiana*	Beechdrops	G5			S5			L4		6	5	N
224	*Oxalis stricta*	Upright Yellow Wood Sorrel	G5			S5			L+?		0	3	N
225	*Picea abies*	Norway Spruce	G?			SE3			L+		0	5	I
226	*Picea glauca*	White Spruce	G5			S5		R3	L3	L	6	3	N
227	*Pinus strobus*	Eastern White Pine	G5			S5			L4		4	3	N
228	*Pinus sylvestris*	Scotch Pine	G?			SE5			L+		0	5	I
229	*Tsuga canadensis*	Eastern Hemlock	G5			S5			L4		7	3	N
230	*Plantago lanceolata*	English Plantain	G5			SE5			L+		0	0	I
231	*Plantago major*	Nipple-seed Plantain	G5			SE5			L+		0	-1	I
232	*Plantago rugelii*	Black-seed Plantain	G5			S5			L5		1	0	N
233	*Agrostis stolonifera*	Spreading Bentgrass	G5			S5			L+?		0	-3	N
234	*Avena sativa*	Cultivated Oat	G?			SE3			L+		0	5	I
235	*Briza media*	Perennial Quaking Grass	G?			SE1			L+		0	0	I
236	*Bromus erectus*	Meadow Brome	G?			SE1					0	5	I
237	*Bromus inermis ssp. inermis*	Smooth Brome	G4G5T?			SE5			L+		0	5	I
238	*Bromus japonicus*	Japanese Brome	G?			SE4			L+		0	3	I
239	*Cinna arundinacea*	Stout Wood Reedgrass	G5			S4	R	R3	L3	R/L	7	-3	N
240	*Cinna latifolia*	Slender Wood Reedgrass	G5			S5	U	R4	L3	L	7	-4	N
241	*Dactylis glomerata*	Orchard Grass	G?			SE5			L+		0	3	I
242	*Deschampsia caespitosa*	Tufted Hairgrass	G5T?			SE2					0	-4	I
243	*Elymus hystrix*	Bottle-brush Grass	G5			S5			L4		5	5	N
244	*Elymus repens*	Quack Grass	G?			SE5			L+		0	3	I
245	*Elymus riparius*	River-bank Wild-rye	G5			S4?	R	R3	L4	R/L	7	-3	N
246	*Elymus virginicus var. virginicus*	Virginia Wild-rye	G5T?			S5			L5		5	-2	N
247	*Eragrostis sp*	Love Grass Species									0	0	
248	*Festuca rubra ssp. rubra*	Red Fescue	G5T4			S5			L+		0	1	N
249	*Glyceria striata*	Fowl Manna Grass	G5			S5			L5		3	-5	N
250	*Hordeum jubatum ssp. jubatum*	Fox-tail Barley	G5T?			SE5			L+		0	-1	I
251	*Leersia virginica*	White Cutgrass	G5			S4	R	R4	L4	R/L	6	-3	N
252	*Lolium perenne*	Perennial Ryegrass	G?			SE4			L+		0	3	I
253	*Oryzopsis asperifolia*	White-grained Mountain Ricegrass	G5			S5			L3		6	5	N
254	*Phalaris arundinacea*	Reed Canary Grass	G5			S5			L+?		0	-4	N
255	*Phragmites australis*	Common Reed	G5			S5			L+?		0	-4	N
256	*Poa nemoralis*	Woods Bluegrass	G5			SE3			L+		0	0	I
257	*Setaria viridis*	Green Bristle Grass	G?			SE5			L+		0	5	I
258	*Polygonum amphibium*	Water Smartweed	G5			S5		U	L3		5	-5	N
259	*Polygonum lapathifolium*	Dock-leaf Smartweed	G5			S5			L5		2	-4	N
260	*Rumex crispus*	Curly Dock	G?			SE5			L+		0	-1	I
261	*Claytonia caroliniana*	Carolina Spring Beauty	G5			S5	U	R5	L3	L	7	3	N

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262	*Claytonia virginica*	Narrow-leaved Spring Beauty	G5			S5			L3		5	3	N
263	*Potamogeton natans*	Floating Pondweed	G5			S5	U	U	L3		5	-5	N
264	*Stuckenia vaginatus*	Sheathed Pondweed	G5			S5					8	-5	N
265	*Lysimachia ciliata*	Fringed Loosestrife	G5			S5			L5		4	-3	N
266	*Lysimachia nummularia*	Moneywort	G?			SE5			L+		0	-4	I
267	*Prenanthes sp*	Rattlesnake-root Species									0	0	
268	*Actaea pachypoda*	White Baneberry	G5			S5			L4		6	5	N
269	*Actaea rubra*	Red Baneberry	G5			S5			L5		5	5	N
270	*Anemone canadensis*	Canada Anemone	G5			S5			L5		3	-3	N
271	*Anemone quinquefolia var. quinquefolia*	Wood Anemone	G5			S5	U		L3		7	0	N
272	*Anemone virginiana var. cylindroidea*	Thimbleweed	G5T			SU			L5			0	N
273	*Caltha palustris*	Marsh Marigold	G5			S5			L4		5	-5	N
274	*Ranunculus abortivus*	Kidney-leaved Buttercup	G5			S5			L5		2	-2	N
275	*Ranunculus acris*	Tall Buttercup	G5			SE5			L+		0	-2	I
276	*Ranunculus repens*	Creeping Buttercup	G?			SE5			L+		0	-1	I
277	*Ranunculus sceleratus var. sceleratus*	Cursed Crowfoot	G5T5			S5			L5		2	-5	N
278	*Thalictrum dioicum*	Early Meadowrue	G5			S5			L5		5	2	N
279	*Rhamnus cathartica*	Buckthorn	G?			SE5			L+		0	3	I
280	*Amelanchier laevis*	Smooth Serviceberry	G4G5Q			S5	U	U	L4		5	5	N
281	*Crataegus monogyna*	English Hawthorn	G5			SE5			L+		0	5	I
282	*Crataegus punctata*	Dotted Hawthorn	G5			S5			L5		4	5	N
283	*Crataegus sp*	Hawthorn Species									0	0	
284	*Fragaria vesca ssp. americana*	Woodland Strawberry	G5T?			S5			L5		4	4	N
285	*Fragaria virginiana ssp. virginiana*	Virginia Strawberry	G5T?			SU			L5		2	1	N
286	*Geum laciniatum*	Rough Avens	G5			S4	U		L4		4	-3	N
287	*Geum aleppicum*	Yellow Avens	G5			S5			L5		2	-1	N
288	*Geum canadense*	White Avens	G5			S5			L5		3	0	N
289	*Geum sp*	Avens Species									0	0	
290	*Geum urbanum*	Clover-root	G5			SE2			L+		0	5	I
291	*Malus pumila*	Common Apple	G5			SE5			L+		0	5	I
292	*Potentilla argentea*	Silvery Cinquefoil	G?			SE5			L+		0	3	I
293	*Potentilla norvegica ssp. norvegica*	Norway Cinquefoil	G5T?			SU			L+?				I
294	*Potentilla recta*	Sulphur Cinquefoil	G?			SE5			L+		0	5	I
295	*Prunus serotina*	Wild Black Cherry	G5			S5			L5		3	3	N
296	*Prunus virginiana var. virginiana*	Choke Cherry	G5T?			S5			L5		2	1	N
297	*Rosa canina*	Dog Rose	G?			SE2			L+		0	5	I
298	*Rubus allegheniensis*	Allegheny Blackberry	G5			S5			L5		2	2	N
299	*Rubus caesius*	European Dewberry	G5			SEH							I
300	*Rubus idaeus ssp. strigosus*	Wild Red Raspberry	G5T			S5			L5		0	-2	N
301	*Rubus occidentalis*	Black Raspberry	G5			S5			L5		2	5	N
302	*Rubus pubescens*	Dwarf Raspberry	G5			S5			L4		4	-4	N
303	*Spiraea alba*	Narrow-leaved Meadow-sweet	G5			S5			L3		3	-4	N
304	*Waldsteinia fragarioides*	Barren Strawberry	G5			S5			L4		5	5	N
305	*Asperula arvensis*	Field Woodruff	G5			SEH							I

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306	*Galium palustre*	Marsh Bedstraw	G5			S5			L4		5	-5	N
307	*Galium sp*	Bedstraw Species									0	0	
308	*Populus deltoides ssp. deltoides*	Eastern Cottonwood	G5T?			SU			L5				N
309	*Populus grandidentata*	Large-tooth Aspen	G5			S5			L4		5	3	N
310	*Populus tremuloides*	Quaking Aspen	G5			S5			L5		2	0	N
311	*Populus X canadensis*	Carolina Poplar	HYB			SE1			L+				
312	*Salix lucida*	Shining Willow	G5			S5	U	R5	L3	L	5	-4	N
313	*Salix alba*	White Willow	G5			SE4			L+		0	-3	I
314	*Salix amygdaloides*	Peach-leaved Willow	G5			S5		R6	L4	L	6	-3	N
315	*Salix bebbiana*	Bebb's Willow	G5			S5			L4		4	-4	N
316	*Salix discolor*	Pussy Willow	G5			S5			L4		3	-3	N
317	*Salix eriocephala*	Heart-leaved Willow	G5			S5			L5		4	-3	N
318	*Salix exigua*	Sandbar Willow	G5			S5		R5	L5	L	3	-5	N
319	*Salix fragilis*	Crack Willow	G?			SE5			L+		0	-1	I
320	*Salix X rubens*	Reddish Willow	HYB			SE4			L+		0	-4	I
321	*Salix X sepulcralis*	Hybrid Willow	HYB			SE2			L+				
322	*Tiarella cordifolia*	Heart-leaved Foam-flower	G5			S5			L4		6	1	N
323	*Chelone glabra*	Turtlehead	G5			S5	U	U	L3		7	-5	N
324	*Linaria vulgaris*	Butter-and-eggs	G?			SE5			L+		0	5	I
325	*Verbascum thapsus*	Common Mullein	G?			SE5			L+		0	5	I
326	*Veronica officinalis*	Common Speedwell	G5			SE5			L+		0	5	I
327	*Solanum dulcamara*	Climbing Nightshade	G?			SE5			L+		0	0	I
328	*Sparganium eurycarpum*	Large Bur-reed	G5			S5	U	R6	L3	L	3	-5	N
329	*Tilia americana*	American Basswood	G5			S5			L5		4	3	N
330	*Typha angustifolia*	Narrow-leaved Cattail	G5			S5			L+		3	-5	N
331	*Typha latifolia*	Broad-leaf Cattail	G5			S5			L4		3	-5	N
332	*Typha X glauca*	Blue Cattail	HYB			S4?			L+		3	-5	N
333	*Ulmus americana*	American Elm	G5?			S5			L5		3	-2	N
334	*Ulmus glabra*	Wych Elm	G?			SE1			L+				I
335	*Boehmeria cylindrica*	False Nettle	G5			S5			L4		4	-5	N
336	*Laportea canadensis*	Wood Nettle	G5			S5			L5		6	-3	N
337	*Urtica dioica ssp. dioica*	Stinging Nettle	G5T?			SE2			L+		0	-1	I
338	*Verbena urticifolia*	White Vervain	G5			S5			L5		4	-1	N
339	*Viola affinis*	Lecontes Violet	G5			S4?	U	R3	L3		6	-3	N
340	*Viola conspersa*	American Bog Violet	G5			S5			L5		4	-2	N
341	*Viola pubescens*	Downy Yellow Violet	G5			S5			L5		5	4	N
342	*Viola sororia*	Woolly Blue Violet	G5			S5			L5		4	1	N
343	*Parthenocissus vitacea*	Thicket Creeper	G5			S5			L5		3	3	N
344	*Vitis riparia*	Riverbank Grape	G5			S5			L5		0	-2	N

APPENDIX H-4: Explanation of Plant Conservation Status Ranks, and Native Status

Global Conservation Status (Natureserve 2014)

G1 = **Critically Imperiled**—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = **Imperiled**—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = **Vulnerable**—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = **Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = **Secure**—Common; widespread and abundant.
HYB = **Hybrid**
G#G# = Range Rank—A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty in the status of a species or community. Ranges cannot skip more than one rank (e.g., GU should be used rather than G1G4).
GU = **Unrankable**—-Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. Whenever possible, the most likely rank is assigned and the question mark qualifier is added (e.g., G2?) to express uncertainty, or a range rank (e.g., G2G3) is used to delineate the limits (range) of uncertainty.
GNR = **Unranked**—Global rank not yet assessed.
GNA = **Not Applicable**—A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
? = **Inexact Numeric Rank**—Denotes inexact numeric rank (e.g., G2?)
Q = **Questionable taxonomy**—Taxonomic distinctiveness of this entity at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or the inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority conservation priority.
C = **Captive or Cultivated Only**—At present extant only in captivity or cultivation, or as a reintroduced population not yet established.
T# = **Infraspecific Taxon** (trinomial)—The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above for global conservation status ranks. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T-rank cannot imply the subspecies or variety is more abundant than the species as a whole-for example, a G1T2 cannot occur. A vertebrate animal population, such as those listed as distinct population segments under under the U.S. Endangered Species Act, may be considered an infraspecific taxon and assigned a T-rank; in such cases a Q is used after the T-rank to denote the taxon's informal taxonomic status.

Federal Conservation Status (COSEWIC 2014)

Wildlife Species – A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and it is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
X = **Extinct** – A wildlife species that no longer exists.
XT = **Extirpated** – A wildlife species that no longer exists in the wild in Canada, but occuring elsewhere.
END = **Endangered** – A wildlife species facing imminent extirpation or extinction.
THR = **Threatened** – A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
SC = **Special Concern** – A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
NAR = **Not at Risk** – A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances
DD = **Data Deficient** – A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

Provincial Conservation Status (OMNRF 2014)

EXT = Extinct. Any species formerly native to Ontario that no longer exists.
EXP = Extirpated. Lives somewhere in the world, and at one time lived in the wild in Ontario, but no longer lives in the wild in Ontario.
END = Endangered. Lives in the wild in Ontario but is facing imminent extinction or extirpation
THR = Threatened. Lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.
SC = Special Concern. Lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.
NAR = Not at Risk. A species that has been evaluated and found to be not at risk.
DD = Data Deficient. A species for which there is insufficient information for a provincial status recommendation.

Subnational Rank – SRANK (NHIC 2014)

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually. The NHIC welcomes information which will assist in assigning accurate provincial ranks.

SX **Presumed Extirpated**—Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SH **Possibly Extirpated (Historical)**—Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
S1 **Critically Imperiled**—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
S2 **Imperiled**—Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
S3 **Vulnerable**—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 **Apparently Secure**—Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 **Secure**—Common, widespread, and abundant in the nation or state/province.
SNR **Unranked**—Nation or state/province conservation status not yet assessed.
SU **Unrankable**—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA **Not Applicable** —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S# **Range Rank** —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

Distribution and Status of the Vascular Plants of the Greater Toronto Area (Varga *et al*., 2005)

Plant Station
A plant station or location is defined as a 1 km radius around the occurrence. Plant rarity is based on the number of stations for a native plant species. A variable cut-off is used for the number of stations based on the size of the municipality or site district and by the intensity of fieldwork that has been carries out in the area. Native species that

are restricted to specialized rare habitats covering less than 1% of the GTA are given rarity status even when their number of stations exceeds the cut-off.

Species Status
R –rare native species
R^x – x is the number of stations for a rare native species
U – uncommon native species
E – extirpated native species
H – historical species not seen since 1950, however its habitat is still present
SR – species record based on a sight record (all other species based on herbarium collections)
LR – species record based on a literature record.

GTA (Greater Toronto Area) Status
The GTA includes the Regions of Halton, Peel, the City of Toronto, and the Regions of York and Durham. Rare (R) species in the GTA occur at 40 or fewer stations; Uncommon (U) species occur at 41 to 80 stations.

Regional Municipality of Peel
A rare (R) species occurs at 10 or fewer stations and an uncommon (U) species at 11 to 20 stations.

Toronto and Region Conservation Authority Rank (TRCA 2008)

L5 = Able to withstand high levels of disturbance; generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas.
L4 = Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix.
L3 = Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern.
L2 = Unable to withstand disturbance; some criteria are very limiting factors; generally occur in high-quality natural areas, in natural matrix; probably rare in the TRCA jurisdiction; of concern regionally.
L1 = Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally.

Credit Valley Conservation Rank (Kaiser 2001)

R = regionally (GTA) rare
P = provincially rare
L = locally rare
E = endangered
S = special concern

Coefficient of Conservatism (Oldham *et al.* 1995)

CC = Coefficient of Conservatism. CC is a value (0 to 10) assigned to native species in Ontario based on its degree of fidelity to a specific vegetation community type. The lower this value, the more likely the plant is to be found in a wide variety of plant community types including disturbed sites. The presence of plants with a coefficient of conservatism of 9 or 10 indicates later-successional native plants that have undergone only minor disturbance. Exotic species are not assigned a CC value. This calculation was based on the total number of species for which a cc value was available. Although some more conservative species are present on this site, there are many species representing disturbed conditions, leading to the lower average score

Coefficient of Wetness (Oldham *et al*. 1995)

CW = Coefficient of Wetness. Coefficient of Wetness is a value (-5 to +5) assigned to native species in Ontario based on their affinity for wet or dry habitats. The gradient runs from obligate wetland species at -5, facultative wetland species from -4 to -2, facultative species from -1 to +1, facultative upland species from +2 to +4, and upland species at +5.

Native Status (Newmaster *et al*. 1998; Oldham *et al.* 1995)

"N" = Plant is considered native to this region.
"I" = Plant has been introduced from another region.

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Appendix C

Birds of Mayfield West Study Area

Appendix C_Breeding Birds Mayfield West Study Area

Common Name	Scientific Name	Status				
		National Species at Risk COSEWIC [a]	Species at Risk in Ontario Listing [a]	Provincial breeding season SRANK [b]	TRCA Status	Area-sensitive (OMNR) [c]
Great Blue Heron	*Ardea herodias*			S4	L3	
Green Heron	*Butorides virescens*			S4	L4	
Wood Duck	*Aix sponsa*			S5	L4	
Mallard	*Anas platyrhynchos*			S5	L5	
Turkey Vulture	*Cathartes aura*			S5	L5	
Red-tailed Hawk	*Buteo jamaicensis*			S5	L5	
American Kestrel	*Falco sparverius*			S4	L4	
Killdeer	*Charadrius vociferus*			S5	L4	
Upland Sandpiper	*Bartramia longicauda*			S4	LX	A
American Woodcock	*Scolopax minor*			S4	L3	
Ring-billed Gull	*Larus delawarensis*			S5	L4	
Rock Pigeon	*Columba livia*			SE	L+	
Mourning Dove	*Zenaida macroura*			S5	L5	
Black-billed Cuckoo	*Coccyzus erythropthalmus*			S	L3	
Yellow-billed Cuckoo	*Coccyzus americanus*			S4	L3	
Great Horned Owl	*Bubo virginianus*			S4	L4	
Eastern Screech-Owl	*Megascops asio*			S4	L3	
Short-eared Owl	*Asio flammeus*	THR	THR	S4	LX	A
Belted Kingfisher	*Ceryle alcyon*			S4	L4	
Red-bellied Woodpecker	*Melanerpes carolinus*			S4	L4	
Downy Woodpecker	*Dryobates pubescens*			S5	L5	
Hairy Woodpecker	*Dryobates villosus*			S5	L4	A
Northern Flicker	*Colaptes auratus*			S4	L4	
Pileated Woodpecker	*Dryocopus pileatus*			S5	L3	A
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4	L4	
Willow Flycatcher	*Empidonax traillii*			S5	L4	
Eastern Phoebe	*Sayornis phoebe*			S5	L5	
Great Crested Flycatcher	*Myiarchus crinitus*			S4	L4	
Eastern Kingbird	*Tyrannus tyrannus*			S4	L4	
Horned Lark	*Eremophila alpestris*			S5	L3	
Tree Swallow	*Tachycineta bicolor*			S4	L4	
Cliff Swallow	*Petrochelidon pyrrhonota*			S4	L5	
Barn Swallow	*Hirundo rustica*	SC	SC	S4	L4	
Blue Jay	*Cyanocitta cristata*			S5	L5	
American Crow	*Corvus brachyrhynchos*			S5	L5	
Black-capped Chickadee	*Poecile atricapillus*			S5	L5	
Red-breasted Nuthatch	*Sitta canadensis*			S5	L4	A
White-breasted Nuthatch	*Sitta carolinensis*			S5	L4	A
House Wren	*Troglodytes aedon*			S5	L5	
Winter Wren	*Troglodytes hiemalis*			S5	L3	A
Sedge Wren	*Cistothorus stellaris*			S4	L3	
Wood Thrush	*Hylocichla mustelina*	THR	SC	S4	L3	
American Robin	*Turdus migratorius*			S5	L5	
Gray Catbird	*Dumetella carolinensis*			S4	L4	
Brown Thrasher	*Toxostoma rufum*			S4	L3	
American Pipit	*Anthus rubescens*			S4		
Cedar Waxwing	*Bombycilla cedrorum*			S5	L5	
European Starling	*Sturnus vulgaris*			SE	L+	
Warbling Vireo	*Vireo gilvus*			S5	L5	

Common Name	Scientific Name	Status				
		National Species at Risk COSEWIC [a]	Species at Risk in Ontario Listing [a]	Provincial breeding season SRANK [b]	TRCA Status	Area-sensitive (OMNR) [c]
Red-eyed Vireo	*Vireo olivaceus*			S5	L4	
Yellow Warbler	*Setophaga petechia*			S5	L5	
American Redstart	*Setophaga ruticilla*			S5	L4	A
Ovenbird	*Seiurus aurocapilla*			S4	L2	A
Mourning Warbler	*Geothlypis philadelphia*			S4	L3	
Common Yellowthroat	*Geothlypis trichas*			S5	L4	
Northern Cardinal	*Cardinalis cardinalis*			S5	L5	
Rose-breasted Grosbeak	*Pheucticus ludovicianus*			S4	L4	
Indigo Bunting	*Passerina cyanea*			S4	L4	
Chipping Sparrow	*Spizella passerina*			S5	L5	
Vesper Sparrow	*Pooecetes gramineus*			S4	L3	
Savannah Sparrow	*Passerculus sandwichensis*			S4	L4	A
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4	L2	A
Song Sparrow	*Melospiza melodia*			S5	L5	
Swamp Sparrow	*Melospiza georgiana*			S5	L4	
White-throated Sparrow	*Zonotrichia albicollis*			S5	L3	
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4	L2	A
Red-winged Blackbird	*Agelaius phoeniceus*			S4	L5	
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4	L3	A
Common Grackle	*Quiscalus quiscula*			S5	L5	
Brown-headed Cowbird	*Molothrus ater*			S5	L5	
Baltimore Oriole	*Icterus galbula*			S4	L5	
American Goldfinch	*Spinus tristis*			S5	L5	

Appendix D

Species at Risk Screening

Appendix D_Species at Risk Screening

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	HABITAT PRESENT (Y/P/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AVIFAUNA										
Bank Swallow (*Riparia riparia*)	THR	THR	THR	1	S4B	The Bank Swallow is threatened by loss of breeding and foraging habitat, destruction of nesting habitat and widespread pesticide use. Bank swallows are small songbirds with brown upperparts, white underparts and a distinctive dark breast band. It averages 12 cm long and weighs between 10 and 18 grams. The swallow can be distinguished in flight from other swallows by its quick, erratic wing beats and its almost constant buzzy, chattering vocalizations. They nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposit, including banks of rivers and lakes, active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs (Ministry of Natural Resources and Forestry, 2014).	NHIC, OBBA	P	Recorded by Dougan and Associates in the general area.	Potential river banks are protected within NHS
Barn Swallow (*Hirundo rustica*)	THR	SC	SC	1	S4B	The Barn Swallow is a threatened species, is found throughout southern Ontario, and can range into the north as long as suitable nesting locations can be found. These birds prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud; they are typically attached to horizontal beams or vertical walls underneath an overhang. A significant decline in populations of this species has been documented since the mid-1980s, which is thought to be related to a decline in prey. Since the Barn Swallow is an aerial insectivore, this species relies on the presence of flying insects at specific times during the year. Changes in building practices and materials may also be having an impact on this species (Ministry of Natural Resources and Forestry, 2015).	OBBA	Y	Recorded by AMEC during breeding bird surveys within the Study Area	Any proposed removal of structure with nests to be completed outsdie of the active season with potential compensation
Bobolink (*Dolichonyx oryzivorus*)	THR	THR	THR	1	S4B	The Bobolink is found in grasslands and hayfields, and feeds and nests on the ground. This species is widely distributed across most of Ontario; however, are designated at risk because of rapid population decline over the last 50 years (Ministry of Natural Resources and Forestry, 2014). The historical habitat of the bobolink was tallgrass prairie and other natural open meadow communities; however, as a result of the clearing of native prairies and the post-colonial increase in agriculture, bobolinks are now widely found in hayfields. Due to their reproductive cycle, nesting habits, and use of agricultural areas, bobolink nests and young are particularly vulnerable to loss as a result of common agricultural practices (i.e. first cut hay).	NHIC, OBBA	Y	Recorded by AMEC during breeding bird surveys within the Study Area	Vegetation clearing and tree removals is recommended to occur outside the breeding bird nesting window from April 1st to August 31st. Potential compensation under the ESA.

Chimney Swift (*Chaetura pelagica*)	THR	THR	THR	1	S4B,S4N	The Chimney Swift is a threatened species which breeds in Ontario and winters in northwestern South America. It is found mostly near urban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow tress. The Chimney Swift initially benefitted from human settlement; however, recent declines in flying insects and the modernization of chimneys are factors attributed to their current population declines. As a threatened species, the Chimney Swift receives protection for both species and habitat under the ESA (Ministry of Natural Resources and Forestry, 2014).	OBBA	P	Recorded by Dougan and Associates in the general area.	Further study is required.
Common Nighthawk (*Chordeiles minor*)	SC	SC	SC	1	S4B	The Common Nighthawk is an extremely well camouflaged bird that inhabits gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailings areas, cultivated fields, urban parks, gravel roads, and orchards. As an insectivore, the primary threat to this species is the widespread application of pesticides (Ministry of Natural Resources and Forestry, 2015). Special concern species do not receive habitat protection under the ESA.	OBBA	P	Recorded by Dougan and Associates in the general area.	Vegetation clearing and tree removals is recommended to occur outside the breeding bird nesting window from April 1st to August 31st.
Eastern Meadowlark (*Sturnella magna*)	THR	THR	THR	1	S4B	The Eastern Meadowlark is a bird that prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields and human use areas such as airports and roadsides. Eastern meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses. The decline in population of these species is thought to be at least partially related to habitat destruction and agricultural practices (Ministry of Natural Resources and Forestry, 2014).	NHIC, OBBA	Y	Recorded by AMEC during breeding bird surveys within the Study Area	Vegetation clearing and tree removals is recommended to occur outside the breeding bird nesting window from April 1st to August 31st. Potential compensation under the ESA.
Eastern Wood-Pewee (*Contopus virens*)	SC	SC	SC	1	S4B	The Eastern Wood-pewee is classified as a species of special concern by COSSARO. Their population has been gradually declining since the mid-1960's (The Cornell Lab of Ornithology, 2015). The Eastern Wood-pewee is a "flycatcher", a bird that eats flying insects, that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation. Threats to the population are largely unknown; however, causes may include loss of habitat due to urban development and decreases in the availability of flying insect prey (Ministry of Natural Resources and Forestry, 2014).	NHIC, OBBA	Y	Recorded by AMEC during breeding bird surveys within the Study Area	Vegetation clearing and tree removals is recommended to occur outside the breeding bird nesting window from April 1st to August 31st.
Grasshopper Sparrow (*Ammodramus savannarum*)	SC	SC	SC	o Schedu	S4B	Grasshopper Sparrow are specialized to open relatively short grassland habitat, preferably grasslands with relatively sparse cover such as those in areas of poor soils, including alvars, moraines, and sand plains and generally does not favour tall grass moist meadows. It will also breed in manmade hayfields and occasionally in cereals such as Rye (*Secale cereale*).	NHIC, OBBA	Y	Recorded by AMEC during breeding bird surveys within the Study Area	Vegetation clearing and tree removals is recommended to occur outside the breeding bird nesting window from April 1st to August 31st.

Red-headed Woodpecker (*Melanerpes erythrocephalus*)	END	END	END	1	S4B	The Red-headed Woodpecker is a medium-sized bird, with black and white colouring and a bright red head, neck, and breast. Adults often return to the same nesting site year after year. Between May and June, adults often return to the same nesting site and females lay from three to seven eggs. Habitat for the birds includes open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. The red-headed woodpecker is widespread across southern Ontario but rare (Ministry of Natural Resource and Forestry, 2014).	OBBA	P	Recorded by Dougan and Associates in the general area.	Habitat protection under the ESA
Short-eared Owl (*Asio flammeus*)	SC	THR	THR	1	S2N,S4B	The Short-eared Owl is a medium-sized owl with a brown back, light coloured chest, and visible feather tufts on the round head that can be mistaken for small ears. This well-camouflaged bird is mostly seen during flight when the long wings and short tail are readily apparent. The short-eared owl is found in scattered pockets across the province where suitable open habitat, including grassland, tundra and marsh, can be found in sufficient quantities. Adults build nests on the ground in grassy areas and feed primarily at dawn and dusk on rodents and other small mammals in the surrounding area. Habitat loss is currently the greatest threat to the recovery of this species as prairie, savannah, and marsh ecosystems are modified or developed. Intensive grazing and early harvesting on farmlands can also affect this species by exposing or destroying nests during breeding season (Ontario Ministry of Natural Resources and Forestry, 2015).	Previous professional record	Y	Recorded as an incidental by Dougan & Associates within the Study Area	Further study is required.
Wood Thrush (*Hylocichla mustelina*)	THR	SC	THR	1	S4B	The Wood Thrush is a species of Special Concern because of habitat degradation or destruction by anthropogenic development. The Wood Thrush is a medium-sized songbird, generally rusty-brown on the upper parts with white under parts and large blackish spots on the breast and sides, and about 20 cm long. The Wood Thrush forages for food in leaf litter or on semi-bare ground, including larval and adult insects as well as plant material. They seek moist stands of trees with well-developed undergrowth in large mature deciduous and mixed (conifer-deciduous) forests. The Wood Thrush flies south to Mexico and Central America for the winter (Ministry of Natural Resources and Forestry, 2014).	NHIC, OBBA	Y	Recorded by AMEC during breeding bird surveys within the Study Area	Vegetation clearing and tree removals is recommended to occur outside the breeding bird nesting window from April 1st to August 31st.
HERPTILES										
Eastern Musk Turtle (*Sternotherus odoratus*)	SC	SC	SC	1	S3	The eastern musk turtle is a small freshwater turtle with a highly arched shell and a dull black-brown body. These turtles are found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield. Wetland drainage and shoreline development are among the most significant contributors to the decline in the population of this species (Ministry of Natural Resources and Forestry, 2014).	ORAA 2019	N	Species not previously recorded.	None
Jefferson Salamander (*Ambystoma jeffersonianum*)	END	END	END	1	S2	Adult Jefferson Salamanders, throughout their range, are found within deciduous or mixed upland forests containing, or adjacent to, suitable breeding ponds. Breeding ponds are normally ephemeral, or vernal, woodland pools that dry in late summer. Terrestrial habitat is in mature woodlands that have small mammal burrows or rock fissures that enable adults to over-winter underground below the frost line.	ORAA 2007	N	Species not previously recorded.	None

Northern Map Turtle (*Graptemys geographica*)	SC	SC	SC	1	S3	The northern map turtle is a medium sized turtle with a carapace marked by concentric rings that resemble contour lines on a map. The range of this turtle includes larger lakes and rivers that contain an abundance of their primary prey species; molluscs. Shoreline development, water pollution and the spread of the zebra mussel are notable reasons for the decline in populations of this species (Ministry of Natural Resources and Forestry, 2014).	ORAA 2018	N	Species not previously recorded.	None
Snapping Turtle (*Chelydra serpentina*)	SC	SC	SC	1	S3	The snapping turtle is a species of special concern in Ontario due to the potential for the species to become threatened or endangered as a result of biological factors or other identified threats. While not presently protected by law, the snapping turtle has been recognized as a species of special concern by COSSARO. Snapping turtles spend the majority of their lives in water and travel slightly upland to gravel or sandy embankments or beaches to lay their eggs (Ontario Ministry of Natural Resources and Forestry, 2014).	NHIC, ORAA 2019	P	Species not previously recorded, however Etobicoke Creek may provide suitable movement habitat.	Further study is required.
VASCULAR PLANTS										
Black Ash (*Fraxinus nigra*)	No Status	END	THR	o Schedul	S3	Found throughout Ontario in moist ecosystems; commonly found in northern swampy woodlands (MNRF 2018). This species typically grows on mucky or peaty soils and is considered a facultative wetland species (Reznicek et al. 2011).	Professional Experience	P	Swamp habitat is present within the Study Area.	Further study is required.
Butternut (*Juglans cinerea*)	END	END	END	1	S2?	The butternut is designated as endangered by COSSARO and is tracked by the NHIC as a species at risk. The tree is federally regulated by the Species at Risk Act (2002). Butternut belongs to the walnut family and produces edible nuts which are a preferred food source for wildlife. The range of butternut trees is south of the Canadian Shield on soils derived from calcium rich limestone bedrock. Butternut trees, which at one time were much more common to the south extending to the northern aspect of zone 6E, have been declining due to factors including forest loss and disease. Butternut trees suffer from a highly transmissible fungal disease called butternut canker. Butternut canker is causing very rapid decline in this tree species across its native range. The fungal disease is easily transmitted by wind and is very difficult to prevent. Trees often die within a few years of infection by butternut canker (Ministry of Natural Resource and Forestry, 2014).	NHIC	Y	Palmer observed four Butternut in the east side.	Further study is required.
MAMMALS										
Tri-colored Bat (*Perimyotis subflavus*)	END	END	END	1	S3?	Tri-colored Bat is a small bat that is widely distributed in eastern North America and whose range extends north to southern Ontario. Tri-colored Bat is rare in this region of Ontario which is at the northernmost limit of the natural range for the species. These bats prefer to nest in foliage, tree cavities and woodpecker holes, and are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bat feed primarily on small insects and prefer an open forest habitat type in proximity to water (University of Michigan Museum of Zoology, 2004).	Professional Experience	P	Buildings and/or suitable treed habitat is present within the Subject Property.	Future snag tree surveys to be completed in areas with proposed tree removals

Eastern Small-footed Myotis (*Myotis leibii*)	No Status	END	No Status	No Schedul	S2S3	The eastern small-footed myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Eastern small-footed myotis' fur has black roots and shiny light brown tips, giving it a yellowish-brown appearance. Its face mask, ears and wings are black, and its underside is grayish-brown, about 8 cm long in size and weighs 4-5 grams. In the spring and summer, eastern small-footed myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects to eat, including beetles, mosquitos, moths, and flies. They hibernate in winter, often in caves and abandoned mines. They can be found from south of Georgian Bay to Lake Erie and east to the Pembroke area, and choose colder and drier sites (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	P	Preferred habitat, rocky features is not present. However, suitable treed habitat is present within the Subject Property.	Future snag tree surveys to be completed in areas with proposed tree removals
Little Brown Myotis (*Myotis lucifugus*)	END	END	END	1	S4	Little brown myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Little brown myotis have glossy brown fur and usually weigh between four and 11 grams. Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown myotis hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing – an ideal environment for the fungus to grow and flourish. The syndrome affects bats by disrupting their hibernation cycle, so that they use up body fat supplies before the spring when they can once again find food sources (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	P	Buildings and/or suitable treed habitat is present within the Subject Property.	Future snag tree surveys to be completed in areas with proposed tree removals
Northern Myotis (*Myotis septentrionalis*)	END	END	END	1	S3	Northern myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Northern myotis have dull yellow-brown fur with pale grey bellies. They are approximately eight cm long, with a wingspan of about 25 cm, and usually weigh six to nine grams. Northern myotis can be found in boreal forests but occurs throughout southern Ontario to the north shore of Lake Superior and occasionally as far north as Moosonee. roosting under loose bark and in the cavities of trees. Northern Myotis roosts within tree crevices, hollows and under the bark of live and dead trees, particularly when trees are located within a forest gap. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	P	Buildings and/or suitable treed habitat is present within the Subject Property.	Future snag tree surveys to be completed in areas with proposed tree removals
OTHER										

Monarch Butterfly (*Danaus plexippus*)	END	SC	END	1	S2N,S4B	The monarch is an orange and black butterfly with small white spots and is classified as a species of special concern by COSSARO. The monarch relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers. The greatest threat to the monarch is loss of overwintering habitat in Mexico. Other threats include use of pesticides and herbicides throughout its range (Ministry of Natural Resources and Forestry, 2014).	OBA 2022	Y	Recorded by Hansel. Common Milkweed (*Asclepias syriaca*) was observed in appropriate habitats suggesting Monarchs could breed in the Study Area.	None

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