APPENDIX 2

NATURAL HERITAGE ASSESSMENT REPORT

Safari Road (Kirkwall Road to Valens Road) Municipal Class Environmental Assessment

Natural Heritage Assessment Report

Final

March 9, 2026

Prepared for:

RVA

Hamilton

Safari Road Municipal Class Environmental Assessment (EA)

Natural Heritage Assessment Report

Final

City of Hamilton

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March 9, 2026

SAFARI ROAD MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT (EA)

NATURAL HERITAGE ASSESSMENT REPORT

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1.0 Introduction

The City of Hamilton (City) has retained R.V. Anderson Associates Ltd. (RVA) to undertake a Schedule 'B' Municipal Class Environmental Assessment (EA) Study for road and drainage improvements to Safari Road, from Kirkwall Road to Valens Road, in the City of Hamilton, ON (Project). The road is a 2-lane rural road designated as a full-time truck route, with no active transportation (AT) facilities and no on-street parking. Safari Road between Kirkwall Road and Valens Road is surrounded by natural/naturalizing areas, agricultural land and low-density residential areas with the central portion of the road surrounded by wetlands on either side. The road is currently closed to general traffic due to flooding/drainage challenges, but access to private properties remains open. In addition to the road drainage issues, abutting properties have also experienced flooding. Concurrent with this EA, the City has contracted Robinson Consultants Inc. to conduct a larger drainage study which overlaps with the Project goals.

In support of the EA, a Natural Heritage Assessment is required to identify and evaluate existing Natural Heritage Features within the Study Area, assess impacts and net effects of the proposed Project to these features, and provide environmental management recommendations to be carried forward and refined in detailed design.

1.1 Study Area

The Project Study Area includes the City right-of-way (ROW) surrounding Safari Road from Kirkwall Road to Valens Road (Subject Lands) and the area within 120 metres (m) bordering those lands (Map 1).

Map 1

1.2 Project Intent and Natural Heritage Assessment Objectives

The intent of the Project is to undertake an EA Study to provide the framework for the identification, systematic review and evaluation of alternatives based on the consideration of all aspects of the environment, including public and agency input. The EA will identify the needs and balance the requirements of the full range of potential users within the community and will recommend a design that reflects both the existing and planned land uses.

The objectives of this Natural Heritage Assessment include:

- Characterizing the existing natural heritage features within the Study Area through field investigations and consultation with agencies;
- Evaluating the significance of the identified natural heritage features and functions;
- Identifying potential constraints and opportunities of the Project;
- Assessing the potential impacts of the Project on the natural heritage features; and
- Determining mitigation measures to minimize the impacts and recommending enhancement possibilities where possible.

2.0 Governing Environmental Policy Framework

The governing policy framework provides guidance on the protection of natural heritage features and the evaluation of their significance. Candidate features identified within the Study Area were evaluated against the applicable federal, provincial, and municipal planning policies.

2.1 Federal Legislation

2.1.1 Fisheries Act

The *Fisheries Act* (Government of Canada 1985) is administered by Fisheries and Oceans Canada (DFO) and provides a framework for the proper management and control of fisheries as well as the conservation and protection of fish and fish habitat, including the prevention of pollution. In June of 2019, Canada modernized the *Fisheries Act*; the new provisions and stronger protections aim to better support the sustainability of Canada's fish and fish habitat for future generations. In particular, Section 34.4 prohibits any work, undertaking or activity (other than fishing) that results in the death of fish; Section 35.1 prohibits the harmful alteration, disruption or destruction of fish habitat (HADD); and Section 36 prohibits the deposit of deleterious substances.

The *Fisheries Act* requires that projects avoid causing death of fish or HADD of fish habitat unless authorized by DFO or a designated representative. Proponents are responsible for planning and implementing works, undertakings or activities in a manner that avoids harmful impacts to fish and fish habitat. Should proponents believe that their work, undertaking or activity will result in harmful impacts to fish and fish habitat, a Request for Review (RFR) must be submitted, and the DFO will work with them to assess the risk and provide advice and guidance on how to comply with the *Fisheries Act*.

2.1.2 Migratory Birds Convention Act

The *Migratory Birds Convention Act* (MBCA) was passed in 1917 and updated in 1994 to implement the Migratory Birds Convention, a treaty signed with the United States in 1916 (Government of Canada 1994). Environment and Climate Change Canada administers the MBCA, which is enforced through the Migratory Birds Regulations. Together the MBCA and Migratory Birds Regulations serve to protect most migratory birds, their nests, and eggs anywhere they are found in Canada (Government of Canada 2022).

2.1.3 Species at Risk Act

At a federal level, Species at Risk (SAR) designations for species occurring in Canada are initiated by the completion of a comprehensive Status Report by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment, species are added to the federal List of Wildlife Species at Risk (Government of Canada 2002a).

Species that are included on Schedule 1 as Endangered or Threatened are afforded both individual and critical habitat protection on federal lands under the *Species at Risk Act* (SARA). On private or provincially owned lands, only aquatic species or birds protected under the *Migratory Birds Convention Act* listed as Endangered, Threatened or Extirpated are protected under SARA, unless ordered by the Governor in Council.

2.2 Provincial Legislation

2.2.1 Environmental Assessment Act

The *Environmental Assessment Act* (Government of Ontario 1990) was created to provide for the protection, conservation, and wise management of the environment in Ontario. The Act applies to:

- (a) enterprises or activities or proposals, plans or programs in respect of enterprises or activities by or on behalf of His Majesty in right of Ontario or by a public body or public bodies or by a municipality or municipalities;
- (b) major commercial or business enterprises or activities or proposals, plans or programs in respect of major commercial or business enterprises or activities of a person or persons, other than a person referred to in clause (a), designated by the regulations;
- (c) an enterprise or activity or a proposal, plan or program in respect of an enterprise or activity of a person or persons, other than a person or persons referred to in clause (a), if an agreement is entered into under Section 3.0.1 in respect of the enterprise, activity, proposal, plan or program. R.S.O. 1990, c. E.18, s. 3; 2001, c. 9, Sched. G, s. 3 (3).

The Safari Road improvement project is being completed in accordance with the Municipal Class Environmental Assessment (MCEA), Schedule "B". In support of the MCEA, a Natural Heritage Assessment was conducted.

2.2.2 Provincial Planning Statement (2024)

The Provincial Planning Statement (PPS, Ministry of Municipal Affairs and Housing [MMAH] 2024) provides policy direction for regulating development and land use planning in the province. Both provincial and local land-use planning decisions build on the PPS and its relevant policies. This report deals specifically with the policies contained in Chapter 4, Section 4.1 (Natural Heritage) of the PPS which is directed at protection and management of natural heritage systems and features. A natural heritage system is defined by the Province of Ontario as:

A system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include natural heritage features and areas, federal and provincial parks and conservation reserves, other natural heritage features, lands that have been restored or have the potential to be restored to a natural state, areas that support hydrologic functions and working landscapes that enable ecological functions to continue (MMAH 2024).

Natural heritage features of significance are described in the Natural Heritage Reference Manual (OMNR 2010) and include:

- significant wetlands;

- significant coastal wetlands;
- other coastal wetlands in Ecoregions 5E, 6E and 7E;
- fish habitat;
- significant woodlands;
- significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
- habitat of endangered and threatened species;
- significant wildlife habitat; and
- significant areas of natural and scientific interest (ANSIs).

Development and site alteration is not permitted in:

- significant wetlands in Ecoregions 5E, 6E and 7E and significant coastal wetlands;
- significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River), significant wildlife habitat, significant ANSIs, and coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b), unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions; and
- fish habitat or habitat of endangered and threatened species except in accordance with provincial and federal requirements.

2.2.3 Greenbelt Plan

The *Greenbelt Act* was introduced in 2005 to help shape the future of the Greater Golden Horseshoe region (GGH). The Greenbelt Plan (2017), together with the Oak Ridges Moraine Conservation Plan and Niagara Escarpment Plan identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas and functions occurring on this landscape. The Greenbelt Plan builds on the Provincial Planning Statement (PPS) to establish a land use planning framework for the GGH that supports a clean and healthy environment. Sections of the Study Area fall within the jurisdiction of the *Greenbelt Act* for areas within the Greenbelt Plan (Map 2).

2.2.4 Endangered Species Act

At the provincial level, SAR and their habitats are protected under the *Endangered Species Act* (ESA, Government of Ontario 2007) which is administered by the Ministry of Environment, Conservation and Parks (MECP). SAR designations for species in Ontario are initiated by the completion of a comprehensive Status Report by the Committee on the

Status of Species at Risk in Ontario (COSSARO), and if approved by the provincial Minister of the Environment, Conservation and Parks, species are added to the SAR in Ontario (SARO) List (Ontario Regulation [O. Reg.] 230/08) under the ESA. Section 9(1) of the ESA, 2007 prohibits the killing, harming, harassment, capture, taking, possession, transport, collection, buying, selling, leasing, trading, or offering to buy, sell, lease or trade species listed as Extirpated, Endangered, or Threatened on the SARO List. Section 10(1) prohibits damaging or destroying habitat of Endangered or Threatened species on the SARO List and may apply to Extirpated species through special regulations. General habitat protection applies to all Endangered and Threatened species, with some species having 'categorized habitat', which protects areas within specific distances from known records. Some SAR are afforded a more precise habitat protection through a habitat regulation (regulated habitat), as identified in O. Reg. 242/08. Species designated as Special Concern are not protected under the Act.

The ESA, 2007 does include provisions for permits under Section 17(2)(c) that would otherwise contravene the Act. Projects which propose impacts to SAR or their habitat require a permit or other process (e.g., registration) to proceed without contravening the Act.

As of June 5, 2025, the ESA was amended and will eventually be repealed as a component of the *Protecting Ontario by Unleashing the Economy Act* (Bill 5, Legislative Assembly of Ontario 2025) and replaced with the *Species Conservation Act* ([SCA], Government of Ontario 2025). At the time of this report, the ESA is still the effective piece of legislation, though in reduced capacity, mainly in that habitat protections are reduced. For animal species, habitat protection is limited to dwellings (nest, den, etc.) or other occupied or habitually occupied place (breeding, rearing, staging, hibernation, etc.) and immediate surroundings required to support such a place. The Act no longer applies to aquatic species or species of birds protected by the *Migratory Birds Convention Act* on the List of Wildlife Species at Risk under the *Species at Risk Act*. For vascular plants, the habitat is reduced to the critical root zone of an individual. For all other species, the habitat is described as "an area on which any member of a species directly depends in order to carry on its life processes: ("habitat")". The changes also permit harassment of a listed species, repeal the requirement of a recovery strategy for listed species, management plans for special concern species, and related government response statements, and a host of other changes related to implementation and enforcement. Once the SCA is in force, provincial protections will no longer apply to aquatic species or species of birds protected by the *Migratory Birds Convention Act* on the List of Wildlife Species at Risk under the *Species at Risk Act*.

2.2.5 Conservation Authorities Act

The *Conservation Authorities Act* was significantly modified on April 1, 2024 with subsequent changes occurring on June 6, 2024. In the revised Act, Section 28(1) of the *Conservation Authorities Act* prohibits a number of activities from occurring within the jurisdiction of an authority. Generally, these are activities that interfere with watercourses, valleys, shorelines, hazardous lands, wetlands, and similar, and regulated under the new O. Reg. 41/24 Prohibited Activities, Exemptions and Permits. The Study Area is located within the Grand River Conservation Authority (GRCA) watershed, and sections are regulated under O. Reg 41/24 (see Map 2 for regulation areas). GRCA may grant permission to modify lands within their regulation limit under conditions outlined in a permit (Government of Ontario 1990a).

2.2.6 Clean Water Act

In response to the Walkerton crisis in 2000, the *Clean Water Act*, 2006, was established to protect raw municipal drinking water at its source by preventing its contamination and overuse (Government of Ontario 2006). Source water includes untreated water taken from underground aquifers and surface water features, such as streams, rivers, and lakes, to supply municipal drinking water systems. The *Clean Water Act* legislates the development of watershed-based source protection plans that identify community driven policies and programs to manage and protect the quality and quantity of both existing and future municipal drinking water sources. Once a Source Water Protection Plan is approved by the MECP, its policies are implemented by the various authorities designated by the Source Protection Plan.

The Approved Source Water Protection Plan for the Lake Erie Source Protection Region Source Water Protection Areas (2015) was reviewed to inform of any source water protection details in the Study Area. The Study Area is within the Grand River source protection area. While intake protection zone 3 is mapped within the Study Area, no highly vulnerable aquifer, significant groundwater recharge areas or wellhead protection areas were identified. Conservation Authorities were designated as plan implementors within the Lake Erie Source Protection Region area and are responsible for assisting with policies implemented by other authorities.

2.2.7 Invasive Species Act

Invasive species are an emerging concern, both due to impacts to ecosystems as well as land use and infrastructure. In Ontario, the *Invasive Species Act* (ISA, Government of Ontario 2015) sets out rules to prevent and control the spread of invasive species. The ISA

recognizes two classes of invasive species: prohibited and restricted. In the case of restricted invasive species, it is illegal to import, deposit, release, breed/grow, buy, sell, lease or trade restricted invasive species. Prohibited species have the same restrictions, but it is also illegal to possess or transport these species.

2.3 Municipal Legislation

2.3.1 Rural Hamilton Official Plan

The City currently has two official plans, the Rural Hamilton Official Plan (RHOP) and Urban Hamilton Official Plan, that came into effect on March 7, 2012 and August 16, 2013, respectively. Due to the Study Area falling within the rural area of the City, only the RHOP applies to this Project. The RHOP is currently being updated to reflect changes associated with the new *Official Plan Adjustments Act, 2023* that was enacted following Bill 150, the *Planning Statute Law Amendment Act*, 2023 receiving royal assent on December 6, 2023. Land use for the RHOP is highly detailed and illustrated utilizing many schedules (Schedule A through H, City of Hamilton 2023). As noted earlier, the entire Study Area is within the Greenbelt Area and has been given a Protected Countryside designation (Schedule A – Provincial Plans).

According to the Rural Hamilton Official Plan (City of Hamilton, 2012), "the Greenbelt Natural Heritage System, the Greenbelt Protected Countryside, and Core Areas within and outside of the Greenbelt Plan Area" comprise the City's Natural Heritage System. Core Areas are identified as "*the most important components of the Natural Heritage System in terms of biodiversity, productivity, and ecological and hydrological functions* (Policy C2.3) and *include key natural heritage features, key hydrologic features, including any associated vegetation protection zones, and provincially significant and local natural areas* (Policy C2.3.2)

Schedule B – Natural Heritage System of the RHOP details the Natural Heritage System features within the Study Area and surrounding area. Significant components of the Natural Heritage System identified or delineated for protection are shown as Core Areas, Greenbelt Protected Countryside, Greenbelt Natural Heritage System. A small Linkage area is shown in the northwestern section of the Study Area, connecting existing Core Areas. Additional features, along with pre-determined protection zones, are depicted in detailed mapping on Schedules B-1 through B-8. Within or in the vicinity of the Study Area, these additional features include:

Blank for Map 2

- Significant Woodlands throughout the Study Area, Schedule B-2
- Alvar and Tallgrass Prairie, two areas mapped, one northwest of the Study Area, another within north of Safari Road, Schedule B-3 K
- Wetlands, located on both sides of the road within the Study Area, Schedule B-4
- Lakes and Littoral Zones, a small feature mapped within the Study Area on the north side of Safari Road, Schedule B-5
- Local Natural Area Environmentally Significant Areas located on both sides of the road within the Study Area, Schedule B-6
- Streams, initiating north of Safari Road in the central and eastern sections of the Study Area, flowing southwest and northeast, respectively Schedule B-8

Safari Road itself is shown as an Arterial Road (Schedule C), with Agricultural lands to the north and a mixture of Open Space and Rural land use in the southwest and southeast, respectively (Schedule D).

3.0 Methodology

A desktop review was completed for the Study Area show on Map 1. Field investigations generally focussed on the ROW, with exceptions noted below.

3.1 Review of Background Information and Potential Species at Risk Data

The preliminary background review included review of the following publicly available sources, including databases and published reports, for information related natural environment components within the Study Area. The information reviewed is listed in Table 3.1.

Table 3.1 – Summary of Background Information Sources Reviewed

Source	Data
Past Studies	› An Environmentally Sensitive Area Management Study: Beverly Sparrow Field Hyde & Rockton Tracts (Tobias and Eagles 1977) › Preliminary Engineer's Report for the Safari Road Municipal Drain (Robinson Consultants Inc. June 2023) › Safari Road Municipal Drain Hydrologic and Hydraulic Analysis - Technical Memorandum (Draft) Robinson Consultants (March 2025) › Hamilton Wentworth Region Environmental Sensitive Areas Study (Ecologistics 1976)
City of Hamilton	› Information Request

Source	Data
	› Rural Hamilton Official Plan (2012) and Schedules (2023)
Ministry of the Environment, Conservation and Parks (MECP)	› Source Protection Information Atlas
Ministry of Natural Resources (MNR)	› Notice of Study Commencement Response and follow-up › Ontario Geohub (Government of Ontario 2025a), including but not limited to: o Natural Heritage Information Centre (NHIC) database, o NHIC Make A Map: Natural Heritage Areas o Fish ON-Line
Grand River Conservation Authority (GRCA)	› Notice of Study Commencement Response › Natural Heritage Characterization Report (GRCA 2025)
Hamilton Conservation Authority (HCA)	› Notice of Study Commencement Response › Hamilton Natural Areas Inventory (NAI) (Hamilton Naturalists Club [HNC] 2003, 2014)
Fisheries and Oceans Canada (DFO)	› Aquatic SAR Mapping (DFO 2025)
Ministry of Agriculture, Food and Agribusiness (MAFA)	› AgMaps (Government of Ontario 2024)
Other Publicly Available Data	› Ontario Breeding Bird Atlas (NatureCounts, 2018) › Ontario Nature – Ontario Reptile and Amphibian Atlas (ORAA, Ontario Nature 2020) › iNaturalist (screened to include Research Grade and Threatened species, 2024) › Ontario Moth Atlas (Kaposi *et al*. 2024) › Ontario Butterfly Atlas (MacNaughton *et al.* 2024) › Ontario Freshwater Fishes Life History Database, Robert J. Eakins (1999-2024) › eBird (2025)

3.2 Agency Consultation and Background Review

Natural heritage information requests were submitted to the following agencies by both RVA and the City on various dates to supplement information obtained during the background review. Agencies responded with the following information for the Study Area, which was utilized in the creation of this report. Agency Correspondence can be found in Appendix A.

City of Hamilton – Relevant natural heritage information was provided by the City to RVA to support the background review for the Study Area. Several natural areas associated with the Study Area were identified through this correspondence on July 18, 2024.

GRCA – The City, on behalf of RVA, submitted a data request to GRCA on August 21, 2024. A response was provided on September 13, 2024, which included information related

to regulation mapping, watercourses, floodplains, and wetlands as well as a related drainage petition.

HCA – The City, on behalf of RVA, submitted a data request to HCA on July 26, 2024, with a follow-up on August 7, 2024. A response was provided on August 8 and 16, 2024, which included Ecological Land Classifications (ELC) and Natural Areas Inventory (NAI) mapping, as well as the data associated with these maps relevant to the Study Area (HNC 2003; 2014).

MNR (Aylmer, Guelph District) – A request was submitted by RVA on April 11, 2025 to supplement information obtained during the background review. MNR provided a response on April 16, 2025, identifying in-water work timing restrictions for Fairchild Creek, potential permit requirements, and provided a copy of the wetland evaluation record for the Sheffield Rockton Provincially Significant Wetland (PSW) Complex. Additional correspondence pertaining to wetland mapping for the Sheffield Rockton PSW complex was received on September 4 and 9, 2025. The MNR provided mapping from the original PSW evaluation completed in 1988, as well as mapping from updates completed more recently, though no date was available.

3.3 Field Investigations

Field investigations were conducted in the 2024 fall and 2025 spring and summer field seasons in accordance with the Conservation Authority Baseline Ecological Assessment Requirements for Municipal Class Environmental Assessments document (Table 3.2). In addition to targeted surveys, all incidental wildlife, habitat, and pertinent landscape data was recorded to support a thorough assessment of the Study Area.

Table 3.2 – Field Investigations Schedule

Survey Type	Date	Weather	RVA Staff
Vegetation/ELC: Fall	October 10, 2024 September 5, 2025	15°C, Overcast 23°C, Overcast	Henrique Pacheco Kenny Wong
Vegetation/ELC: Spring	May 2, 2025 May 22, 2025 May 26, 2025 May 29, 2025	21°C, Overcast 12°C, Light rain 21°C, Scattered clouds 19°C, Overcast	Henrique Pacheco Paul Mikoda
Vegetation/ELC: Summer	June 24, 2025 July 4, 2025 July 11, 2025 July 18, 2025	33°C, Overcast 26°C, Scattered clouds 29°C, Overcast 23°C, Overcast	Zackary Harris Henrique Pacheco
Breeding Bird Survey (1 of 2)	May 26, 2025	20°C, Scattered clouds	Henrique Pacheco

Survey Type	Date	Weather	RVA Staff
Breeding Bird Survey (2 of 2)	June 24, 2025	24°C, Clear skies	Henrique Pacheco
RHWO Survey (3rd visit)	July 4, 2025	6°C, Scattered clouds	Henrique Pacheco
Fish and Fish Habitat Assessment	May 26, 2025	20°C, Scattered clouds	Courtney Beneteau Natasha Welch
Tree Inventory	May 22, 2025 May 26, 2025 May 29, 2025 June 24, 2025 July 4, 2025 July 11, 2025 July 18, 2025	12°C, Light rain 21°C, Scattered clouds 19°C, Overcast 33°C, Overcast 26°C, Scattered clouds 29°C, Overcast 23°C, Overcast	Zackary Harris Henrique Pacheco Kenny Wong
Incidental Observations	All Site Visits	-	All Staff

The following sections provide detailed methodologies used to assess the flora and fauna during field investigations.

3.3.1 Ecological Land Classification and Vegetation Inventory

A three-season floral inventory and ELC community survey was completed for the Study Area. Field visits were timed to correspond with a spring, summer, and fall inventory window to characterize the existing vegetation communities and identify any rare or at-risk plant species. Vegetation communities were delineated within the Study Area according to the Ecological Land Classification of Southern Ontario (Lee *et al.* 1998), with a focus on confirming and refining data acquired from background sources and to fill in gaps in areas not covered by the previous studies.

Vegetation surveys were restricted to the ROW within the Study Area and immediately adjacent areas within 120 m, where permission to enter (PTE) was granted. This included the Hyde Tract (public land) and several small private properties. Surveys were completed by walking transects throughout the roadsides. Areas exhibiting variation in floral or topographical composition, such as ditches or vegetation clumps, were reviewed in further detail. Species not readily identifiable in the field were sampled and identified later utilizing Michigan Flora Online (Reznicek *et al.* 2011). Where PTE was not granted, the ELC and vegetation inventory was completed from the roadside, and recent satellite imagery and historic surveys were used to confirm classifications and fill in gaps (e.g., Tobias and Eagles 1977, MNR 1988, HNC 2003, 2014).

3.3.2 Tree Inventory

Landscape trees and trees with a diameter at breast height (DBH) of ten (10) centimetres (cm) or more within and 20 m outside the ROW were inventoried by RVA staff, including an ISA Certified Arborist. Inventoried trees were assessed, geolocated, and documented in a table as per the City of Hamilton's Tree Protection Guidelines (City of Hamilton 2010). Information recorded included tree species, DBH, crown radius, structural form, and notes on tree health and condition.

3.3.3 Breeding Birds

Breeding birds were assessed within the Study Area in accordance with the Ontario Breeding Bird Atlas point-count protocol, with additional species-specific surveys following the Red-headed Woodpecker (*Melanerpes erythrocephalus*) Species Guidance (Wisconsin Department of Natural Resources 2013), and augmented with incidental data as pertinent (e.g., breeding evidence; Birds Canada 2021). Surveys included two visits during the peak breeding bird season for Southern Ontario (between May 24 and July 10) to document any breeding evidence including visual sightings and vocalizations of breeding migratory birds and SAR birds (Table 3.2). Species recorded outside of dedicated surveys in 2025 were also included as field work occurred during the migratory bird breeding season.

3.3.4 Wildlife Habitat and Incidental Wildlife

During all site visits, terrestrial wildlife, including call and signs, were recorded. Specific habitats surveyed for included gravel roadsides (reptile nesting), mammal burrows (often on slopes), crayfish burrows (associated with ditches or wetlands), recently disturbed soils, potential cover objects, or other anomalous or unique features or habitat within the Study Area including large dead or decaying (wildlife) trees. Wildlife surveys were conducted in conjunction with floral surveys, described above. RVA staff did not conduct nocturnal acoustic surveys for bats within the Study Area during field investigations.

Targeted surveys for snag and cavity trees (i.e., in leaf-off conditions) were not included in the scope of this Natural Heritage Assessment. As most bat species within the province are considered SAR, potential habitat for SAR bats is inferred from the presence of trees.

3.3.5 Significant Wildlife Habitat Features

Potentially Significant Wildlife Habitat (SWH) features were identified using the criteria in the Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E (OMNRF 2015) and the Significant Wildlife Habitat Technical Guide (OMNRF 2000).

3.3.6 Aquatic Habitat

The potential for fish habitat was investigated in the Study Area. Fish habitat investigations were limited to the municipal ROW and involved identifying and recording:

- Potential surface flow connectivity of identified features;
- Water chemistry including temperature, dissolved oxygen, pH, and conductivity;
- Habitat information/locations including stream morphology, bed substrate, bank characteristics, stream flow and depth;
- "Critical" or important habitat areas including potential spawning areas, nursery cover, and feeding areas; and
- Potential constraints, habitat compensation or enhancement opportunities.
- Fish communities were surveyed via backpack electrofishing in accessible habitats. Surveys were conducted during the spring season as there was interest from DFO if spring spawning and/or residence by northern pike (*Esox lucius*) or white sucker (*Catostomus commersonii*) occurred within the Study Area (see Appendix A). Any fish captured were identified and live released back into the waterbody of origin. Photographs were taken of the habitat and representative species captured.

3.3.7 Linkage Assessment

In accordance with the City's Linkage Assessment Guidelines (City of Hamilton 2015), field investigations included surveys to address specific natural heritage features and functions of the landscape in the Study Area. In addition to assessing aerial imagery, the detailed methodologies of the field surveys are described above (i.e., ELC, wildlife, fish, etc.).

3.4 Species at Risk Screening

Provincially protected SAR can be found throughout Ontario in both documented and undocumented populations. A list of SAR with potential to occur in the Study Area was compiled from background sources and the habitat requirements for these species were identified using assessment reports from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The field studies described above were compared to the known habitat preferences and general locations of SAR noted in background review documents to determine the potential that these species or their habitat could occur in the Study Area. SAR that were confirmed to be present or were determined to have a high probability of occurring in the Study Area are discussed in detail in Section 5.0.

4.0 Existing Conditions

The natural heritage system features (as shown on Schedule B of the Rural Hamilton Official Plan) within the Study Area include: Core Areas, Greenbelt Protected Countryside, Greenbelt Natural Heritage System, Linkages, Significant Woodland, Local ESAs, fish habitat (lakes and streams), and PSWs. Other natural heritage features which require an evaluation to determine presence/absence, such as SWH and SAR, will be discussed in the following sections, along with those confirmed in the Study Area.

An overview of the natural heritage features and regulated areas in the Study Area is presented in Map 2. A representative collection of the photographs taken during field investigations can be found in Appendix B.

4.1 Physical Setting

4.1.1 Physiography and Soils

The Study Area is within the Flamborough Plain physiographic region, an area characterized by shallow soil over cream-buff dolomite of the Guelph Formation, with occasional drumlins, and ancient beach bars and sand/gravel ridges associated with glacial Lake Whittlesey (Chapman and Putnam 2007, Ecologistics Limited 1976, Ontario Geological Survey 2010). Glacial striae are visible in some areas where the dolomite bedrock is exposed, indicating the direction of ice movement (Flint 1971). The entire landscape, outside of the drumlins, have been identified as “known Karst”, due to the presence of the underlying dolomite (Brunton and Dodge 2008).

The dominant soil type within the Study Area is the Farmington series, which is a stoney, well-drain loam soil only 30 cm deep over the dolomite bedrock (HNC 2003; 2014; OGS 2010; Presant *et al.* 1965). This includes most of the landscape bordering Safari Road beyond the low-lying areas associated with the Rockton-Sheffield Wetland Complex, which contains minor organic deposits over bedrock or glacial till (MNR 1988). A Drumlin overlaps the central portion of the Study Area within the Hyde Tract and extends just north of Safari Road. Guelph Loam, a well-drained stone-poor sandy to silty sand textured till, is dominant within this feature, with some glacolacustrine deposits of sand, gravel, and minor silt and clay within the north tip that extends across Safari Road through the Hyde Tract parking lot (HNC 2003; 2014; OGS 2010). A former sand and gravel pit is also located within private lands on the north side of Safari Road opposite the Hyde Tract Parking lot (OGS 2010). The drumlin is bordered along it’s south and west sides by a raised shoreline and beach gravel

bar which were deposited by glacial Lake Whittlesey (Ecologistics Limited 1976; OGS 2010).

4.1.2 Subwatershed

The Study Area is located within the Fairchild Creek subwatershed, in the east central portion of the Grand River watershed. Fairchild Creek flows southwest from Puslinch Township and then southeast before joining the Grand River near the Village of Onandaga. The total area of the subwatershed is 40,100 hectares (ha) or 6% of the Grand River watershed (GRCA 2025).

Within the Fairchild Creek subwatershed there are four (4) distinct physiographic regions, including the Horseshoe moraines, Flamborough plain, Norfolk sand plain, and the Haldimand clay plain, and there are two (2) areas of natural scientific interest. Wetlands cover 4,245 ha or 11% of the subwatershed and woodland covers 7,820 ha or 20% (GRCA 2025).

4.1.3 Topography and Drainage

The Study Area is part of the Fairchild Creek subwatershed and includes the headwaters of two watercourses, with the watershed divide being located within the center of the Study Area. Local topography consists of gentle slopes with complex topography (Soil Research Institute 1967).

In the east, a component of the Sheffield Rockton Wetland Complex north of the Study Area forms the headwaters of Barlow Creek, which flows south/southeast out of the Study Area, then heads southward. Though the watercourse is not within the Study Area, the eastern half of the Study Area is within the Barlow Creek watershed, In the western part of the Study Area, the central wetland drains north of Safari Road to the west, before heading south becoming a defined channel south of Safari Road. Both watercourses eventually converge southwest of the Study Area.

Construction/augmentation of private laneways has interrupted the natural flow regime, resulting in blockages that are creating flooding issues (Robinson Consultants 2023).

4.2 Designated Natural Areas

No provincially designated parks, conservation areas, reserves, or Areas of Natural or Scientific Interest (ANSI) were identified in the Study Area. Components of a Provincially Significant Wetland, the Sheffield-Rockton Wetland Complex are included in the Study Area. Treed and wetland areas within and beyond the Study Area are considered Environmentally

Significant Areas within the City of Hamilton (City of Hamilton 2023). The following sections examine the designated natural areas and features found in the Study Area and shown on Map 2.

4.2.1 Wetlands and Provincially Significant Wetlands (PSWs)

The wetlands within the Study Area are part of the Sheffield – Rockton Wetland Complex, a Provincially Significant Wetland (PSW) comprised of 402 individual mapped units scattered across the Flamborough Plain including the Fairchild Creek Subwatershed. The wetland community types documented within this complex include swamp, marsh, and fen. This wetland complex was first evaluated in 1988 (MNRF 1988) with subsequent desktop updates to the wetland boundaries and classifications of features in 2011 and 2012 using 2010 SWOOP Orthoimagery (Government of Ontario2025a). Based on this most recent mapping of wetland vegetation communities within the Study Area, most communities are swamps, with marsh communities occurring centrally within the Study Area bordering either side of Safari Road. The wetland extends westward, north of the Study Area before flowing south under Safari Road near Kirkwall Road as an unnamed headwater tributary of Fairchild Creek (Map 2).

At the time of the Tobias and Eagles ESA study conducted in 1977, the only wetland community mapped within the Hyde Tract portion of the Study Area was a marsh whose location generally corresponds to the location of the current marsh bordering the central portion of Safari Road within the Study Area (Map 2). In 1988, the PSW evaluation identified an emergent marsh in this area, which was dominated by grasses and sedges. A hardwood swamp with Silver Maple (*Acer saccharum*) and Ash (*Fraxinus spp.*) extended north and west with some sections dominated by Northern White Cedar (*Thuja occidentalis*) and Black Ash (*Fraxinus nigra*). During field work supporting the Hamilton Natural Areas Inventory (HNC 2003; 2014), in 2002, a Forb Mineral Meadow Marsh (MAM2-10) was mapped as the dominant wetland community type in the feature south of Safari Road, based on the Ecological Land Classification System (ELC) for southern Ontario (Lee *et al.* 1998). The 2012 mapping updates for the PSW were completed by the MNR via desktop analysis, so they did not include any updates to the composition of vegetation. However, the wetlands north and south of central Safari Road were split into robust emergent (e.g., *Typha sp*) marsh with a perimeter of tall shrub swamp on the south side of Safari Road, and emergent marsh with a perimeter of hardwood swamp on the north side. The westerly portions of wetland north of Safari Road, were classified as tall shrub swamp and hardwood swamp at this time.

In the western part of the Study Area, the wetland constricts and forms an unnamed tributary of Fairchild Creek as it passes under Safari Road near the intersection with Kirkwall Road. Tobias and Eagles described this area south of Safari Road as “old field meadow” in 1977, indicating a lack of, or minimal wetland cover at that time. They also note that this reach of Fairchild Creek was ephemeral, with flowing water only in the spring. The 1988 PSW evaluation classified this area as a hardwood swamp with Silver Maple, Balsam Poplar (*Populus balsamifera*), and American Elm (*Ulmus americana*), transitioning to tall shrub swamp with a similar species composition towards Kirkwall Road. This portion of the PSW was lumped into a single tall shrub swamp in 2012 based on a roadside check by the GRCA in 2006.

An additional component of the PSW is also present in the eastern part of the Study Area, on the north side of Safari Road (Map 2). This area was not mapped by Tobias and Eagles in 1977 nor the original PSW evaluation in 1988 but was mapped during fieldwork for the Hamilton NAI in 2002, at which time it was classified a Silver Maple Mineral Deciduous Swamp (SWD3-2) according to the ELC (HNC 2003; 2014).

These changes to the wetlands described through successive updates to the PSW mapping likely reflect ecological succession due to the maturation of the vegetation communities, as well as hydrological changes between 1977 and 2012.

4.2.2 Environmentally Significant Areas (ESAs)

The Hyde/Rockton/Beverly Complex Environmentally Significant Area (ESA) overlaps the western half of the Study Area and includes the Sheffield-Rockton PSW Complex and Hyde Tract, as well as woodlands on private land to the north of Safari Road. The ESA extends southwest of the Study Area where it includes the Beverly Sparrow Field Tract and Rockton Tracts. This ESA was first evaluated by Tobias and Eagles (1977). The landcover within the ESA includes extensive coniferous plantation interspersed with deciduous forest, as well as deciduous swamp and marsh wetland types. North of the Study Area it includes treed alvar along the east side of Kirkwall Road.

The Savage Tract ESA is located within and north of the eastern half of Study Area, northwest of the Valens Road and Safari Road intersection. It contains hardwood swamp of the Sheffield-Rockton PSW Complex, and well as treed alvar.

Both ESAs are Local Natural Area Environmentally Significant Area within the City of Hamilton, as shown on OP Schedule B-6.

Surrounding the Study Area are two other recognized ESAs: Beverly Swamp Complex (700 m to the northeast) and Rockton Airfield West (800m to the northwest).

4.2.3 Regulated Areas

As previously noted, the Study Area is located within the GRCA and O. Reg. 41/24 (Prohibited Activities), under Section 28 of the *Conservation Authorities Act*, applies to the drainage features and wetlands within the Study Area. Under this regulation, any development, site alteration, construction, or placement of fill within the regulated area requires a permit from GRCA, as does interference with a wetland or any alteration to an existing watercourse channel.

4.3 Vegetation and Vegetation Communities

The Study Area is in a rural landscape comprised of agricultural lands, rural residential properties and natural/successional areas including wetlands, deciduous forest, cultural thicket, and conifer plantations. A number of prior studies completed vegetation community classifications within and adjacent to the Study Area, including the ESA report for the Beverly Sparrow Field, Rockton, and Hyde Tract ESA (Tobias and Eagles 1977), the Sheffield-Rockton Provincially Significant Wetland Complex (MNR 1988, MNR 2012), and the Hamilton Natural Areas Inventory (NAI; HNC 2003; 2014), as described under section 4.2.1 and 4.2.2.

The field investigations within the Study Area identified 23 different natural or successional ELC vegetation community types, including meadow, wetland, thicket, coniferous plantation, and deciduous forest across 35 polygons. Each of these vegetation communities is described below, along with notable changes in landcover over what was documented in the background studies reviewed. The vegetation communities described below are shown on Map 3 and the datasheets are provided in Appendix C. For properties where access was not granted, communities were determined through ortho-image interpretation and inference based on vegetation observed from the road.

Coniferous Cultural Plantations (CUP3) were common throughout the southwestern half of the Study Area and extend southward through the Hyde Tract (Polygon 6 and 7, Photo1), as well as several smaller areas within the eastern half of the Study Area (Polygons 14 and 18). These plantations (excluding Polygon 14) were planted in the 1960s by the MNR (Tobias and Eagles 1977) and included a mix of Norway Spruce (*Picea abies*), White Spruce (*Picea glauca*), Blue Spruce (*Picea pungens*), Jack Pine (*Pinus banksiana*), Red Pine (*Pinus resinosa*), Eastern White Pine (*Pinus strobus*), and Scots Pine (*Pinus sylvestris*). These plantations were extensive throughout the southwestern quarter of the Study Area but plantations closer to the Sheffield-Rockton Wetland Complex have declined significantly over the past decade due to rising water levels and subsequent dieback of the tree canopy

(e.g. Polygon 10, Photo 2). Specific ELC Vegetation Types include White Pine Cultural Plantation (CUP3-2; Polygon 14) and White Spruce – European Larch Coniferous Plantation (CUP3-8; Polygon 14). Due to the maturity and decline of the conifers in some upland areas, pockets of deciduous trees (e.g. *Acer saccharum, Juglans nigra Populus tremuloides, Prunus serotina, Quercus rubra*) have emerged resulting in complexes of Mineral Cultural Woodland (CUW1; Polygon 7) and inclusions of Deciduous Forest (FOD; Polygon 6). The roadside areas were typically dominated by mature Sugar Maple and American Basswood (*Tilia americana*). The understorey and subcanopy vegetation within the plantations included Sugar Maple, Ash (*Fraxinus americana* and *F. pennsylvanica*), American Elm (*Ulmus americana*), European Buckthorn (*Rhamnus cathartica*), Alternate-leaved Dogwood (*Cornus alternifolia*), and Glossy Buckthorn (*Frangula alnus*). Common Groundcover species included Thimbleweed (*Anemone virginiana*), White Avens (*Geum canadense*), Wild Basil (*Clinopodium vulgare*), and False Solomon's-seal (*Maianthemum racemosum*).

Several Hedgerows (HR; Polygon 16) were observed within the Study Area, primarily in the eastern half of the study area along the Safari Road and between adjacent farm fields and parallel to the roadway. The Hedgerows were dominated by Black Walnut, Ash, American Basswood, and Common Lilac (*Syringa vulgaris*). Canopy cover was variable, in part due to Ash dieback, and the groundcover vegetation was composed of primarily meadow species including Canada Goldenrod (*Solidago canadensis*), Smooth Brome (Bromus inermis) and other exotic grasses, and Garlic Mustard (*Alliaria petiolata*).

Mineral Cultural Meadow (CUM1) was uncommon within the Study Area, occurring only around the Hyde Tract Parking Lot (Polygon 25c, Photo 3), within private lands on the north side of Safari Road (Polygon 25b), and roadside areas along Kirkwall and Safari Road (Polygon 25a and 25d). The vegetation around the Hyde Tract parking lot was dominated by exotic grasses (*Lolium sp, Dactylis glomerata, Poa compressa*) and forbs such as Viper's Bugloss (*Echium vulgare*), Queen Anne's Lace (*Daucus carota*), Hawkweeds (*Hieracium sp*), and Annual Fleabane (*Erigeron Annuus*). Small pockets of meadow also occurred along the length of Safari Road within the ROW bordering ditches and the shoulder of the road and were generally similar to Polygons 25a - 25d. These areas were lumped with the adjacent polygons. While most areas were dominated by exotic species, pockets dominated by native species occurred on the gravelly soils near the Hyde Track, including Strict Blue-eyed Grass (*Sisyrinchium montanum*), Howell's Pussy Toes (*Antennaria howelii spp petaloidea*), and Gray-stemmed Goldenrod (*Solidago nemoralis*). The Mineral Cultural Meadow on private lands north of Safari Road (Polygon 25b) could not be surveyed directly due to lack of permission to enter (PTE). Based on satellite imagery, this area appears to be

dominated by bare soil due to active filling and disturbance, with a border of meadow vegetation and wet pockets.

Mineral Cultural Thicket (CUT1) was rare within the Study Area, occurring within only one small area (**Polygon 15)** in the eastern half of the Study Area (**Photo 4**). This area could not be surveyed directly because PTE was not granted but appeared to be a continuation of the connecting hedgerows populated with young Black Walnut, Ash, American Basswood, and Gray Dogwood (*Cornus racemosa*). Many standing dead Ash are visible within the community, which likely would have been assessed as a Mineral Cultural Woodland (CUW1) prior to Ash die-off, presumably from Emerald Ash Borer (EAB, *Agrilus planipennis*).

Mineral Cultural Woodland (**CUW1**) were present within the central portion of the Study Area and mapped as Polygons 8 and 9. **Polygons 8a, 8b, 8c, and 8d** were surveyed from the roadside only as PTE was not granted. The relatively open canopy of these areas included Scots Pine, White Pine, White Spruce, American Elm, Black Walnut, Ash, Sugar Maple, and Black Cherry (**Photo 5**). Based on analysis of satellite imagery, these areas have succeeded from Mineral Cultural Meadow. On the south side of Safari Road, **Polygon 9** was dominated by Black Walnut with occasional Bur Oak and American Basswood (**Photo 6**). This area was previously classified by HCA as a Mineral Cultural Savannah (CUS1) and White Ash Mineral Deciduous Forest (FOD4-2) but has likely converted to Mineral Cultural Woodland (CUW1) over the past two decades due to the combination of White Ash decline due to EAB and the maturation of the walnut trees. The understorey of this polygon was abundant with White Ash saplings, Chokecherry (*Prunus virginiana*), and Alternate-leaved Dogwood, with young Bur Oak in the moister areas, and Chinquapin Oak seedlings in the drier areas. The ground cover composition of this polygon included primarily White Avens, Black Raspberry (*Rubus occidentalis*), and Orchard Grass (*Dactylis glomerata*). Other Mineral Cultural Woodland areas were scattered throughout the adjacent Coniferous Plantation (**Polygon 7**) and were similar in species composition.

Mineral Deciduous Forest (FOD) was represented by Dry-Fresh Sugar Maple –Hardwood Deciduous Forest (FOD5-1; **Polygons 1, 20, 21**) and Dry – Fresh Sugar Maple – Oak Deciduous Forest (FOD5-3; **Polygon 5**). **Polygon 1** was the most botanically diverse polygon within the Study Area. The canopy and subcanopy were dominated Sugar Maple and Black Maple (*Acer nigrum*) with abundant American Basswood, Bur Oak (*Quercus macrocarpa*), Red Oak, and occasional White Pine (**Photograph 7**). Several large Chinquapin Oak (*Quercus muhlenbergii*) were also growing along the woodland edge beside Safari Road. The understorey included Prickly Ash (*Xanthoxylum americanum*), Gray Dogwood (*Cornus racemosa*), Downy Arrowwood (*Viburnum rafinesquianum*), and Snowberry (*Symphoricarpos albus*). The ground cover vegetation was dominated by

sedges, primarily Pretty Sedge (*Carex woodii*), Handsome Sedge (*Carex formosa*), and Graceful Sedge (*Carex gracillima*), and common forbs included Wild Blue Phlox (Phlox divaricata), Wild Geranium (*Geranium maculatum*), Early Meadowrue (*Thalictrum dioicum*), and False Solomon's Seal. Some areas within Polygon 1 contained exposed bedrock, though most appeared to have deeper soil (i.e. >30 cm) over the bedrock. PTE was not granted for Polygon 20, 21 or 24. Polygon 24 was determined to be Deciduous Forest (FOD) based on satellite imagery. Polygons 20 and 21 were classified as FOD5-1 based on a roadside assessment and the similarity of the canopy composition to Polygon 1.

Polygon 5 was a small Dry – Fresh Sugar Maple – Oak Deciduous Forest that was growing on a dry slope along the north side of Safari Road. This area was dominated by Sugar Maple, Red Oak, and had a ground cover dominated by Pennsylvania Sedge (*Carex pennsylvanica*) and Large-leaved Aster (*Eurybia macrophylla*).

Mineral Mixed Forest (FOM) was represented in Polygons 2a and 2b, both consisting of Dry-Fresh White Pine – Sugar Maple Mixed Forest (FOM2-2), near the Kirkwall Road – Safari Road intersection. PTE was not granted for Polygon 2a, so it was surveyed from the roadside only. As noted by Tobias and Eagles (1977), the area corresponding to Polygon 2b was largely open meadow historically. Historic orthoimagery (University of Toronto 2025) confirms Polygon 2a was managed open field, while Polygon 2b was a mosaic of trees and open areas.

The canopy composition of Polygon 2b was similar to Polygon 1, but with a higher proportion of White Pine. The understorey and groundcover composition was also very similar to Polygon 1, being dominated by sedge species, Wild Geranium, and False Solomons Seal, but was less diverse.

Mineral Deciduous Swamp (SWD3), specifically Swamp Maple Mineral Deciduous Swamp (SWD3-3), was found throughout the Sheffield-Rockton PSW Complex bordering Fairchild Creek and the Mineral Shallow Marsh. Polygons 3 and 4 were surveyed directly, but PTE was not granted for Polygons 13a - 13e. Polygons 3 and 4 are associated with the Fairchild Creek headwaters and were dominated by Freeman Maple (*Acer x freemanii*) with occasional Trembling Aspen (*Populus tremuloides*), American Basswood, American Elm, and Bur Oak. Polygon 3 was more mature with a closed canopy (Photo 8), whereas Polygon 4 was relatively open with pockets of Narrow-leaved Sedge Mineral Shallow Marsh (MAS2-3), dominated by Tussock Sedge (*Carex stricta*), and shrub-dominant areas with Red-Osier Dogwood (*Cornus sericea*) and Nannyberry (*Viburnum lentago*) (Photo 9). The groundcover within Polygon 3 included a diversity of wetland sedges (*Carex projecta*, *C. tenera, C. cristatella*), and forbs including Spotted Jewelweed (*Impatiens capensis*), Marsh

Marigold (*Caltha palustris*), Michigan Lily (*Lilium michiganense*). The dominant species within Fairchild Creek and connected depressions within the swamp was Marsh Mermaidweed (*Proserpinaca palustris*), a rare species within the City of Hamilton. Polygons 13a – 13e were clearly dominated by Freeman Maple with occasional Willow, American Elm and Green Ash (*Fraxinus pennsylvanica*). Large, dead, Freeman Maple trees were visible throughout these areas. This canopy dieback was likely caused by recent and historic hydrological changes.

Mineral Shallow Marsh (MAS2), specifically Cattail Mineral Shallow Marsh (MAS2-1), was the dominant wetland type within the deeper areas of the wetland complex bordering both sides of Safari Road (Polygons 12a – 12c, Photo 10). PTE was not granted for most of these polygons, so they were surveyed from the edge of Safari Road. These polygons were dominated by Narrow-leaved Cattail (*Typha angustifolia*) with abundant American Burreed (*Sparganium americanum*) and Broad-leaved Arrowhead (*Sagittaria latifolia*). Large patches of European Common Reed (*Phragmites australis ssp. australis*) were also present within Polygons 12a 12b, and 12c, and appeared to be most dense close to Safari Road. The deeper waters contained a diversity of floating and submergent aquatic species, including Lesser Duckweed (*Lemna minor*), Pondweed species (*Potamogeton sp*), Small Burreed (*Sparganium natans*), Stonewort (*Chara sp*), Marsh Mermaidweed, and Greater Bladderwort (*Utricularia vulgaris ssp. macrorhiza*). Polygon 23, another Cattail Mineral Meadow Marsh (MAS2-1), was also not surveyed directly but was visible from Safari Road and recent satellite imagery. This feature established recently along the edge of an agricultural field, due to recent increases in water levels in this area.

Mineral Thicket Swamp (SWT) was present throughout the Sheffield-Rockton PSW Complex and composed a large proportion of the wetland south of Safari Road. Polygon 11, the large Buttonbush Mineral Thicket Swamp (SWT2-4) south of Safari Road, was dominated by Buttonbush (*Cephalanthus occidentalis*) and several willow species including Pussy Willow (*Salix discolor*), Bebb's Willow (*Salix bebbiana*), Peach-leaved Willow (*Salix amygdaloides*), and Cottony Willow (*Salix eriocephala*), with White Meadowsweet (*Spiraea alba*) scattered throughout (Photo 11). The emergent and submergent herbaceous species were similar to Polygon 12a and 12b, but Narrow-leaved Cattail was less abundant. Polygon 10 was a Coniferous Plantation (CUP) of primarily Spruce and Scots Pine that recently declined due to the increase in water levels (Photo 12). The remaining vegetation was largely flood-tolerant trees and shrubs such as Freeman Maple, Green Ash, and Glossy Buckthorn. During investigations, the water level was up to 1 m deep in many areas, and due to it being contiguous with Polygons 10 and 12c, contained a similar composition of sedges, rushes, and submergent and floating aquatic plants as those polygons. Similarly, Polygon 17 was

previously classified as a Silver Maple Mineral Deciduous Swamp (SWD3-2) based on data received from the HCA associated with the Hamilton NAI (HNC 2003; 2014). Significant canopy decline, presumably due to recent hydrologic changes and Emerald Ash Borer, has resulted in the conversion of this area to Mineral Thicket Swamp (SWT2) dominated by European Buckthorn and Glossy Buckthorn, with young Ash and Northern White Cedar (*Thuja occidentalis*), and emerging Black Walnut (Photograph 13). The groundcover of this polygon consisted of Hairy Calico Aster (*Symphotrichum lateriflorum*), Arrow-leaved Aster (*Symphyotrichum urophyllum*), Late Goldenrod (*Solidago gigantea*), White Avens (*Geum canadense*), and Heal-all (*Prunella vulgaris*).

The balance of the landscape within the Study Area was comprised of Agricultural lands, including Soy (*Glycine max),* Corn (*Zea mays*), and other crops (Polygons 22), and rural Residential properties with lawns and landscape trees (Polygon 19).

4.3.1 Flora

The original survey for the Hyde-Rockton-Beverly Complex (Tobias and Eagles 1977) listed 215 vascular plants from the ESA, including eight species that were considered uncommon at the time: Water Horsetail (*Equisetum fluviatilis*), Eastern Red Cedar (*Juniperus virginiana*), Pinesap (*Monotropa hypopithys*), Foxglove Beardtongue (*Penstemon digitalis*), Hairy Beardtongue (*Penstemon hirsutus*), Chinquapin Oak (*Quercus muhlenbergii*), Fragrant Sumac (*Rhus aromatica*), and Prickly Ash (*Xanthoxylum americanum*). These species are all considered relatively common in Ontario (S4 or S5). Black Ash (*Fraxinus nigra*), now listed as Endangered in Ontario, was present within lowland deciduous forest at the southern end of the Hyde Tract. The Natural Areas Inventory (HNC 2003) listed nine species that are listed as rare within the City of Hamilton, including Handsome Sedge (*Carex formosa*), Slender Loose-flowered Sedge (*Carex gracilescens*), Pale Sedge (*Carex pallescens*), Bicknell's Cranesbill (*Geranium bicknelii*), Ten-rayed Sunflower (*Helianthus decapetalus*), Large Canadian St. John's-wort (*Hypericum majus*), Grooved Yellow Flax (*Linum sulcatum*), Smooth Ground-cherry (*Physalis subglabrata*), and Fragrant Sumac. Of this earlier list, HCA data for the 2004 updates to the Hyde Track ELC and floral inventory noted only Chinquapin Oak and Prickly Ash as present within the ELC polygons overlapping Study Area but did note the presence of Bristly Swamp Currant (*Ribes lacustre*), which is listed as rare in the City (HNC 2014). A detailed flora inventory was not included in the wetland evaluation record for the Sheffield – Rockton Wetland Complex (MNR 1988), but dominant species were noted in the vegetation community descriptions. At the time, Black Ash was present within the deciduous swamps north of the Study Area. NHIC data for the

squares including the Study Area did not list any rare or SAR vascular plants (Government of Ontario 2025b).

The list of species observed in the Study Area during the three-season floral inventory is provided in Appendix D. A total of 329 species were recorded within the Study Area during the field investigations in 2024 and 2025, including 230 native species (70%), and 99 introduced species. No species of conservation concern within Canada (i.e., G1 – G3) or Ontario (S1 – S3) were observed, but 18 species that are considered rare and uncommon within the City of Hamilton were (Appendix D). Out of the 17 rare or uncommon species listed in the background data reviewed, eight were observed during the field investigations: Eastern Red Cedar, Foxglove Beardtongue, Chinquapin Oak, Handsome Sedge, Pale Sedge, Ten-rayed Sunflower, Fragrant Sumac, and Prickly Ash. Black Ash was not observed during the flora inventory or tree survey, but may be present within the SWD, and SWT Ecosites (Polygons 3, 4,10,11,13a-e). Ash dieback due to Emerald Ash Borer was observed during the tree surveys, and most Green Ash (*Fraxinus pennsylvanica*) and White Ash (*Fraxinus americana*) were survived by seedlings and stump resprouts from small trees less than 15 cm DBH.

4.3.2 Invasive Species

A total of 33 species considered invasive in Ontario were observed during the field investigations (Appendix D). Notable invasive species that were common included Autumn Olive (*Elaeagnus umbellata*), Glossy Buckthorn (*Frangula alnus*), Scots Pine (*Pinus sylvestris*), European Common Reed (*Phragmites australis ssp. australis*), and Common Buckthorn (*Rhamnus cathartica*). Invasive species were observed in all of the vegetation communities surveyed with PTE. The exotic trees and shrubs were most abundant the Mineral Cultural Thicket (Polygon 15) Mineral Cultural Plantations (Polygons 6 and 7), Mineral Cultural Woodlands (Polygons 8a-c, 9), and Mineral Thicket Swamp (Polygons 11 and 10), but were also encountered along the roadside edges of the Deciduous and Mixed Forest (Polygons 1, 2, 20, 21). European Common Reed appeared to be most abundant near Safari Road within Polygons 12a and 12b, as well as pockets within Polygons 13c and 13d (Map 3, Photograph 14).

Map 3 -1

Map 3-2

Map 3-3

Map 3-4

4.4 Tree Inventory

A total of 1392 trees were inventoried within and up to 20 m outside the Safari Road ROW within the Study Area (Appendix E) where PTE was granted. Some trees were rooted outside this envelope, but their canopies overlapped so were included. The locations of each inventoried tree are shown in Map 4 which can be found in Appendix E. Some areas were dominated by trees and shrubs smaller than 10 cm DBH, so contained few surveyed trees.

No SAR or species considered uncommon or rare within the City of Hamilton were observed, other than Red Pine (*Pinus resinosa*) which were planted. The most abundant species observed were Sugar Maple (*Acer saccharum*), White Pine (*Pinus strobus*), Freeman Maple (*Acer x freemanii*), American Basswood (*Tilia americana*), Norway Spruce (*Picea glauca*), and White Spruce (*Picea glauca*). The most heavily treed area, which also had the largest trees, was the west end of the Study Area within the Mineral Mixed Forests, Mineral Deciduous Forests, and Coniferous Cultural Plantations (Map 3). The central portion of the Study Area near and within the Sheffield-Rockton PSW Complex (i.e., Polygons 10 and 13) had the lowest canopy cover due to high water level and recent dieback of the plantations; however, most of the dead trees remain standing. The eastern end of the Study Area primarily contained smaller trees within roadside hedgerows (i.e., Polygon 16).

Most trees inventoried (1139; 81%) were less than 20 cm DBH, with few (23; 1.7%) greater than 50 cm DBH. The largest diameter trees observed were Black Maple (*Acer nigrum*), Sugar Maple, Freeman Maple, Bitternut Hickory (*Carya cordiformis*), Black Walnut (*Juglans nigra*), Norway Spruce, and Bur Oak (*Quercus macrocarpa*) and were generally roadside trees along the west end of Safari Road. Notable specimens include a 71 cm DBH Sugar Maple, a 66 cm DBH Bitternut Hickory, 62 cm DBH Bur Oak, a 51 cm DBH Chinquapin Oak (*Quercus muhlenbergia*), and multi-stemmed White Mulberry (*Morus alba*) with 44, 40, and 36 cm DBH stems.

Most of the trees surveyed were in good condition (1068; 77%). Deciduous trees were generally in good condition (631/918; 69%) whereas coniferous trees were more variable, due to the maturity and decline of the Coniferous Cultural Plantations and associated regeneration of younger deciduous trees. Roughly half of the trees surveyed (709; 51%) had no observable defects. The most common defects observed included dead branches (70 trees), stem wounds (47 trees), girdling roots (46 trees), and many trees (143) within the plantations were crowded.

4.5 Wildlife

4.5.1 Breeding Birds

The Study Area contains terrestrial and aquatic communities and habitats that have the potential to support a variety of bird life. Birds recorded during citizen science surveys (Ontario Breeding Bird Atlas 2021-2024) are indicative of the variety of habitats present in the broader area, from interior woodland indicators to those that utilize urban habitats. At-risk species include those associated with anthropogenic habitats and features, as well as those which utilize various specialized habitats, including interior woodlands, wetlands, and thickets (Table 5.1). As noted in Section 3.3.3, dedicated surveys for breeding birds were carried out as per the Ontario Breeding Bird Atlas point-count protocol and augmented with incidental data as pertinent (e.g., breeding evidence; Birds Canada 2021). The locations of the breeding bird survey points are presented in Map 5. Locations were chosen based on ensuring surveys occurred within unique habitat types and were spaced far enough apart to not double-count individuals. Data is provided in Appendix F.

Several SAR birds recognized under the Endangered Species Act (2007) were detected as displaying evidence of breeding within the Study Area. These include:

- A single male Prothonotary Warbler (*Protonotaria citrea*; Endangered) was observed to be displaying breeding evidence within Polygon 13d-e during both surveys. No nest or female was detected. The home territory of this species ranged to both north and south sides of the road.
- Multiple territories of Least Bitterns (*Ixobrychus exilis*; Threatened) were observed throughout the Sheffield – Rockton Wetland Complex (Polygon 12a-c). This species showed strong evidence of breeding within the Study Area.
- A territorial male Bobolink (*Dolichonyx oryzivorus*; Threatened) was observed to be associating with agricultural fields within the Study Area (Polygon 22). This male was displaying breeding evidence within the breeding bird window during both surveys. No female was observed.
- Chimney Swifts (*Chaetura pelagica*; Threatened) were observed feeding over the Study Area during the breeding season. However, breeding within the Study Area is not suspected for this species.

Several other Species of Conservation Concern (SoCC) were observed within the Study Area by RVA staff. These include:

- Barn Swallows (*Hirundo rustica*; Special Concern), including recently fledged young, were noted using the Study Area for foraging. Suitable breeding habitat

does not exist for this species within the Study Area, however, barns near the Safari Road/Valens Road intersection are suspected to host this species for breeding.

- Two territorial Eastern Wood-Pewees (*Contopus virens*; Special Concern) were noted singing along the road within woodlands during breeding bird surveys (Polygon 1, 9). These birds are probable breeders as they were each recorded within the same territory during both surveys in typical breeding habitat.
- A single territorial Wood Thrush (*Hylocichla mustelina*; Special Concern) was noted to be displaying breeding evidence within the Study Area (Polygon 2b). This bird was likely breeding as it was recorded during both surveys in typical breeding habitat.
- Rusty Blackbirds (*Euphagus carolinus*; Special Concern) were observed to be common within the Study Area outside of the breeding bird window. Suitable breeding habitat for this species does not occur within the Study Area but presence of the species in the area during the autumn indicates the presence of migration stopover habitat.
- An American Coot (*Fulica americana*; S3B, S4N) was observed using the Study Area outside of the breeding bird window. This species was not observed displaying breeding evidence within the Study Area.
- Common Gallinules (*Gallinula galeata*; S3B) were common as breeders within the Sheffield – Rockton Wetland Complex (Polygon 13a-c).
- Purple Martins (*Progne subis*; S3B) were commonly detected within the Study Area during the breeding bird window. These birds were found only to be using the Study Area for feeding, not breeding. This species has become entirely dependent on human structures for breeding within the province.

The remainder of birds recorded during surveys are common and secure in the province.

4.5.2 Reptiles and Amphibians

Most of the reptile and amphibian records for the Study Area and vicinity include commonly encountered species that would be expected based on the habitat in the area. One provincially protected at-risk species were noted; Blanding's Turtle (*Emydoidea blandingii,* Threatened), and two Special Concern Species, Snapping Turtle (*Chelydra serpentina*) and Eastern Ribbonsnake (*Thamnophis saurita*) (Table 5.1). During field investigations, three species of reptile and 5 species of amphibian were noted within the Study Area (Appendix F). All species observed during site investigations are deemed Secure (S5) or Apparently Secure (S4) in the province.

Despite a lack of observations by RVA staff during field investigations within the Study Area, it is presumed that Snapping Turtle (*Chelydra serpentina*) and Eastern Ribbonsnake (*Thamnophis saurita*) occur within the Study Area with regularity due to the frequency of observations made by citizen scientists. Blanding's Turtle are noted to be nearby within the wetland complex but have not been confirmed within the Study Area.

4.5.3 Mammals

SAR Bats (Endangered) including Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), Silver-haired Bat (*Lasionycteris noctivagans*), Northern Hoary Bat (*Lasiurus cinereus*), Eastern Red Bat (*Lasiurus borealis*), Eastern Small-footed Myotis (*Myotis leibii*) and Tri-colored bat (*Perimyotis subflavus*) were noted as occurring in the Study Area during background review. Many of these bats seek out refuge for roosting, breeding and in some cases, hibernation in the form of hollow trees, clumps of dead leaves, and under rocks, while Northern Hoary and Eastern Red Bats roost amongst foliage. Forested areas within the Study Area, particularly woodlands with dead or hollow large trees (DBH >25cm) are particularly attractive for bat species. Current guidance from MECP protects all maternity and migration roosts, as well as hibernacula and a specified radius around each habitat (up to 1000m) but has not defined what, if any activities may be permitted within the protected radii. As bats change roosts often, it is not possible to determine which trees on a landscape provide protected habitat without further study (MECP 2025).

During field investigations by RVA staff in 2024 and 2025, evidence of seven (7) mammal species was recorded. All the recorded species are deemed "Secure" (S5) in the province (Appendix F).

4.5.4 Insects/Other Invertebrates

The habitat types within the Study Area are suitable to support many insect species, including rare butterfly and Odonate (dragonfly and damselfly) species. As insects are not commonly surveyed for and can have short periods of detection (adult stage), it is possible that other species of provincial interest may utilize habitat within or adjacent to the Study Area. No notable invertebrates (bumblebees, odonates, butterflies or moths) were observed by RVA staff during field investigations. A list of species identified is provided in Appendix F.

Map 5

Map 6-1

Map 6-2

Map 6-3

Map 6-4

4.6 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) assessment was completed using the Ecoregion 6E Criterion (see Appendix G for assessment rationale tables). Utilizing a combination of existing data and information collected for this project, candidate wildlife habitat was identified for the following categories: Raptor Wintering Area, Amphibian Breeding Habitat (Woodland), Bat Maternity Colonies, Amphibian Breeding Habitat (Wetland), Turtle Nesting Areas, Reptile Hibernaculum, Deer Yarding Areas, Deer Winter Congregation Areas, and Woodland Raptor Nesting Habitat, and Terrestrial Crayfish. Most of these habitats are associated with the Sheffield-Rockton PSW in the central section of the Study Area. Turtle Wintering Area, Woodland Area Sensitive Bird Breeding Habitat, Marsh Breeding Bird Habitat, breeding habitat for Eastern Wood-Pewee (Special Concern), Wood Thrush (Special Concern), and Common Gallinule (S3B) were confirmed within the Study Area (Map 6).

4.6.1 Confirmed habitats within Study Area

Fish and wildlife habitats that have been confirmed within the Study Area consist of:

- Coolwater Fish Habitat (Tributary of Fairchild Creek and Wetland);
- Turtle Wintering Areas;
- Woodland Area-Sensitive Bird Breeding Habitat;
- Marsh Breeding Bird Habitat; and
- Habitat for Special Concern and Rare Wildlife Species (Eastern Wood-Pewee, Wood Thrush and Common Gallinule).

4.6.2 Candidate habitats within Study Area

Candidate significant wildlife habitats with potential to occur within the Study Area (i.e., were not confirmed, but could not be ruled out following field investigations) consist of:

- Raptor Wintering Area;
- Reptile Hibernaculum;
- Deer Yarding Areas;
- Deer Winter Congregation Areas;
- Woodland Raptor Nesting Habitat;
- Turtle Nesting Habitat;
- Amphibian Breeding Habitat (Woodlands);
- Amphibian Breeding Habitat (Wetlands);
- Terrestrial Crayfish;

- Bat Maternity Colonies; and
- Habitat for Special Concern and Rare Wildlife Species (Monarch)

4.7 Aquatic Habitat and Communities

4.7.1 Aquatic Habitat

4.7.1.1 TRIBUTARY OF FAIRCHILD CREEK

Within the Study Area, the headwaters of Fairchild Creek originate in the Rockton-Sheffield PSW that conveys water from north of Safari Road to the west. The wetland constricts into a tributary approximately 280 m east of Kirkwall Road, where it is conveyed south under Safari Road through a triple-barrel corrugated plastic pipe (CPP) culvert. Downstream of the crossing, the watercourse continues in a southwesterly direction.

North (upstream) of the roadway, a defined channel was not observed. The landscape exhibits a flat morphology that is hydraulically connected to an adjacent treed swamp. The substrate in this section was dominated by detritus, with silt and sand also observed. Channel braiding was present throughout the area, indicating a low gradient and variable flow regime. The area was almost completely shaded by the surrounding swamp, contributing to cooler water temperatures and potentially improving thermal refuge for aquatic species. Flow was observed in this area at the time of assessment. In addition, organic debris, in stream woody vegetation and vascular macrophytes were present and provided instream cover for fish.

South of the roadway, a defined channel was observed within the downstream reach as flows exited the CSP. The morphology remained flat, with substrate primarily composed of silt, sand, and gravel. The channel extended for approximately 50 m before widening into a flooded area and then narrowing again as it continued southwest off site. Compared to the upstream reach, the downstream reach had a more open canopy and greater light penetration. Flow appeared stagnant at the time of observation. Similar to upstream, organic debris, instream woody debris and vascular macrophytes were present, offering instream cover and habitat diversity.

Several groundwater indicators were observed within the Fairchild Creek tributary at this location. Watercress (*Nasturtium officinale*) observed upstream of the road and iron staining observed downstream are both indicators of groundwater upwellings. The aquatic habitat features observed in Fairchild Creek are summarized in Table 4.1. Water quality parameters were also measured and are reported in Table 4.2.

Table 4.1 – Aquatic Habitat – Tributary of Fairchild Creek

Habitat Attribute	Upstream	Downstream
Flow Regime	Permanent	Permanent
Thermal Regime*	Cool	Cool
Surface Flow Velocity (m/s)	0.203	Nil
Morphology (%)	Flats (100%)	Flats (100%)
Mean Wetted Depth (m)	0.11	0.20
Mean Wetted Width (m)	4.2	n/a - wetland
Substrate	Detritus, silt, sand	Silt, sand, gravel
Bank Stability	Stable	Stable
In-stream Cover	Organic debris, in-stream woody debris and vascular macrophytes	Organic debris, in-stream vascular macrophytes and woody debris
Riparian Vegetation	Freeman Maple, Trembling Aspen, American Basswood, American Elm, and Bur Oak	Freeman Maple, Trembling Aspen, American Basswood, American Elm, and Bur Oak
% Stream Shaded	95	50
Migratory Barriers	None	None
Evidence of Groundwater	Watercress, hydrocarbons	Iron staining
Sources of Pollution	Road runoff	Road runoff

Notes:
*Unclassified reach; cool water thermal regime based on spring water temperature, fish species, and groundwater indicators.

Table 4.2 – Water Quality – Tributary of Fairchild Creek

Parameter	Upstream	Downstream
Water Temperature (°C)	13.7	14.9
pH	7.77	7.85
Dissolved Oxygen (mg/L)	5.21	6.06
Conductivity (µS/cm)	405.6	421.5
Air Temperature (°C)	18	18

4.7.1.2 UPSTREAM WETLAND – SHEFFIELD – ROCKTON WETLAND COMPLEX (PSW)

Approximately 1.5 kilometers (km) east of the Kirkwall and Safari Road intersection, ongoing drainage issues has resulted in overtopping of the roadway by the adjacent wetland. This

flooding has created a hydraulic connection between the wetland areas that were previously divided by the roadway. The flooded area now supports fish habitat, with fish confirmed to be utilizing this area.

The surrounding wetland, identified as Cattail Mineral Shallow Marsh (MAS2-1), Button Mineral Thicket Swamp (SWT2-9), and Swamp Maple Mineral Deciduous Swamp (SWD3-3), provides cover and structural diversity. In contrast, the flooded roadway is exposed, with no canopy cover or shade. An asphalt surface forms the substrate in this area, though aquatic vegetation such as pondweed is present, along with speedwell observed to be growing in pavement cracks. Several construction barrels that had fallen over in the flooded roadway appeared to be providing instream cover, with fish observed to be congregating around and within them.

Water quality parameters in the flooded roadway are generally comparable to those recorded at the downstream crossing, with the exception of water temperature. Temperatures within the flooded roadway reached 20°C, while downstream measurements were below 15°C. The elevated temperature in the flooded roadway is consistent with its open exposure and dark asphalt substrate, likely contributing to localized warming.

Water quality parameters recorded for this area are reported in Table 3.14.3 below.

Table 4.3 – Water Quality – Sheffield – Rockton Wetland Complex (PSW)

Parameter	Roadway
Water Temperature (°C)	20.0
pH	7.62
Dissolved Oxygen (mg/L)	6.50
Conductivity (µS/cm)	402.6
Air Temperature (°C)	17.0

4.7.2 Fish Community

A review of background information did not identify any existing fish records for the on-site watercourse and upstream wetland; however, fish records were provided by the GRCA for the downstream branch of Fairchild Creek, located outside of the Study Area. To address this data gap, fish community sampling via electrofishing was undertaken by RVA on May 26, 2025, under a Licensed to Collect Fish for Scientific Purposes issued by MNR.

Both the Tributary of Fairchild Creek at the Safari Road crossing and the upstream wetland area (part of the Sheffield – Rockton Wetland Complex PSW) were sampled within the ROW

of the Study Area. Field investigations revealed differences in the fish communities between the watercourse crossing and the flooded roadway, as well as between the on-site watercourse and downstream branch of Fairchild Creek, outside of the Study Area.

Fish species collected and their associated thermal regimes are presented in Table 4.4. For comparison, fish records provided by the GRCA for the downstream branch of Fairchild Creek, are also included in Table 4.4. DFO and NHIC mapping did not identify any aquatic SAR within the Study Area.

Table 4.4 – Fish Community

Species Name	Scientific Name	Thermal Regime	S rank/ N rank	RVA (Fairchild Creek Trib.)	RVA (Wetland)	GRCA
Blacknose Shiner	*Notropis heterolepis*	cool	S5 / N5			x
Blackside Darter	*Percina maculata*	cool	S4 / N5			x
Bluntnose Minnow	*Pimephales notatus*	warm	S5 / N5			x
Brook Stickleback	*Culaea inconstans*	cool	S5 / N5	x	x	
Central Mudminnow	*Umbra limi*	cool	S5 / N5	x	x	
Common Shiner	*Luxilus cornutus*	cool	S5 / N5			x
Creek Chub	*Semotilus atromaculatus*	cool	S5 / N5			x
Fathead Minnow	*Pimephales promelas*	warm	S5 / N5		x	x
Greenside Darter	*Etheostoma blennioides*	warm	S4 / N4			x
Hornyhead Chub	*Nocomis biguttatus*	cool	S4 / N4			x
Johnny Darter	*Etheostoma nigrum*	cool	S5 / N5			x
Largemouth Bass	*Micropterus salmoides*	warm	S5 / NNR			x
Northern Pike	*Esox lucius*	cool	S5 / N5			x
Northern Redbelly Dace	*Chrosomus eos*	cool	S5 / N5	x	x	
Pumpkinseed	*Lepomis gibbosus*	warm	S5 / N5			x

Species Name	Scientific Name	Thermal Regime	S rank/ N rank	RVA (Fairchild Creek Trib.)	RVA (Wetland)	GRCA
Rainbow Darter	*Etheostoma caeruleum*	cool	S4 / N4			x
Rock Bass	*Ambloplites rupestris*	cool	S5 / N5			x
White Sucker	*Catostomus commersonii*	cool	S5 / N5			x

Notes:
Source: NHIC; NatureServe
S*/N* – range of uncertainty about the status of the species.
S4/N4 – Apparently Secure: At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5/N5 – Secure: At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations, or occurrences, with little to no concern from declines or threats.
RVA – fish inventory performed on May 26, 2025 by RVA staff.
GRCA – fish records from October 26, 2022.
Thermal Regime preference for fish species (Eakins 2025).

4.7.2.1 TRIBUTARY OF FAIRCHILD CREEK

Three cool water fish species were recorded within the tributary of Fairchild Creek at the Safari Road crossing, including Brook Stickleback, Central Mudminnow, and Northern Redbelly Dace. Based on the fish species collected, recorded water temperatures, and the presence of groundwater indicators (as described in Section 4.7.1.1), this reach of the tributary is considered to support a cool water thermal regime. While sampling occurred in the spring, and water temperatures may reflect cooler seasonal conditions, the presence of cool water fish species and evidence of groundwater inputs supports this cool water classification.

4.7.2.2 UPSTREAM WETLAND – SHEFFIELD – ROCKTON WETLAND COMPLEX (PSW)

In the flooded portion of the roadway east of the Tributary of Fairchild Creek, Fathead Minnow, a warm water fish species was recorded. Males in spawning colours and gravid females were observed, confirming reproductive habitat. In addition, young-of-the-year Leuciscidae (species unknown) were observed at this location, indicating this area functions as spawning and nursing/rearing habitat for native minnows.

Water temperatures at this location were notably higher than those recorded within the tributary of Fairchild Creek at the Safari Road crossing, consistent with conditions that support warm water fish species.

4.7.2.3 POTENTIAL BARRIERS TO FISH PASSAGE

A potential barrier to fish passage was identified less than 4 km downstream of the Safari Road crossing, where the watercourse appears to be piped underground for approximately 170 m beneath an airfield associated with a local gliding club. While this feature has not been confirmed in the field, the length of the underground section may deter fish passage and, depending on the structure design, could represent a physical or hydraulic barrier to upstream fish movement.

Two migratory fish species, Northern Pike and White Sucker, are documented in the downstream branch of Fairchild Creek, but were not observed within the Study Area. Their absence may reflect this potential barrier, the possibility that spring sampling did not coincide with migration periods, or the limited scope of the spring sampling, which provides only a snapshot of fish use within the site.

4.8 Ecological Linkages

Within the Study Area, Core Areas of natural heritage features and Linkages are depicted on Schedule B – Natural Heritage System, of the Rural Hamilton Official Plan. The Greenbelt Natural Heritage System and Core Area extend both north and south of the Study Area, connected across the larger landscape. The identified Linkages on Schedule B do not appear to correspond to landscape features, but rather a conceptual connection, drawn as a line oriented southeast to northwest, through both natural and maintained/cultivated areas. As the roadway is currently closed to through traffic, the ecological linkage here is intact, with wildlife free to cross the road between like habitats, with few passing vehicles posing occasional barriers. This is true not only for woodland species and those using the forests, but also for the wetland species utilizing the marshes and swamps. The section of road currently barricaded off to any vehicle access is prone to flooding, which bridges the hydraulic gap, connecting the marsh habitat. The wetted connection across the road also provides linkage and access to fish species that inhabit the marsh.

Map 7

5.0 Species at Risk

A variety of floral and faunal species of local and provincial interest have been recorded in the vicinity of the Study Area by various sources, including citizen scientists/projects and provincial databases. A full list of SAR identified in the background sources with potential to be found in the Study Area, discussion on their habitat preferences, and probability of occurrence as determined following field investigations and assessment is presented in Table 5.1.

Table 5.1 – Species at Risk Assessment

Species Name and Status (Ontario | Canada)	Species Records in the Study Area and Habitat Preference	Probability Assessment
Flora		
Black Ash (END | THR)	Recorded in the PSW evaluation for the Sheffield-Rockton Wetland Complex MNR (1988). No recent records on iNaturalist, the Hamilton Natural Areas Inventory (HNC 2014), and no records from NHIC. Typically occurs within wetlands and moist forests on	**High:** This species is known to occur within the study area historically, and suitable habitat is still present.
Birds		
Acadian Flycatcher *Empidonax virescens* (END | END)	The NHIC database has a historical record of this species in the vicinity of the Study Area. Acadian Flycatchers are often associated with high-quality, primarily deciduous forests with some degree of wetness.	**Low:** Suitable habitat may occur within the higher-quality forest polygons at the westernmost portion of the Study Area. However, this species occurs within the province in low numbers and is unlikely to be found here.
Bank Swallow *Riparia riparia* (THR | THR)	This species was recorded on the OBBA as displaying evidence of breeding within the vicinity of the Study Area. Nests are excavated in vertical faces of silt or sand, including gravel pits and material stockpiles.	**Low:** While this species is likely to use the Study Area for foraging opportunities, suitable breeding habitat does not exist within the Study Area.
Barn Swallow *Hirundo rustica* (SC | THR)	This species was recorded on the OBBA as displaying evidence of breeding within the vicinity of the Study Area. This species nests almost exclusively on manmade structures such as buildings or under bridges.	**Low:** While this species is likely to use the Study Area for foraging opportunities, suitable breeding habitat does not exist within the Study Area.

Species Name and Status (Ontario | Canada)	Species Records in the Study Area and Habitat Preference	Probability Assessment
Bobolink *Dolichonyx oryzivorus* (THR | THR)	This species was recorded on the OBBA as displaying evidence of breeding within the vicinity of the Study Area. Additionally, the NHIC database has a historical record of this species in the vicinity of the Study Area. Historically found in tallgrass prairie and other open meadows, the species now breeds in hayfields. They build their nests on the ground in dense grasses.	**High:** This species was detected displaying breeding evidence within the Study Area (Polygon 22) during field investigations by RVA staff in 2025.
Canada Warbler *Cardellina canadensis* (SC | THR)	The NHIC database has a historical record of this species in the vicinity of the Study Area. Most abundantly breeds in moist, mixed coniferous-deciduous forests with a well-developed understory.	**Low:** Ideal breeding habitat for this species does not occur commonly within the Study Area. Therefore, it is unlikely that breeding would occur for this species.
Chimney Swift *Chaetura pelagica* (THR | THR)	This species was not detected during background reviews of the Study Area but was detected by RVA staff during field investigations in 2025. Chimney Swifts nest in caves and hollow trees prior to European settlement and are today most often associated with chimneys and other manmade structures.	**Low:** While this species is likely to use the Study Area for foraging opportunities, suitable breeding habitat does not exist within the Study Area.
Eastern Meadowlark *Sturnella magna* (THR | THR)	This species was recorded by citizen scientists as occurring within the Study Area. Additionally, the OBBA and NHIC both contain records of this species within the vicinity of the Study Area. Most commonly breeds within native grasslands, pastures, and savannas but will also nest in hay and alfalfa fields.	**High:** Despite a lack of observations of this species by RVA staff during field investigations, suitable habitat does exist, and recent (ca. 2023) citizen science records of this species suggest that breeding may occasionally occur within the Study Area.
Eastern Whip-poor-will *Antrostomus vociferus* (THR | THR)	The NHIC database has a historical record of this species in the vicinity of the Study Area. Additionally, eBird data shows this species has been recorded historically from within the Study Area. This species breeds in dry deciduous or mixed forest with little or no underbrush.	**Moderate:** Suitable habitat does occur. However, the Study Area has been visited extensively by citizen scientists (eBird 2025) and this species has not been recorded in over 10 years (ca. 2011). However, due to this species cryptic nature, it is likely to go undetected during field

Species Name and Status (Ontario | Canada)	Species Records in the Study Area and Habitat Preference	Probability Assessment
		investigations without dedicated nocturnal surveys.
Golden-Winged Warbler *Vermivora chrysoptera* (SC | THR)	The NHIC database has a historical record of this species in the vicinity of the Study Area. Nests often in early succession aspen (Populus *sp.*) stands or in shrub swamp.	**Low:** While this species likely bred in the Study Area historically, this species range has been receding northward in response to the northward expansion of the more southern Blue-winged Warbler (*Vermivora cyanoptera*).
Henslow's Sparrow *Centronyx henslowii* (END | END)	The NHIC database has a historical record of this species in the vicinity of the Study Area. Historic habitats included tallgrass prairie, lowland prairie and marsh, meadows, and weedy pastures. As native habitats declined, species moved into additional habitats, mainly cultivated hayfields.	**Low:** Suitable breeding habitat does not exist within the Study Area for this species.
Least Bittern *Ixobrychus exilis* (THR | THR)	This species was recorded on the OBBA as displaying evidence of breeding within the vicinity of the Study Area. Additionally, the NHIC database has a historical record of this species in the vicinity of the Study Area. Citizen scientists have also recorded this species as recently as 2024 in the Study Area. Least Bittern are known to inhabit wetlands including deep marshes, and swamps, as well as the marshy borders of lakes, ponds, and streams. This species is known to nest in cattails and is intolerant of human disturbance.	**High:** Multiple territories detected within Polygons 12a-c by RVA staff during 2025 field investigations.
Prothonotary Warbler *Protonotaria citrea* (END | END)	This species was recorded extensively by citizen scientists during the 2025 breeding season within the Study Area. This species has no documented historical records within the Study Area. This species prefers to nest within wet wooded areas (swamps, etc.) with suitable cavity nest sites.	**High:** This species was discovered to be displaying breeding evidence within the Study Area (Polygon 13d-e) during field investigations conducted by RVA staff.
Red-headed Woodpecker *Melanerpes erythrocephalus*	This species was recorded on the OBBA as displaying evidence of	**Moderate:** Suitable habitat may occur within the higher-

Species Name and Status (Ontario | Canada)	Species Records in the Study Area and Habitat Preference	Probability Assessment
(END | END)	breeding within the vicinity of the Study Area. Additionally, the NHIC database has a historical record of this species in the vicinity of the Study Area. Red-headed Woodpeckers prefer treed habitats with some degree of openness with a presence of dead limbs or snags for nesting.	quality forest polygons at the westernmost portion of the Study Area. However, this species occurs within the province in low numbers and is unlikely to breed within the Study Area most years.
Wood Thrush *Hylocichla mustelina* (SC | THR)	This species was recorded on the OBBA as displaying evidence of breeding within the vicinity of the Study Area. Additionally, the NHIC database has a historical record of this species in the vicinity of the Study Area. This species nests in high quality woodlands. This species prefers large woodlands but has been known to nest in more fragmented sites.	**High:** This species was discovered to be displaying breeding evidence within the Study Area (Polygon 2b) during field investigations conducted by RVA staff.
Yellow-breasted Chat *Icteria virens* (END | SC)	This species was recorded on the OBBA as displaying evidence of breeding within the vicinity of the Study Area. This species nests in open canopy forest with a dense shrub layer below.	**Low:** Suitable breeding habitat does not exist within the Study Area for this species.
Mammals		
Eastern Red Bat *Lasiurus borealis* (END | -)	The Atlas of the Mammals of Ontario has a historic record of this species in the vicinity of the Study Area. They are found in treed habitats, roosting in foliage (Bat Conservation International 2025).	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field investigations without dedicated nocturnal surveys.
Eastern Small-footed Bat *Myotis leibii* (END | -)	The Atlas of the Mammals of Ontario has a historic record of this species in the vicinity of the Study Area. Little is known about this species, but it is known to roost in rock fields and talus slopes during the summer (Bat Conservation International 2025).	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field investigations without dedicated nocturnal surveys.
Little Brown Myotis *Myotis lucifugus* (END | END)	The Atlas of the Mammals of Ontario has a historic record of this species in the vicinity of the Study Area. Roosts can be in buildings as well as trees (Bat Conservation International 2025).	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field

Species Name and Status (Ontario | Canada)	Species Records in the Study Area and Habitat Preference	Probability Assessment
		investigations without dedicated nocturnal surveys.
Northern Hoary Bat *Lasiurus cinereus* (END | -)	The Atlas of the Mammals of Ontario has a historic record of this species in the vicinity of the Study Area. Uncommon throughout their range, they roost solitarily in trees (Bat Conservation International 2025).	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field investigations without dedicated nocturnal surveys.
Northern Myotis *Myotis septentrionalis* (END | END)	The Atlas of the Mammals of Ontario has a historic record of this species in the vicinity of the Study Area. These bats prefer to roost in tree cavities, crevices or under exfoliating bark (Bat Conservation International 2025).	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field investigations without dedicated nocturnal surveys.
Silver-haired Bat *Lasionycteris noctivagans* (END | -)	The Atlas of the Mammals of Ontario has a historic record of this species within the Study Area. This species of bat forms maternity colonies almost exclusively in tree cavities or hollows and requires areas with large amounts of snags (Bat Conservation International 2025).	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field investigations without dedicated nocturnal surveys.
Tricolored Bat *Perimyotis subflava* (END | END)	The Atlas of the Mammals of Ontario notes the presence of this species within the vicinity of the Study Area. This species roosts in tree/shrub foliage.	**High:** Suitable habitat does occur within the Study Area. Due to the cryptic nature of this species, it is likely to go undetected during field investigations without dedicated nocturnal surveys.
Reptiles and Amphibians		
Blanding's Turtle *Emydoidea blandingii* (THR | END)	The ORAA database has a historical record of this species (ca. 2018) in the vicinity of the Study Area. This species prefers large shallow wetlands or ponds with abundant aquatic vegetation.	**High:** Suitable habitat for this species occurs within the wetland (polygons 12a-c and 13a-e) within the Study Area. Additionally, recent citizen science observations suggest individuals are likely to persist within this wetland feature despite a lack of observations during field investigations by RVA staff.

Species Name and Status (Ontario | Canada)	Species Records in the Study Area and Habitat Preference	Probability Assessment
Western Chorus Frog *Pseudacris triseriata* (- | THR)	The ORAA database has a historical record of this species (ca. 2008) in the vicinity of the Study Area. This species breeds in wooded wetlands, wet meadows and marshes.	**Low:** Suitable habitat does exist within the Study Area for this species. However, a lack of recent records and confirmation of fish through much of the wetland habitat suggests that this species may only persist in small numbers, if at all.
Invertebrates		
Monarch *Danaus plexippus* (SC | END)	The OBA noted this species in the vicinity of the Study Area recently (ca 2023). This species requires Milkweeds (*Asclepias sp*) as a larval host which is a common plant in old fields and meadows.	**High:** This species was not detected by RVA within the Study Area during field investigations in 2025. However, suitable habitat does exist and its host plant, Common Milkweed (*Asclepias syriaca*) was found within the Study Area by RVA staff during 2025 field investigations.

Notes:
Source: NHIC; NatureServe
S/N* – range of uncertainty about the status of the species
S1/N1 – Critically Imperiled: At very high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.
S2/N2 – Imperiled: At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3/N3 – Vulnerable: At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors
S4/N4 – Apparently Secure: At a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5/N5 – Secure: At very low or no risk of extirpation in the jurisdiction due to a very extensive range, abundant populations, or occurrences, with little to no concern from declines or threats.

6.0 Ecological Constraints and Opportunities

6.1 Constraints

Vegetation protection zones – the Rural Hamilton Official Plan (Section 2.4.11) identifies the following minimum vegetation protection zone width objectives which are applicable to natural heritage features in the Study Area:

a) Permanent and intermittent streams: 30 m on each side of the watercourse, measured from beyond the stable top of bank;
b) Wetlands: 30 m, also considering adjacent upland habitat that is required by wetland species for breeding, foraging, dispersal, and other life processes;
c) Fish habitat: 30 m minimum, measured from beyond either side of the top of bank or meander belt allowance;
d) Woodlands: 15 m minimum, measured from the drip line of trees at the woodlands edge; and
e) Significant Woodlands: 30 m minimum, measured from the drip line of trees at the woodlands edge.

Fish habitat – Within the Study Area, fish habitat is present within an unnamed tributary of Fairchild Creek and the connected portion of the Rockton-Sheffield Wetland Complex that functions as the creek's headwaters. Based on sampling, within the Study Area these features support a coolwater baitfish community and the wetland was observed to be providing spawning and nursery habitat.

Individuals and Habitat for Species at Risk – a number of provincially or federally-protected species have been identified or have a high potential to be found within the Study Area.

Least Bittern, Prothonotary Warbler, Bobolink, Eastern Meadowlark and Eastern Whip-poor-will – These five bird species recorded within the Study Area are currently protected under the provincial ESA as well as the federal SARA however, the ESA protections are proposed to expire upon ascent of the new SCA legislation anticipated in early 2026, leaving only federal protections in place. SARA only provides habitat protection for Eastern Whip-poor-will, as it is the only recorded bird species with federal habitat protection within the Study Area (Government of Canada 2025). Habitat protections under the SARA are not clear, as the relevant policy is in draft form (Policy on Critical Habitat Protection on Non-federal Lands, Environment and Climate Change Canada 2016).

Bats - A number of newly listed (2025) at-risk bat species roost singly in trees during their maternity season, rather than in trees with specific habitats, such as cavities or defoliating bark. The Study Area provides habitat that could support a number of both foliage roosting and cavity roosters. Additional studies are required to determine the potential presence of habitats for at-risk bats protected under the current provincial guidance (MECP 2025).

Blanding's Turtle – This species is known in the local area and has been recorded along Safari Road (roadkilled individual) by citizen scientists, but it is unknown if that record is from within the Study Area. Based on current habitat descriptions, if present within the Sheffield-Rockton wetland complex, the wetland, as well as a 30m buffer would be

provincially protected as habitat for this species (MECP 2025a). Additional effort is required to determine the presence of the species in the wetland complex within the Study Area. If confirmed, implementation of the Project would destroy habitat for the species and efforts would be required to ensure the project complies with current provincial legislation. It is expected this would be registration and commitment to mitigation measures as proposed in the SCA.

Species of conservation concern – Detailed design should consider minimizing encroachment into sensitive features occupied by Species of Conservation Concern, particularly the Sheffield-Rockton PSW Complex, Mineral Deciduous Forest (Hyde Tract), and Mineral Mixed Forest communities.

6.2 Opportunities

Several opportunities to enhance the natural heritage system in the Study Area were identified though background research and field investigations.

Road ecology – The Study Area includes extensive natural features such as Significant Woodlands, Significant Wetlands, and watercourses that support a range of wildlife species and was noted as roadkill 'hot spot' by citizen scientists (HNC 2025).

Wildlife and fish movement should be incorporated into the design of the new road to mitigate wildlife impacts related to road mortality and aquatic habitat connectivity. Specifically, considering roadside design that incorporates retaining walls or other wildlife barriers in the design along with well-considered wildlife passages under the roadway, particularly in the vicinity of the wetland. Barriers will help ensure wildlife passes through the passages rather than travelling around them, and if part of road design, maintenance will be far less and the overall effectiveness increased. Further study/consideration on the movement of larger wildlife (e.g., deer) through the Study Area should be considered as design progresses to determine if additional measures to reduce wildlife collision/mortality are warranted.

Vegetation Protection Zones – Minimum Vegetation Protection Zones (VPZs) of 30m are required for permanent and intermittent watercourses, fish habitat, significant woodlands, and wetlands, and minimum VPZs of 15m are required for woodlands. These features occur within 15m of Safari Road along most of its length within the Study Area, leaving little opportunity for establishing the minimum VPZs. Restoring and enhancing roadside vegetation communities within the gaps between Safari Road and the boundaries of key natural heritage features will provide some buffering.

Enhanced surface water treatment – Flat bottom ditches vegetated with a native wetland meadow mix will encourage infiltration, thereby reducing flow velocity and erosive potential, and reducing road contaminants that enter the nearby watercourses. Swamp milkweed (*Asclepias incarnata*) is an ideal plant to include in this seed mix as it provides pollinator habitat, spreads, and competes with invasive reeds – both benefits described further, below.

Pollinator habitat/roadside naturalization – Revegetation of disturbed areas with native seed mixes would benefit the larger ecosystem and add diversity to the roadside habitats. Seed mixes should be designed based on the native local flora, fauna, and ecosystems, including alvar, deciduous forest, and wetland species. Disturbed areas along the Deciduous Forest (Polygons 1, 5, 20, 21), Mixed Forest (Polygon 2), Mineral Cultural Woodland (Polygons 8 and 9), and Coniferous Cultural Plantations (Polygons 6, 7, and 18) can be revegetated with a mix suitable for part shade/woodland edge conditions. Disturbed open areas such as Mineral Cultural Meadow (Polygon 25), Mineral Cultural Thicket (Polygon 15), and Hedgerows (Polygon 16), can be revegetated with a seed mix for dry-mesic meadow and thicket. In all cases, the seed mixes should include a mix of grasses, sedge and rushes, and forbs, and include species that aid in stabilizing soils. Given the fluctuating water levels and ability for aquatic and wetland species to disperse throughout the wetland, as indicated by the rapid expansion of wetland species into recently flooded areas (e.g. Polygon 10), the wetlands are expected to regenerate quickly provided invasive species such as European Common Reed are treated. Wetland transition areas to be revegetated should be seeded with a mix suitable for calcareous marshes, such as those observed during the floral surveys. A cover crop should be applied to all seeded areas to aid in soil stabilization and minimize the establishment of undesirable species. A more robust revegetation plan could include native shrubs and trees, specifically ones with flowers and fruit that benefit local pollinators and bird species. Reestablishing an edge along the woodlands impacted by vegetation removal would provide a buffer against encroachment, increased sunlight entering the woodland, dust and other road pollutants.

Soil Management – If required, appropriate stockpiling and reuse of native topsoils that do not contain heavy seedbanks of invasive species would also be helpful in quickly establishing native vegetation within restored areas. To achieve this, stockpiling must be done in such a way that deeper soils do not become anoxic, which means soil must be stored in smaller, shorter piles.

Invasive species management - Invasive species management has been identified as a key priority in the City's Biodiversity Action Plan (City of Hamilton 2024). Notable invasive species observed within the Study Area included Autumn Olive (*Elaeagnus umbellata*),

Glossy Buckthorn (*Frangula alnus*), Scots Pine (*Pinus sylvestris*), European Common Reed (*Phragmites australis ssp. australis*), Common Buckthorn (*Rhamnus cathartica*), and Autumn Olive (*Elaeagnus umbellata*). Vegetation clearing anticipated to support the Project provides an opportunity for enhancement of affected areas by implementing invasive species management procedures consistent with the Invasive Species Centre's best management practices (Invasive Species Center 2025).

7.0 Proposed Solution

7.1 Evaluation of Alternatives

The study objectives for the Project as a whole were to evaluate and select a preferred alternative solution for road improvements (and as noted previously, that will accommodate drainage improvements being designed concurrently by others) to Safari Road, from Kirkwall Road to Valens Road. Several alternatives, noted below, were identified and evaluated, including permanent road closure, raising the road profile, and were compared to a 'do-nothing' alternative.

7.1.1 Alternative 1 – Do Nothing

This alternative maintains the existing condition of Safari Road. While doing nothing does not impact the natural features in the Study Area, it does not address public safety, road structure concerns, and truck route and active transportation requirements. Do Nothing also does not address the drainage and flooding issues. From an ecological perspective, this alternative increases the risk of terrestrial and aquatic wildlife being injured on the flooded roads but poses no negative impacts to the wetland or climate change.

7.1.2 Alternative 2 – Permanent Road Closure

This alternative consists of closing Safari Road from Valens Road to Kirkwall Road to allow the wetland area to naturalize and be restored naturally. Traffic will be rerouted to other nearby corridors. The road closure impacts the least area of natural features but does not address flooding or neighbouring property access. In addition, road safety and active transportation improvements required on detour routes. From an ecological perspective, this alternative presents no negative impacts to aquatic habitats, wildlife, wetland, or terrestrial habitats. The closed road provides additional flood storage, potential to increase wildlife biodiversity, and decreases collisions with vehicles.

7.1.3 Alternative 3 – Raise the Road Profile

This alternative consists of raising the road profile, which would involve expanding the ROW and widening the road pavement to accommodate active transportation on paved shoulders. Safari Road would ultimately be re-opened through the Study Area. This alternative raises the road profile by widening the road to accommodate 2.0 m paved shoulders with 3:1 grading in the wetland area, installation of a retaining wall to reduce the embankment area in the wetland area, and flat-bottom ditches at Project limits. This alternative also addresses the road structure, flooding issues, and all safety concerns. The road network capacity and cycling connectivity are improved with 2 m paved shoulders and 0.5 m buffer. From an ecological perspective, short-term impacts include in-water works, loss of fish habitat, and sedimentation. Long-term impacts include increase in contamination potential, decrease in water quality, and increase in road-related wildlife mortality.

7.2 Preferred Alternative – Raise the Road Profile

The overall evaluation of the alternative solutions determined the hybrid approach to raising the road profile (with a retaining wall) to be the preferred solution. To accommodate this elevated road design, additional property is required as the preferred solution will expand the existing ROW to 20.1 m in the lowered retaining wall section (shown in the top image of Figure 7.1) and 23.2 m in the flat bottom ditch section at the Project limits (shown in the bottom image of Figure 7.1). Widening the ROW to install new paved shoulders will require culvert extension at the Fairchild Creek crossing. This alternative provides vehicle access and considers the safety of the travelling public, while slightly reducing the Project footprint in the most environmentally sensitive area with the use of a single retaining wall – the wetland and creek headwaters providing fish habitat described in Section 4. This alternative allows for the opportunities outlined in Section 6.2 at detailed design, most critical of which is the provision of wildlife passage under the raised roadway. Wildlife passage will be provided by the equalization culvert (box culvert), as well as four additional dry passages spaced no more than 150 m apart within the central wetland area. Dry passages should target an openness ratio for mid-sized mammals (>0.4 but no less than 0.1) and use of pre-fabricated semi-open passages (ACO KT500) or similar custom open/semi-open top passage designs should be considered to allow reduced passage size with sufficient openness to encourage use. Barriers to wildlife are required in association with passages to ensure they function as intended. Barriers should be targeted to, as a minimum, prevent turtles from defeating the barrier, with barrier parameters being 60 cm above grade and 10-20 cm below, or alternatives that serve the same function (e.g. proprietary wildlife barriers, custom solutions, etc.). Barriers should be installed along the

central wetland limits with 25 m extensions to ensure effectiveness, with curved ends. General guidance for wildlife fencing can be found at https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing.

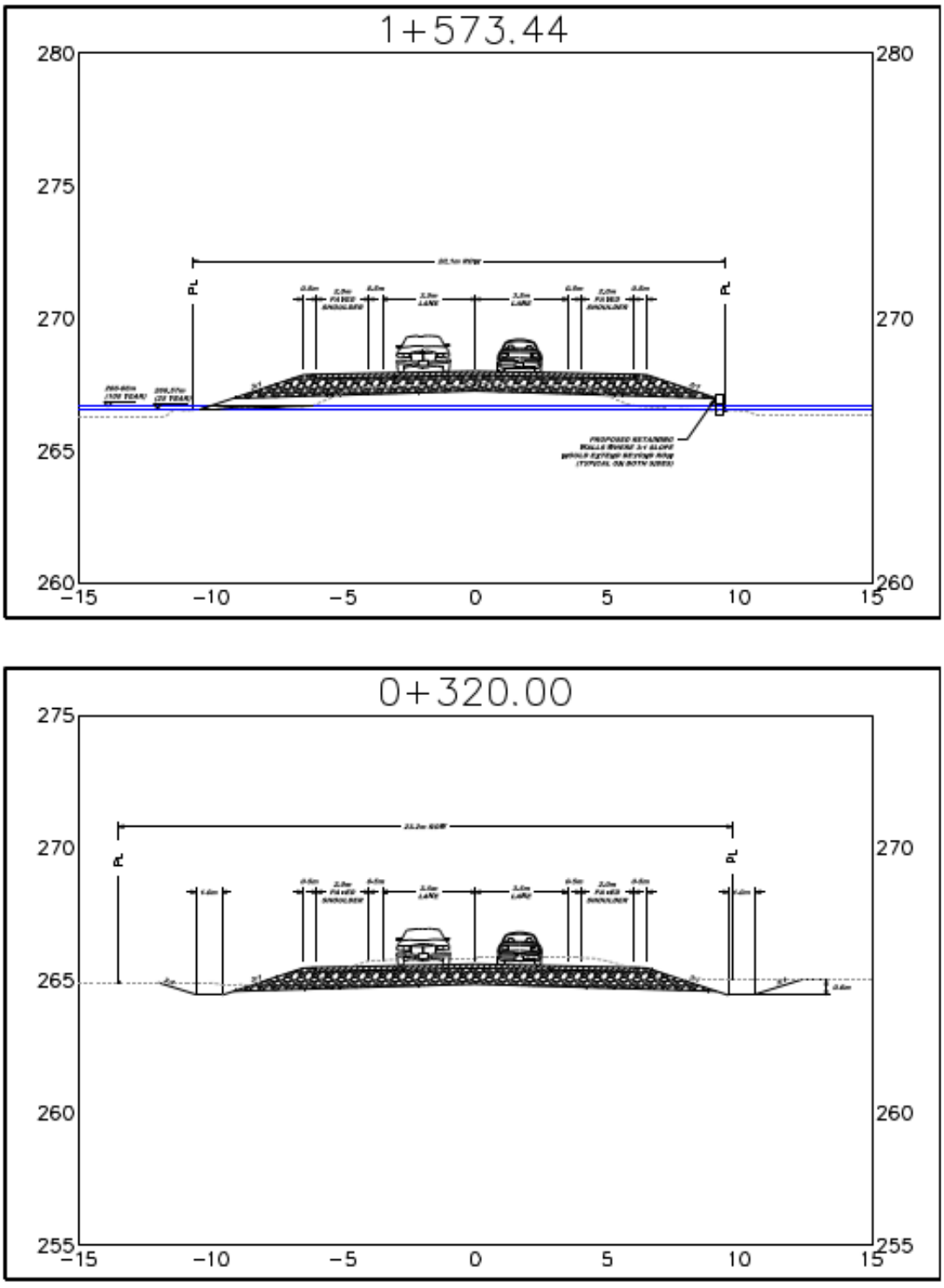

Figure 7.1 – Preferred Alternative – Raise the Road

7.2.1 Proposed Project Activities

The preferred alternative includes several construction activities that have potential to impact the natural heritage features:

- Vegetation clearing;
- Excavation;
- Grading and paving;
- In-water work;
- Dewatering/unwatering; and
- Use of industrial equipment.

8.0 Preliminary Assessment of Potential Impacts

The following sections provide a preliminary assessment of the potential impacts of the preferred alternative, raised road profile, on the natural heritage features within the Study Area and suggest avoidance and operational constraints to mitigate these impacts.

8.1 Vegetation and Vegetation Communities

Potential direct impacts to terrestrial vegetation as a component of construction of the preferred alternative include complete removal through construction and grading activities, as well as vegetation clearing to support surveying and construction equipment access. Indirect impacts to woody vegetation along the periphery of construction areas may occur due to damage to roots, stems and branches through interaction with construction equipment. Excessive dust raised by construction activities may also negatively impact vegetation.

The preferred alternative will directly impact vegetation communities overlapping the 20 m envelope beyond the ROW. This includes Deciduous Forest and Mixed Forest, Coniferous Cultural Plantation, Cultural Mineral Woodland. Mineral Cultural Thicket and Woodland, Hedgerows, Mineral Thicket Swamp, Swamp Maple Mineral Deciduous Swamp, Cattail Mineral Shallow Marsh, Agricultural Lands, and Residential Yards. Mineral Cultural Meadow extends up to 3 m from Safari Road in most upland sections of the road, including the forest, woodland, and thicket polygons, which would make up a significant proportion of the impacted area within these polygons. These areas are occupied primarily by pioneering native and exotic species, mainly grasses and forbs. Most of the locally rare and uncommon species occur close to the existing road within Polygons 1, 2, 3, 4 10, 11, 12a-c, 13d, and 13e, therefore may be impacted. Notable large-diameter Maple, Oak, and Walnut trees occur within close proximity to the existing road and may be impacted.

Vegetation within the Study Area will be impacted by the proposed construction through clearing and removals associated with regrading, raising, or cutting the road elevation, as well as associated road widening, shoulder and cycling lane, slope grading, construction of the retaining wall, and replacement of culverts. The Deciduous Forest, Mixed Forest, and all the wetlands present are the most sensitive vegetation communities within the Study Area, so the focus will be on avoiding and minimizing impacts in these areas. The Mineral Cultural Meadow, Thicket, and Woodlands are primarily composed of pioneering species that are abundant within the Study Area, are more tolerant of disturbance, and can more rapidly recolonize disturbed areas, but exist in a more degraded state with a high diversity of exotic and invasive species. Mitigation for these areas will focus on the retention and reduction of impacts to adjacent remaining vegetation, invasive species control, and revegetation with native species.

- Laydown, staging, access and other areas of temporary disturbance should be reduced as is possible and limited to only Mineral Cultural Meadow or Mineral Cultural Thicket habitats, as these have a high-tolerance to disturbance and candidate areas for ecologically restorative plantings.
- Revegetation of cleared areas should consider using non-invasive, native plant species with high wildlife value (fruit-producing shrubs and trees, wildflowers, etc.) which will provide long-term ecological contributions to the local terrestrial system.
- European Common Reed and other invasive species are present throughout the Study Area. Prior to construction efforts should be made to not spread these species. The Clean Equipment Protocol for Industry should be provided to contractors at the implementation stage to assist with these efforts.
- Control of invasive species, in particular European Common Reed, within the right-of-way as a component of construction would also provide long-term benefit, as these species causes significant negative ecological impacts and can impact infrastructure as well. The preferred alternative overlaps a dense patch of European Common Reed within Polygons 12a, 12b, and 12c.
- The impacts of dust on the surrounding ecosystem can be mitigated by moistening dry soils with water as required during construction and adhering to erosion and sediment management measures as described below.

8.2 Trees

A total of 1392 trees were inventoried within and 20 m outside the ROW. Trees inventoried included specimens within natural deciduous and mixed forest, coniferous plantations, cultural woodlands, regenerating hedgerows and some residential landscape trees,

including some trees notable due to size, species, or wildlife habitat value. Detailed design should focus on preserving larger, uncommon or habitat trees.

Based on the preliminary limit of grading, 254 trees would require removal. The most affected species include American Basswood (56 trees), Sugar Maple (54 trees), Black Walnut (30 trees), Bur Oak (14 trees), Freeman Maple (13 trees), Scot Pine (13 trees) and Butternut Hickory (10 trees). Fewer than 10 trees of other species would require removal. These impacts should be reassessed following detailed design.

8.3 Invasive Species

Five notable invasive species, Autumn Olive, Phragmites (European Common Reed), Common Buckthorn, Glossy Buckthorn and Scots Pine are present within the Study Area, including the proposed project footprint. These species are recognized as problematic species and their responsible removal will reduce the spread of these plants, reducing the opportunity for additional propagation of these species elsewhere on the landscape and associated negative impacts. As a component of detailed design, locations of invasive species within the project footprint and adjacent right of way should be mapped and indicated for treatment/removal as a component of construction by invasive species management professionals. This may entail treatments ahead of construction. The final tender package should include the requirement that contractors follow the Clean Equipment Protocol (Halloran et al. 2013) to reduce the spread or importation of invasive species within the project area.

8.4 Wildlife and Habitats; Significant Wildlife Habitat

Potential impacts to wildlife and their habitats during construction can occur through direct injury and habitat loss as well as indirect impacts such as avoidance of areas of active construction and resulting modification to established daily movement patterns. Over the longer term, renewed and increased use of the roadway (truck route) will lead to increased wildlife road mortality without mitigation measures. The design of the road also presents certain risks to wildlife. The single retaining wall design may trap smaller wildlife that enter the roadway, either from the opposite, open shoulder or areas outside of the wetland. The unconfined 3:1 granular shoulder has strong potential to attract nesting turtles, including SAR, with an increased likelihood of road mortality specifically to reproductive female turtles, which is a very significant impact.

Wildlife and habitats identified during site visits included those typical of rural southern Ontario and the Flamborough Plain, as well as more unique habitat, such as large

woodlands and wetlands that support a diverse assemblage of wildlife, included habitat specialists and at-risk species.

The Sheffield-Rockton PSW Complex, Mineral Deciduous Forest, and Mineral Mixed Forest hold the entirety of the confirmed SWH within the Study Area and much of the Candidate SWH discussed in Appendix G. Wildlife Road mortality, especially in the vicinity of the wetland areas is a significant concern following opening of the roadway.

Most of Canada's birds are protected under the MBCA. Vegetation clearing has the potential to impact breeding birds through disturbance of nesting birds and destruction of nests, eggs and young.

Construction activities have the potential to indirectly affect all other wildlife within the surrounding landscape through vibration along with light and noise pollution. This disturbance will be temporary, and it is anticipated that local wildlife is accustomed to human disturbances.

Construction activities required to implement the preferred solution will impact terrestrial wildlife habitats and have the potential to impact individuals. The following measures are recommended to reduce these impacts:

- To prevent incidental impacts to nesting birds and active bat maternity colonies, woody vegetation clearing should be restricted to outside of the bat maternity and migratory bird nesting seasons, generally April 1 through October 31. If vegetation clearing must occur within this window, a qualified ecological professional should be retained to ensure no birds, active bird nests, bats or SAR are incidentally harmed by vegetation removals.
- Grading activities should be limited to the active season for wildlife if practical, typically May 1 through September 30 to prevent entombment within burrows, tunnels or other subterranean features.
- Erosion and Sediment Control (ESC) fencing shall be designed and installed with wildlife barrier function in mind where applicable, such as wetland areas. This will entail installing an additional layer of geotextile on the outside of the existing ESC fencing to make the fencing un-climbable by wildlife. This additional geotextile will be designed and installed following the Reptile and Amphibian Exclusion Fencing best management practices from the MECP Species at Risk Branch (https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing), to provide the added function of wildlife barrier fencing.
- Erosion and sediment control fencing shall NOT contain nylon meshing (e.g. typical of 'heavy duty' silt fence). If required, wire-backed silt fence will be utilized.

- Limiting construction activities to daylight hours will reduce the impacts to behaviour changes (avoidance) of local wildlife in response to the project.
- Wildlife passages, especially in the vicinity of the wetlands, along with robust wildlife barriers (fencing, block wall, etc) should be incorporated into the road design to mitigate against increased road mortality related to re-opening of Safari Road.

8.5 Aquatic Habitat and Communities

Potential impacts to aquatic habitats and the communities therein can be identified as: a direct loss of habitat; direct injury to fish (or other aquatic organisms) due to construction; or indirect changes to the aquatic habitat that may occur in the long term and/or over a larger area. In general, road reconstruction and surface water management are likely to cause impacts to the surrounding riparian vegetation, changes to the aquatic vegetation, changes to existing slopes and surface drainage, localized impacts to the streambed and fish habitat in areas of direct disturbance, and potentially more widespread impacts as a result of sedimentation and thermal changes. Potential impacts to aquatic habitat and communities have been assessed further by taking into consideration the project activities noted in Section 7.2.1 and are discussed below.

Vegetation clearing exposes soils and increases the likelihood of erosion and release of sediments into nearby water features. Impacts of vegetation clearing and general mitigation measures are also discussed in Section 8.1. Release of sediment into the wetland or tributary could have significant detrimental impacts to water quality and fish habitats. Sediments that enter a watercourse can increase turbidity, abrade fish gill membranes (leading to physical stress), cover spawning areas and incubating juvenile fish, cover/smother mussel beds, decrease food production, and smother eggs in nests. Removing riparian vegetation can also decrease watercourse shading, thereby potentially affecting the water temperature of surface flows, and can limit the natural shedding of organic materials which may flow into the nearby watercourse which may provide food, cover, and nutrients to the aquatic ecosystems.

Excavation will be required to construct the road, culvert, and retaining walls. Grading will be required following road, culvert, and retaining wall construction to shape the new embankments and ditches. Both excavation and grading activities expose soils and increase the likelihood of erosion and release of sediments into the nearby water features (as discussed above). They also change the shape of the land, which affects slopes and drainage and require the use of industrial equipment. Industrial equipment accessing surface water drainage paths may release deleterious materials such as debris, oil, fuel, and grease that could be conveyed into the nearby watercourse.

The new footprint of the raised road profile and paved shoulders will cover over existing fish habitat presently provided by the flooded roadbed and gravel shoulders in the wetland area. This will permanently remove the direct fish habitat in the footprint. In the current condition, the flooded granular shoulders are providing nursery/rearing habitat for young fish, and by raising the road and paving the shoulders, this habitat will be eliminated. It is unlikely this habitat is limited in the large wetland area beyond the existing flooded road.

Lastly, unwatering of stormwater may be required during road construction. The resulting effluent will likely be discharged to the surrounding environment, ultimately entering adjacent creek or wetland and have potential to cause sedimentation and erosion in the receiving waterbodies. Considering the evidence of groundwater inputs in the wetland and tributary, dewatering of groundwater may be required during excavation for culvert replacement/extensions. This has potential to impact the water balance in the wetland, groundwater upwellings in the nearby creek, and the groundwater recharge area.

In order to mitigate the possible detrimental effects associated with construction of the Project and the permanent changes to the nearby aquatic habitats and fish communities as discussed above, the following measures are recommended:

- No in-water work is permitted below the high water mark of the Fairchild Creek Tributary between March 15 to June 30 (D. Denyes, pers. comm. April 16, 2025) to protect fish during sensitive life stages. This in-water restriction should be applied to all fish-bearing water features in the Study Area which includes any wetted portion of the marsh or hydrologically connected roadside ditches.
- Vegetation clearing impacts should be mitigated by access limitations and Erosion and Sediment Control (ESC) measures implemented prior to and maintained during the construction phases to prevent entry of sediment into the creek or wetland (creek headwaters).
- Design and implement ESCs to contain/isolate the construction zone, manage site drainage and prevent erosion of exposed soils and migration of sediment to adjacent watercourses/waterbodies during all phases of the Project.
- All work below the high water mark shall be completed in isolation of the open watercourse to ensure sediment generated during construction activities are contained to the worksite. Cofferdams are to be constructed using clean materials, free of particulate matter, to isolate the worksite, following the guidance in the DFO Interim standard: In-water site isolation.
- Work inside the isolated areas shall be conducted in the dry, as per the noted DFO standard. If unwatering activities are required within an isolated work area, screens should be placed at the end of all pump intakes, in accordance with DFO Interim

code of practice: End-of-pipe fish protection screens for small water intakes in freshwater, to prevent the potential entrainment of aquatic or semi-aquatic animals during water extraction.

- Unwatering effluent will be treated (i.e., via settlement pond, filter bag, flowing through vegetated land, etc.) to remove suspended sediments prior to entering the creek or wetland. Treated water will be released back into the system in a manner that prevents erosion and sediment inputs in the receiving waterbody.
- All activities will be controlled to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the water. Vehicle refueling and maintenance will be conducted a minimum of 30 m from any watercourse to avoid potential impacts.
- Should any deleterious substances enter the watercourse or wetland, including sediment, this must be reported to the Ministry of the Environment, Conservation and Parks (MECP) Spills Action Centre (1-800-268-6060) and DFO Fish and Fish Habitat Protection Program (1-855-852-8320 or FisheriesProtection@dfo-mpo.gc.ca).
- All disturbed areas shall be stabilized and restored, with native seed mixes, immediately upon completion of grading.
- Riparian vegetation removal should be kept to a minimum, as required for construction and access only. Vegetation scheduled for removal should have proper clearing techniques implemented to protect and retain the surrounding vegetation and root masses will be left in place for bank stabilization, where feasible.
- Restoration plan – all exposed soils should be immediately stabilized with a suitable seed and cover mix, and riparian areas should be replanted with native trees and shrubs to provide/replace stream shading.
- All ESC measures should be inspected weekly and maintained to ensure they are functioning as intended throughout the construction period and until such time that disturbed areas have stabilized.
- Travel paths, stockpile areas and staging areas should be pre-planned and followed.

Mitigation measures should be updated and refined during the detailed design phase of the project.

8.6 Species at Risk and Species of Conservation Concern

Black Ash (Endangered) are known to occur in the vicinity of the Study Area based on background data, but none were located during site-specific inventories. As such no impacts to this species or its habitat are expected.

Four SAR bird species were noted to be displaying evidence of breeding within the Study Area, with a fifth (Eastern Whip-poor-will) not actively surveyed for but has been recorded by citizen scientists historically within the Study Area. Based on anticipated legislative changes, only Eastern Whip-poor-will will receive habitat protection when construction is to occur, via the federal SARA. A permit under the SARA for impacts to critical habitat of Eastern Whip-poor-will may be required to support the Project.

Candidate habitat for SAR bats (treed vegetation communities) is present within the Study Area, as are individual trees over 10 cm DBH that could provide habitat. Further study is required to determine the extent of protected habitat proposed to be impacted by the Project. It is anticipated that the impacts will be able to be registered under the SCA, supported by a mitigation plan.

Habitat for two species of conservation concern (Eastern Wood-Pewee and Wood Thrush) was located during site investigations and another Monarch, was not located but is expected to be present in the Study Area based on citizen science data, but no significant impacts to this species or its habitat are expected as habitat is locally abundant.

The various potential SAR and Species of Conservation Concern noted in Table 5.1 will be protected through the proper application of the general mitigation measures noted in the sections above. The following discussion explains any SAR specific measures and recommendations:

- Vegetation clearing timing windows (no clearing between April 1 through October 31) will serve to protect against incidental impacts to SAR/SC species that utilize vegetation, aquatic or terrestrial habitats (e.g., ground) for important life history traits, such as nesting, feeding and rearing of young including, birds, bats and insects.
- Education of construction staff regarding the potential of encountering wildlife, including turtles and snakes, as well as appropriate actions (i.e., allow the animal to leave on its own, contact a wildlife professional, etc.) is an effective mitigation against unintended impacts to wildlife.
- Location of wildlife exclusion fencing during construction should be considered at the detailed design stage for the Project in the vicinity of natural areas, especially near the wetland areas. This may be incorporated into ESC fencing as noted above or installed as a targeted mitigation measure. This will mitigate against incidental impacts to at-risk reptiles that are known to occur in the area, such as Blanding's Turtle.

- Wildlife passages, especially in the vicinity of the wetlands, along with robust wildlife barriers (fencing, block wall, etc.) should be incorporated into the road design to mitigate against increased road mortality related to re-opening of Safari Road.
- A post-construction restoration plan, including implementation of any habitat mitigation measures for SAR impacted, should be prepared and included as part of the final design. This plan should include revegetation of roadsides with native species, addition of habitats to compensate for those lost and any other measure required to support required permitting.

In addition to the mitigation measures and operational constraints noted in this section, specific measures and commitments may be specified by the permitting agencies and described in the potential issued permits and approvals. Potential permits and approvals are identified in Section 10.0.

8.7 Ecological Linkages

Implementation of the proposed Project will reopen Safari Road to through-traffic. This will require raising the road profile through the marsh via a combination of retaining walls and fill slopes, in conjunction with lowering overall marsh water levels through work by others. Short-term impacts as a result of the Project on the ecological linkages in the Study Area are associated with construction activities (i.e., vegetation removal, soil compaction, cofferdams, and industrial equipment). With the application of the above noted mitigation measures to protect wildlife during construction, these impacts are not anticipated to significantly alter the function of the ecological linkages. As the Project is within a Core Area (Schedule B, City of Hamilton 2023), minor loss of vegetation within Core Areas will be required to complete the Project but no mapped Linkage Areas will be affected, nor will the broader ecological connectivity. The long-term impacts of the Project include increased road mortality of wildlife due to an increase in vehicle traffic and minor increase in fragmentation of woodlands and wetlands due to the increase in the width of the road. Wildlife passages as proposed are expected to reduce the negative impacts of the re-opening of Safari Road on ecological linkage function.

8.8 Cumulative Impacts of Adjacent Construction

While no construction projects are currently occurring immediately surrounding the Study Area, concurrent with the Safari Road EA is the drainage study being undertaken by Robinson Consultants for the City which has potential to impact the natural heritage features and functions in the Study Area. Raising the road out of the wetted marsh will divide the wetland habitat, but the proposed series of wildlife passages and/or culverts with

guiding barrier will provide connectivity under the road. The construction of the road and drainage projects will result in cumulative effects to the surface flows in the Study Area. These impacts should be considered at the overall land use and planning level.

9.0 Preliminary Net Effects Assessment

A preliminary assessment of the predicted net effects of the Project on the existing natural heritage features and functions in the Study Area is presented in Table 9.1.

Table 9.1 – Preliminary Net Effects Assessment

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
Vegetation and Vegetation Communities	Removal of vegetation for construction, staging, access, etc.	Reduce grading into vegetation communities with locally rare/uncommon species during detailed design. Salvage and retain rare plants for transplant into restored areas. Retain and reuse topsoil from natural areas in site restoration to improve revegetation outcomes and reduce the potential for adding new exotic species	Low – some impact to locally rare/uncommon plants present in removal areas. Reduction in occupiable area.	Restoration Plan – return salvaged plants to the site as part of revegetation. Environmental Monitoring. Success of restoration should be monitored post-construction and adaptively managed as required.
		Minimize area disturbed for construction, staging, access, etc.	Low – retention of existing system; some loss of edge habitats.	Monitor for establishment of invasive species in disturbed areas and control as required.
	Damage to retained vegetation adjacent to the construction zone	Prepare a tree preservation plan to ensure protection of adjacent trees during construction. Demark protection area with high-visibility exclusion fencing.	None – no impacts to retained trees providing tree exclusion fencing is installed correctly and respected.	Tree Preservation Plan to protect adjacent trees.
	Spread of invasive plant species.	Contractors should adhere to the Clean Equipment Protocol for Industry (Halloran et al. 2013) Control invasive species as a component of vegetation clearing.	None – no impacts from spread of invasive species.	Monitor for establishment of invasive species in disturbed areas and control as required.
Wildlife and Wildlife Habitat	Disturbance or destruction of active bird nests	Complete all necessary vegetation removals between November 1 – March 31, outside of the core breeding bird season. If this is not possible or work area changes,	None – all impacts to active bird nests will be avoided through timing windows and modified work, if required.	Environmental Monitoring During Construction – ensure no active bird nests within work areas.

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
		additional areas for clearing should be vetted by an experienced professional for active bird nests or candidate bat habitats and work modified or ceased to prevent harm or disturbance to the nest/habitat.		
	Disturbance to local wildlife and other habitats	Active construction to be completed during the daylight hours to reduce disturbance to crepuscular wildlife.	Low – disturbance to local wildlife will be mostly avoided.	n/a
		Minimize area disturbed for construction, staging, access, etc.	Low – reduced amount of disturbed habitat.	n/a
	Harm to wildlife in the construction work area.	Vegetation clearing during the inactive season for birds, bats and insects (November 1 – March 31) will reduce the potential for incidental direct impacts.	None – all direct harm to wildlife will be avoided through timing windows.	Environmental Monitoring During Construction – daily check for wildlife within work areas.
		Contractor education - any wildlife discovered on the site is not to be harmed or harassed and should be left to vacate the site on its own unless there is a risk of immediate harm to the animal.	None – harm or harassment of wildlife will be avoided.	Environmental Monitoring During Construction – daily check for wildlife within work areas.
		Daily inspection of equipment for wildlife before initial startup or after equipment has been left idle for 1 hour or more.	None – harm or harassment of wildlife will be avoided.	Environmental Monitoring During Construction – daily check for wildlife within work areas.
		Erosion and sediment control fencing should be installed in a manner to also serve as wildlife barrier fencing where appropriate/applicable. Fencing will	None – harm or harassment of wildlife will be avoided.	Environmental Monitoring During Construction – a qualified environmental monitor should regularly (weekly and following

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
		not include nylon mesh in its construction.		intense rain events) inspect ESC measures to ensure they are functioning correctly.
		Salvage of wildlife from within wildlife barrier fencing ahead of construction.	None – harm or harassment of wildlife will be avoided.	n/a
		Any wildlife that is injured by construction activities should be transported immediately to an approved wildlife rehabilitator.	Low – no harm to wildlife is anticipated. However, in the unlikely event that an animal is injured by construction activities it will be transported to a wildlife rehabilitator.	Environmental Monitoring During Construction – check for wildlife within work areas.
	Increased wildlife road mortality post-construction.	Incorporate wildlife passages, permanent wildlife barriers and one-way escape devices to reduce wildlife road mortality, especially in the vicinity of the wetland.	Low – If effectively implemented, wildlife passage and barriers should significantly reduce road-related wildlife mortality.	Long-term monitoring of passage use would be of value to understanding the efficacy of these measures, especially if different passage designs are utilized.
Impacts to Significant Wildlife Habitat for Eastern Wood Pewee and Wood Thrush	Minor encroachment into SWH.	Minimize area disturbed for construction, staging, access, etc.	Low – small permanent reduction in forage and rearing habitat.	n/a
		Revegetation of disturbed areas with native species will partially mitigate long-term impacts.	Low – minor loss of habitat for Eastern Wood Pewee and Wood Thrush.	Environmental Monitoring – Success should be monitored post-construction and adaptively managed as required.
		Control invasive species as a component of vegetation clearing.	None – no further degradation of habitats.	Environmental Monitoring – Success should be

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
			through invasive species colonization.	monitored post-construction and adaptively managed as required.
Provincially Significant Wetland (PSW)	Road width expanded through the PSW, resulting in loss of wetland area	Evaluation process considered multiple designs. Preferred alternative reduces overall wetland impacts.	Low – minor reduction in overall wetland area.	Restoration Plan – enhance wetland edge through invasive species management and native plantings. Success of both tasks should be monitored post-construction and adaptively managed as required.
	Spread of invasive species through the wetland through construction activity.	Control invasive species as a component of vegetation clearing.	None – no impacts from spread of invasive species.	Monitor for establishment of invasive species in disturbed areas and control as required.
Aquatic Habitat and Communities	Sedimentation of surface water (headwaters/wetland or tributary)	Erosion and sediment controls should be installed and maintained until vegetative cover establishes.	Low – properly installed and maintained ESC measures will reduce erosion and avoid sediment transfer to the adjacent waterbodies.	Environmental Monitoring During Construction – a qualified environmental monitor should regularly (weekly and following intense rain events) inspect ESC measures to ensure they are functioning correctly.
		Limit construction equipment access on banks, floodplains, and in wetland.	Low – equipment access will be limited to work areas delineated in the contract plans; isolation methods will	Access restrictions and site isolation; Environmental Monitoring During Construction.

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
			be required for any work with potential to impact waterbodies (i.e., equipment will not be permitted in any open waterbody).	
		Enhanced surface water treatment with flat bottom ditches and native vegetation.	None – potential for sediment (and contaminant) retention to be enhanced in final drainage ditches.	Restoration Plan – enhance surface water treatment with native vegetation.
	Contamination of surface water by road runoff, by resuming traffic on the road	Design appropriate containment and treatment of road runoff to ensure that contaminated water is not directed, untreated towards the watercourse.	Low – measures will be incorporated in design to mitigate the impacts of road runoff.	Environmental Monitoring During Construction
	Dewatering/unwatering impacting the water balance in the wetland	The type of retaining wall will impact the dewatering requirement. Unwatering (surface water) effluent will be treated and directed back into the system of origin to reduce overall loss of water. Additional impact assessment and mitigation are discussed in the Stormwater Management Report (RVA 2025).	TBD in detail design (based on dewatering requirements of the retaining wall selected).	n/a
	Impacts to fish during sensitive lifecycles	In-water timing window applied to all work below the highwater mark of the tributary and wetland, including work in roadside ditches with hydrologic connection.	None – in-water timing windows will protect spawning fish and egg incubation periods.	Environmental Monitoring During Construction

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
	Loss of riparian habitat surrounding the watercourse as a result of grading	Revegetate new ditches and road embankments with native species. Provide native plantings to replace any loss of the riparian habitat.	Low – vegetation will be restored in the new roadside ditches.	Restoration Plan – enhance restoration areas through invasive species management and native wetland seed mixes.
	Loss of direct fish habitat, including nursery habitat, provided by flooded road shoulders in PSW	None – the retaining walls will for the new edge of roadway, eliminating the shallow, gravely habitat.	Low – net loss of nursery habitat in the flooded road shoulders is a small area when considering the spatial scale of available nursery/rearing habitats in the wetland.	Environmental Monitoring During Construction
Species at Risk and Species of Conservation Concern	Minor encroachment into areas where SAR and SoCC habitats occurs/may occur.	Minimize area disturbed for construction, staging, access, etc.	Low – small permanent reduction in forage and rearing habitat.	n/a
		Revegetation of disturbed areas with native species will partially mitigate long-term impacts.	Low – minor loss of habitat/candidate habitat for SAR and SoCC.	Environmental Monitoring – Success should be monitored post-construction and adaptively managed as required.
		Control invasive species as a component of vegetation clearing.	None – no further degradation of habitats. through invasive species colonization.	Environmental Monitoring – Success should be monitored post-construction and adaptively managed as required.
		Revegetation of disturbed areas with native species.	Low – revegetation of edges will mitigate some effects of habitat loss.	Environmental Monitoring – Success should be monitored post-construction and

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
				adaptively managed as required.
	Removal of candidate SAR bat maternity colony habitat.	Complete all necessary vegetation removals between November 1 – March 31, outside of the bat maternity season.	None – incidental impacts to bats will be avoided through timing windows.	Restoration Plan – enhance disturbed areas through invasive species management and native plantings, with emphasis on creating habitat for bats.
	Harm to SAR and SoCC wildlife in the construction work area	Complete all necessary vegetation removals between November 1 – March 31, outside of the active window birds, bats and insects. Will serve to protect against incidental impacts to SAR/SC species that utilize vegetation, aquatic or terrestrial habitats (e.g. ground) for important life history traits, such as nesting, feeding and rearing of young.	None – all direct harm to wildlife will be avoided through timing windows.	Environmental Monitoring During Construction – daily check for wildlife within work areas.
		Contractor education - any wildlife discovered on the site is not to be harmed or harassed and should be left to vacate the site on its own unless there is a risk of immediate harm to the animal.	None – harm or harassment of wildlife will be avoided.	Environmental Monitoring During Construction – daily check for wildlife within work areas.
		Daily inspection of equipment for wildlife before initial startup or after equipment has been left idle for 1 hour or more.	None – harm or harassment of wildlife will be avoided.	Environmental Monitoring During Construction – daily check for wildlife within work areas.
		Erosion and sediment control fencing should be installed in a manner to also	None – harm or harassment of wildlife will be avoided.	Environmental Monitoring During Construction – a

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
		serve as wildlife barrier fencing where appropriate/applicable. Fencing will not include nylon mesh in its construction.		qualified environmental monitor should regularly (weekly and following intense rain events) inspect ESC measures to ensure they are functioning correctly.
		Salvage of SAR and SoCC wildlife from within wildlife barrier fencing ahead of construction.	None – harm or harassment of wildlife will be avoided.	n/a
		Any SAR or SoCC wildlife that is injured by construction activities should be transported immediately to an approved wildlife rehabilitator.	Low – no harm to wildlife is anticipated. However, in the unlikely event that an animal is injured by construction activities it will be transported to a wildlife rehabilitator.	Environmental Monitoring During Construction – check for wildlife within work areas.
	Increased wildlife road mortality post-construction, potentially including Species at Risk.	Incorporate wildlife passages, permanent wildlife barriers and one-way escape devices to reduce wildlife road mortality, especially in the vicinity of the wetland.	Low – If effectively implemented, wildlife passage and barriers should significantly reduce road-related wildlife mortality.	Long-term monitoring of passage use would be of value to understanding the efficacy of these measures, especially if different passage designs are utilized.
Significant Woodlands	Loss of roadside vegetation along the edge of Significant Woodlands bordering Safari Road.	Minimize area disturbed for construction, staging, access, etc.	Low – small permanent reduction in Significant Woodland area.	n/a
		Control invasive species as a component of vegetation clearing.	None – no further degradation of habitats. through invasive species colonization.	Environmental Monitoring – Success should be monitored post-construction and

Natural Feature	Potential Impacts	Mitigation Measures	Net Effects Following Mitigation	Management and Monitoring
				adaptively managed as required.
		Revegetation of disturbed areas with native species will partially mitigate long-term impacts.	Low – minor loss of habitat/candidate habitat for SAR and SoCC.	Environmental Monitoring – Success should be monitored post-construction and adaptively managed as required.
Environmentally Sensitive Areas (ESAs)	Loss of roadside vegetation along the edge of the Hyde/Rockton/Beverly ESA bordering Safari Road	Minimize area disturbed for construction, staging, access, etc.	Low – small permanent reduction in ESA area.	n/a
		Control invasive species as a component of vegetation clearing.	None – no further degradation of habitats. through invasive species colonization.	Environmental Monitoring – Success should be monitored post-construction and adaptively managed as required.
		Revegetation of disturbed areas with native species will partially mitigate long-term impacts.	Low – minor loss of habitat/candidate habitat for SAR and SoCC.	Environmental Monitoring – Success should be monitored post-construction and adaptively managed as required.
Animal Movement Corridors; Ecological Linkages	Minor increase in existing fragmentation of woodland and wetland habitats.	Proposed wildlife passages in the vicinity of the wetland will reduce the impact of the re-opened road by allowing smaller, more vulnerable species to move under the roadway.	Low or positive – Minor increase in fragmentation of woodlands for larger wildlife already separated by Safari Road. Improved connection of aquatic habitats for aquatic and semi-aquatic species.	n/a

10.0 Potential Permits and Approvals

In general, the Safari Road improvements (and the associated retaining walls, culvert work, and ditching) have potential to impact the natural heritage features in the Study Area in ways that cannot be fully mitigated by the measures and operational constraints described. Such impacts may require agency permitting and/or approvals, and include alterations within GRCA regulated habitat, loss of fish habitat, potential impacts to SAR, and potential impacts to groundwater balance. Based on the Project as presented in this report, the following list of potential approvals and permits should be considered and confirmed with the appropriate agencies during the next phase of design:

GRCA – O. Reg. 41/24 (Prohibited Activities, Exemptions and Permits) establishes regulated areas where development could be subject to flooding, erosion or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. GRCA regulated lands can be found in Map 2. Under this regulation, any proposed development, interference or alteration within these areas requires a permit from GRCA.

DFO – The Project footprint will require the removal of direct fish habitat in the flooded wetland to raise and widen the road and impacts to the tributary crossing as a result of culvert work and road widening. As details of the impact areas are determined, the Project will need to be submitted to the DFO via a Request for Review (RFR) application to initiate a site-specific review and determine compliance with the *Fisheries Act*.

ECCC – Correspondence with ECCC is required to determine if permits for impacts to critical habitat for Eastern Whip-poor-will are required.

MECP – Additional field work and correspondence with MECP is needed to determine required authorizations under legislation in force prior to construction.

MECP – Impacts of temporarily lowering the groundwater level to facilitate construction, potentially impacting the recharge to the wetland and watercourse require further investigation in the next phase of design and an Environmental Activity and Sector Registry (EASR) may be required.

11.0 Conclusions and Recommendations

Recommendations to be carried forward into detailed design include the following:

- Work with the above-noted environmental agencies to acquire permits and authorizations, as required;

- Minimize tree and vegetation removal, including a tree protection plan;
- Vegetation removal should occur between November 1 and March 31;
- No in-water work is permitted below the high water mark of the Fairchild Creek Tributary between March 15 to June 30 – this restriction applies to all fish-bearing water features in the Study Area which includes any wetted portion of the marsh or hydrologically connected roadside ditches;
- Minimize construction impacts to the Sheffield-Rockton Wetland Complex, Fairchild Creek and Environmentally Sensitive Areas through design and ESC measures;
- All in-water work shall be completed in isolation of the open watercourse/waterbody to ensure sediment generated during construction activities are contained to the worksite. Cofferdams are to be constructed using clean materials, free of particulate matter, to isolate the worksite, following the guidance in the DFO Interim standard: In-water site isolation;
- Screens should be placed at the end of all pump intakes, in accordance with DFO Interim code of practice: End-of-pipe fish protection screens for small water intakes in freshwater;
- Enhanced surface water treatment through design of flat bottom ditches enhanced with native wetland meadow mix seed;
- Wildlife passages in the vicinity of the wetland, including barrier design targeted to restrict scaling by wildlife should be finalized as part of detailed design. Both box culverts (equalization channel) and smaller pre-fabricated semi-open top passages should be considered as passage options;
- Wildlife barrier treatments (both temporary and permanent) should be equipped with one-way escape devices to allow wildlife that should enter the construction area/roadway to safely exit.
- Wildlife salvage and/or exclusion, and the provision of contractor training/materials related to managing wildlife interactions during construction should be implemented to protect wildlife from incidental harm/impacts during construction;
- Existing soil from natural areas should be salvaged and reused on the site post-construction to improve restoration outcomes and reduce the opportunity to add new exotic species to the area;
- Consideration should be given to salvage and/or propagation of rare plants proposed to be impacted by the Project.
- Native seed mixes should be utilized to revegetation roadsides wherever possible;
- As appropriate for the location (considering sightlines and safety) tree species for replanting should be those already locally present, such as oaks, maples and basswood, that will be removed to support the Project. Shrubs (dogwoods,

serviceberries, etc.) should be considered for areas where smaller plantings are appropriate and are away from roads to reduce the potential for incidental mortality of wildlife utilizing these resources;

- Prior to commencement of construction invasive Phragmites, Common Buckthorn and other problematic species should be treated/removed to reduce the potential for further spread;
- Implement the Clean Equipment Protocol for Industry practices;
- Prepare an Invasive Species Management Plan for the control of priority invasive species consistent with the Invasive Species Centre's best management practices (ISC 2025);
- Produce a restoration plan that includes restoration or enhancement of adjacent natural heritage features;
- Prepare a plan for monitoring during construction: ESCs, wildlife presence, etc.; and
- Post-construction monitoring activities may include:
  - Inspect seeded and planted material for deficiencies and replace as required under warranty; and
  - Vegetation monitoring to assess the success of plantings and invasive species management.

Based on the natural heritage features and functions identified within the Study Area and the implementation of the described mitigation measures, the preferred alternative will have minor negative impacts to the Natural Heritage System within the Study Area.

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APPENDIX A

Agency Correspondence

Natasha Welch

From: Kiddie, Melissa
Sent: July 18, 2024 4:38 PM
To: Sarwar, Ahmad
Subject: RE: Safari Road Municipal Class EA - Ecological Reports

Hi Ahmad,

There are several natural areas associated with the study area. These include:

- Significant Woodlands (Schedule B-2 Rural Hamilton Official Plan)
- Alvar/Tallgrass Prairie (Schedule B-3 Rural Hamilton Official Plan)
- Sheffield/Rockton Provincially Significant Wetland (PSW) (Schedule B-4 Rural Hamilton Official Plan)
- Lakes (Schedule B-5 Rural Hamilton Official Plan)
- Hyde/Rockton/Beverly Complex Environmentally Significant Area (ESA) (Schedule B-6 Rural Hamilton Official Plan)
- Salvage Tract ESA (Schedule B-6 Rural Hamilton Official Plan)
- Watercourse (Schedule B-8 Rural Hamilton Official Plan)

In addition, there may be Species at Risk and Significant Wildlife Habitat within this area.

For specific information on the ESAs, the Hamilton Conservation Authority (HCA) houses the City's Natural Heritage Database. You can contact the ecologist at HCA for further information.

The watercourse and wetlands are also regulated by the Grand River Conservation Authority (GRCA). This agency may have information on these features.

Thanks,

Melissa

Melissa Kiddie
Natural Heritage Planner (*She/Her*)
Planning and Economic Development
Planning, City of Hamilton

From: Sarwar, Ahmad <Ahmad.Sarwar@hamilton.ca>
Sent: Thursday, July 18, 2024 11:08 AM
To: Kiddie, Melissa <Melissa.Kiddie@hamilton.ca>
Subject: Safari Road Municipal Class EA - Ecological Reports

Hi Melissa,

Hope your week is going well.

I am managing another Municipal Class EA project for Safari Road from Kirkwall Rd to Valens; see attached site location plan for reference. I wanted to reach out to ask if you had any past ecological reports for the study area (e.g., inventory data, EIS, natural environmental reports etfc.). If so, can you please share for our review.

Thanks!
Ahmad S.

Ahmad Sarwar, M.Plan, P.Geo. (he/him)
Project Manager – Capital Planning
Infrastructure Renewal
Engineering Services
Public Works, City of Hamilton
(905) 546-2424 Ext. 1752
Hamilton

Please be advised that at this time my phone extension is not able to receive any incoming calls until further notice. If you would like to get in touch with me, please email me with your contact information and I will give you a call at the earliest possibility. I appreciate your cooperation as we resolve this issue.

Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

September 13, 2024

Ahmad Sarwar
City Project Manager
City of Hamilton
71 Main Street West
Hamilton ON L8P 4Y5
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Andrew McGregor
Consultant Project Manager
RVA Associates
43 Church Street, Suite 104
St Catharines ON L2R 7E1
amcgregor@rvanderson.com

Re: Safari Road Municipal Class Environmental Assessment
Safari Road (Kirkwall Road to Valens Road), Hamilton

Dear Ahmad Sarwar and Andrew McGregor,

Grand River Conservation Authority (GRCA) staff have reviewed the Public Information Centre 1 slides for the above-noted Class Environmental Assessment (Class EA).

The GRCA has reviewed this application under Ontario Regulation 686/21, acting on behalf of the Province regarding natural hazards identified in Section 3.1 of the Provincial Policy Statement (PPS, 2020), as a public body under the Planning Act, as well as in accordance with Ontario Regulation 41/24 and GRCA's Board approved policies.

Information currently available at our office indicates that the project area contains watercourses, floodplains, and wetlands associated with the headwaters of Fairchild Creek.

In addition to examining flooding issues in the roadway right-of-way, we understand the Safari Road Municipal Drain Petition under the Drainage Act is has ongoing study for flooding issues outside of the right-of-way. We have attached our latest letter correspondence for the drain petition, which includes some potentially useful background. Please note that due to recent legislative and regulatory changes, GRCA's commenting role will strictly be focused on natural hazards and hydrologic functions, and not include natural heritage considerations.

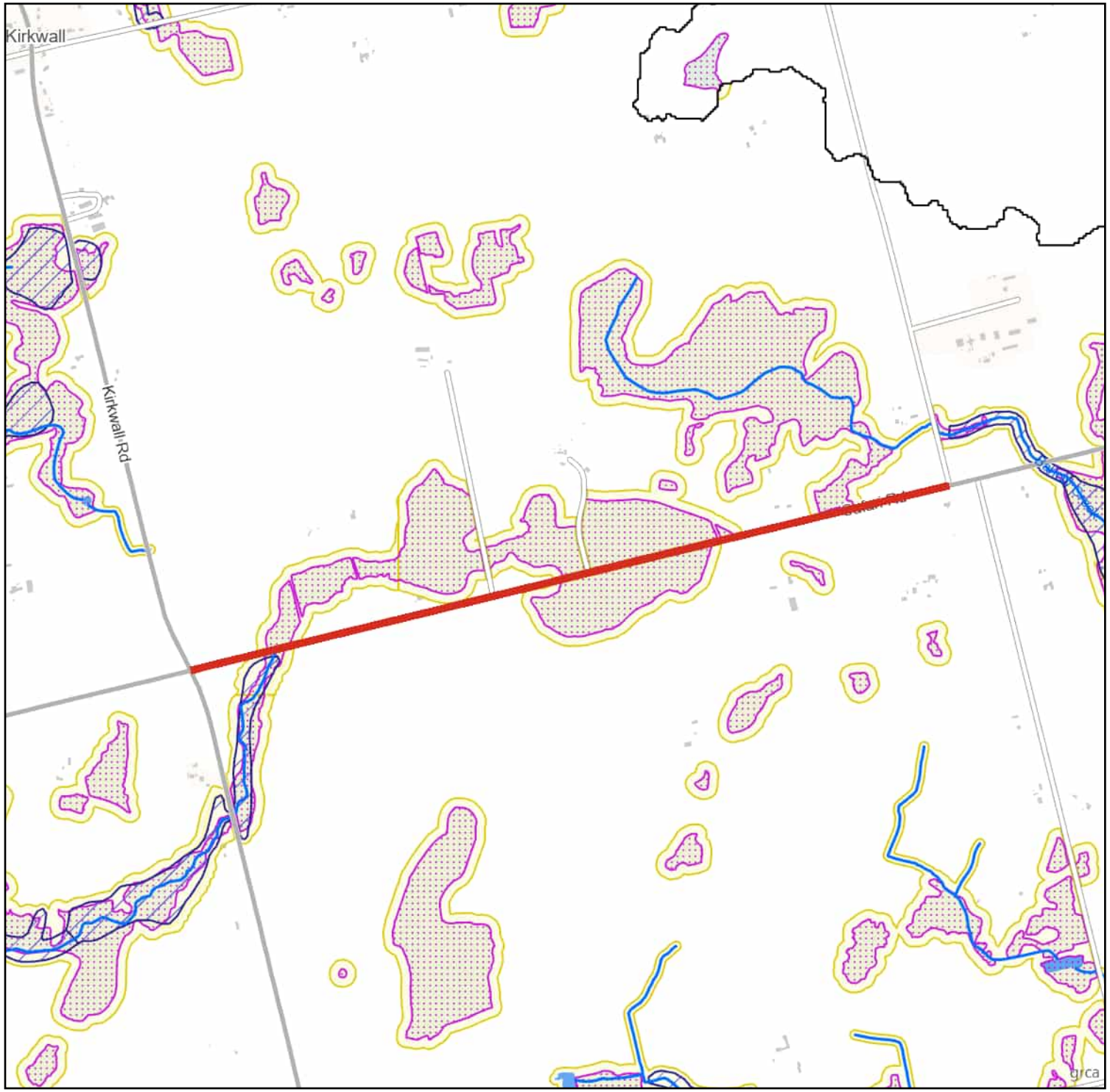
We understand that natural heritage, drainage / hydrologic / hydraulic, hydrogeological / groundwater and fluvial geomorphic assessments will be conducted as part of the Class EA. These studies will support GRCA information and permitting requirements. For the natural heritage assessment, wetland boundaries must be verified in the field by the GRCA. Please schedule a field visit with GRCA staff during the growing season (May to September).

We trust this information is of assistance, and we ask that GRCA continues to be consulted through the Class EA process. If you have any questions or require additional information at anytime, please don't hesitate to contact me at 519-621-2761 ext. 2292 or theywood@grandriver.ca.

Sincerely,

Trevor Heywood
Resource Planner
Grand River Conservation Authority

Encl. Resource Mapping
October 26, 2022 Letter re: Safari Road Municipal Drain Petition



Grand River Conservation Authority

Date: Sep 13, 2024
Author: TH

Safari Rd (Kirkwall Rd to Valens Rd), Hamilton

Legend

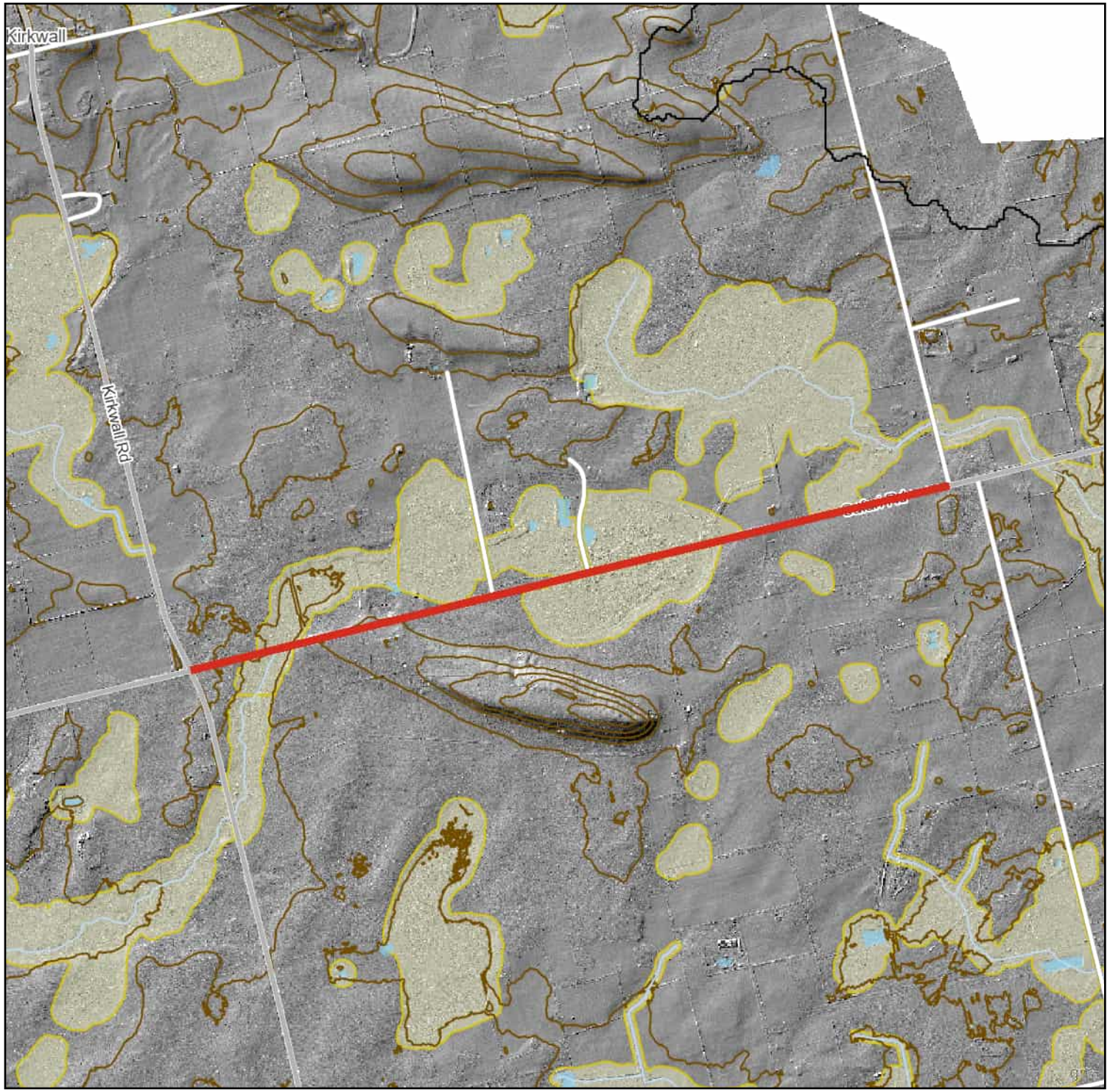
- Regulation Limit (GRCA)
- Floodplain (GRCA)
  - Engineered
  - Estimated
  - Approximate
- Floodplain - Special Policy Area (GRCA)
- Slope Erosion (GRCA)
  - Steep
  - Oversteep
  - Toe
- Slope Valley (GRCA)
  - Steep
  - Oversteep
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Conservation Area Boundary (GRCA)

Scale 1:17,803

NAD83 UTM zone 17 (EPSG:26917)

Map Centre (X,Y): 569907.18, 4799374.59 | Map Link

This map is not to be used for navigation



Grand River Conservation Authority

Date: Sep 13, 2024
Author: TH

Safari Rd (Kirkwall Rd to Valens Rd), Hamilton

Legend

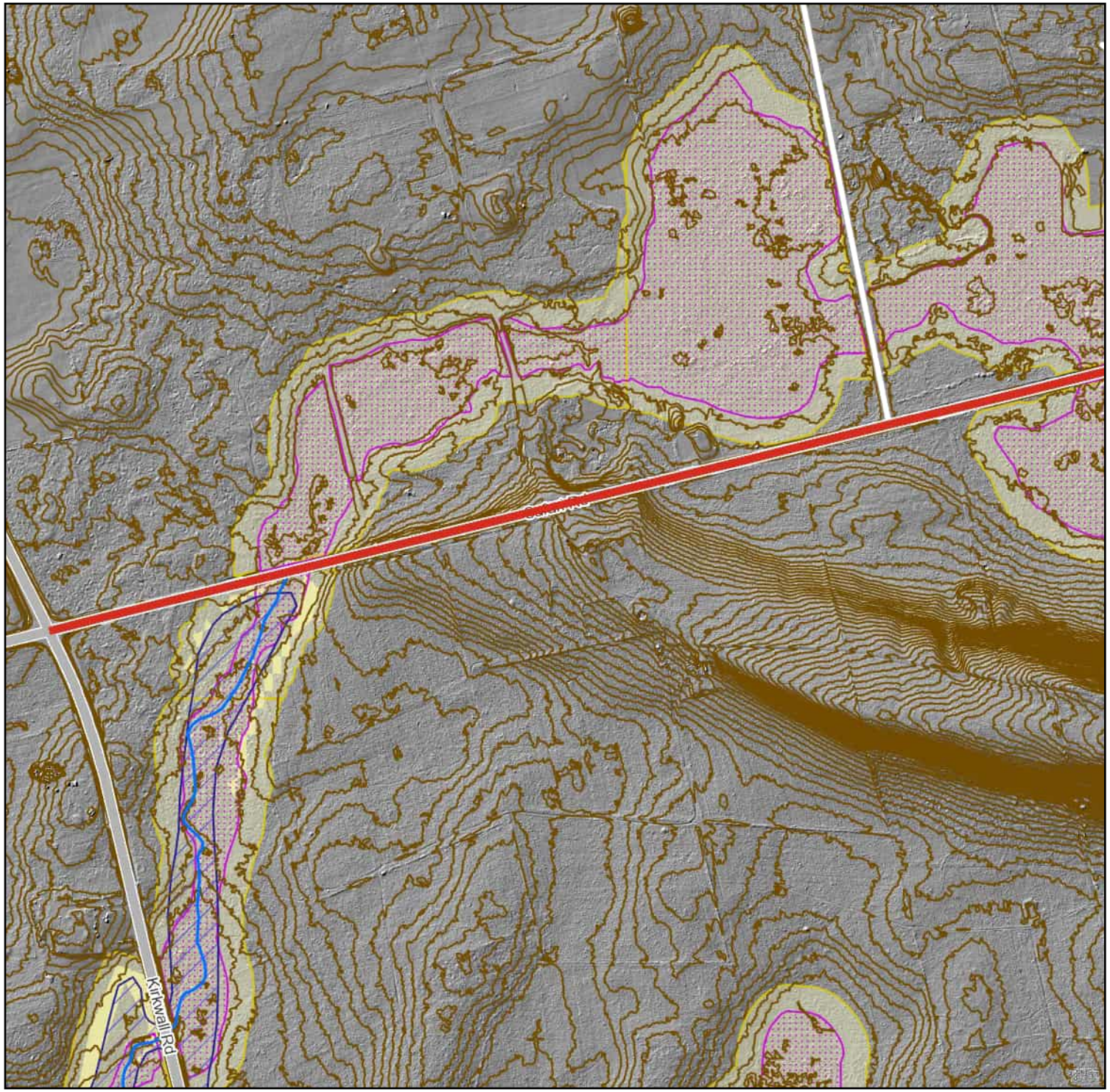
- Municipal Boundary (GRCA)
- Regulation Limit (GRCA)
- Watercourse (GRCA)
- Waterbody (GRCA)
- Conservation Area Boundary (GRCA)
- Contour 0.5m - CGVD2013 (GRCA)

Scale 1:17,803

NAD83 UTM zone 17 (EPSG:26917)

Map Centre (X,Y): 569907.18, 4799374.59 | Map Link

This map is not to be used for navigation | Terrain Hillshade (GRCA)



Grand River Conservation Authority

Date: Sep 13, 2024
Author: TH

Safari Rd (Kirkwall Rd to Valens Rd), Hamilton

Legend

- Regulation Limit (GRCA)
- Floodplain (GRCA)
  - Engineered
  - Estimated
  - Approximate
- Floodplain - Special Policy Area (GRCA)
- Slope Erosion (GRCA)
  - Steep
  - Oversteep
  - Toe
- Slope Valley (GRCA)
  - Steep
  - Oversteep
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Conservation Area Boundary (GRCA)
- Contour 0.5m - CGVD2013 (GRCA)

Scale 1:6,409

NAD83 UTM zone 17 (EPSG:26917)

Map Centre (X,Y): 569323.65, 4799074.07 | Map Link

This map is not to be used for navigation | Terrain Hillshade (GRCA)

Grand River Conservation Authority

Date: Sep 13, 2024
Author: TH

Safari Rd (Kirkwall Rd to Valens Rd), Hamilton

Legend

- Regulation Limit (GRCA)
- Floodplain (GRCA)
  - Engineered
  - Estimated
  - Approximate
- Floodplain - Special Policy Area (GRCA)
- Slope Erosion (GRCA)
  - Steep
  - Oversteep
  - Toe
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- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Conservation Area Boundary (GRCA)
- Contour 0.5m - CGVD2013 (GRCA)

The source for each data layer is shown in parentheses in the map legend. See Sources and Citations for details.

Scale 1:6,409

NAD83 UTM zone 17 (EPSG:26917)

Map Centre (X,Y): 570564.94, 4799409.83 | Map Link

This map is not to be used for navigation | Terrain Hillshade (GRCA)

Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

October 26, 2022
Via email

Lorne Franklin
Robinson Consultants
350 Palladium Drive, Suite 210
Ottawa, Ontario, K2V 1A8
lfranklin@rcii.com

Re: Safari Road Municipal Drain Petition

Dear Lorne,

The requested OWES record and Site Summary for the Hyde-Rockton-Beverly Complex has been appended to this letter. Please note that the information contained in these reports are not specific to any one area of the wetland complex and that this complex was last evaluated in 1988.

The Grand River Conservation Authority (GRCA) offers the following comments pertaining to the Safari Road Municipal Drain Petition:

Natural Heritage

1. In accordance with Section 6.2.16 of the GRCA's 2003 Wetlands Policy (approved March 28, 2003, Resolution No. 40-03), we would discourage any drainage works that would destroy or degrade wetlands.
2. The wetland complex is mapped as being part of the Provincial Natural Heritage System and is subject to the Greenbelt Act and Greenbelt Plan.
3. The wetland is identified as a Core Area, Key Natural Heritage Feature and Key Hydrologic Feature in Hamilton's Rural Official Plan.
4. The wetlands within the Sheffield Rockton PSW Complex are part of larger and interconnected complex of regenerating natural areas known as the Hyde-Rockton-Beverley Complex or Environmentally Significant Area #22 in the City of Hamilton Official Plan. Marsh, open alvar, and treed alvar communities are considered regionally significant and provide habitat for a variety of locally and provincially significant plant and animal species. Additional information regarding the important hydrological and ecological functions of this area may be found in the Natural Areas Inventory (NAI) Site Summary Report compiled by representatives of the Hamilton Conservation Authority

(HCA), the Hamilton Naturalists' Club (HNC), and the City of Hamilton. Field inventories were last completed in 2002.

5. According to the Ontario Natural Heritage Information Centre (NHIC), the following species at risk have been observed within the vicinity of the proposed project area:
    a. Bobolink (Threatened) – suitable habitat is present in hayfields and meadow areas.
    b. Eastern Meadowlark (Threatened) - suitable habitat is present in hayfields and meadow areas.
    c. Blanding's Turtle (Threatened) – suitable habitat is present throughout the wetland complex.
    d. Least Bittern (Threatened) – known to be breeding within the "Safari Road Wetland" as of 2022.
6. According to the Ontario Natural Heritage Information Centre (NHIC), the following species of conservation concern have been observed within the vicinity of the proposed project area:
    a. Canada Warbler (Special Concern) – suitable habitat is present within swamp and forest areas.
    b. Wood Thrush (Special Concern) – suitable habitat is present within swamp and forest areas.
    c. Eastern Ribbonsnake (Special Concern) – suitable habitat is present within and adjacent to this wetland complex.
    d. Snapping Turtle (Special Concern) – suitable habitat is present within and adjacent to this wetland complex.
7. Based on a cursory review of available background information, the following Significant Wildlife Habitat (SWH) classifications would apply. Please note that additional SWH may be present within the wetland and/or adjacent areas:
    a. The marsh area would be considered **Confirmed SWH** for marsh breeding birds as the following 4 target species are known to be breeding here as of 2022 (per eBird records):
        - Virginia Rail
        - Sora
        - Common Gallinule
        - Marsh Wren
    b. The shallow marsh areas would be considered **Candidate SHW** due to the presence of the following:
        - Amphibian Breeding Habitat (wetlands)
        - Turtle Wintering Area
8. The watercourse flowing south of Safari Road is currently unclassified. This watercourse flows into a branch of Fairchild Creek, which is classified as warm water fish habitat by the Ontario Ministry of Natural Resources and Forestry. The watercourse contains a relatively diverse community of fishes consisting of Blacknose Shiner, Blackside Darter, Bluntnose Minnow, Common Shiner, Creek Chub, Fathead Minnow, Greenside Darter, Hornyhead Chub, Johnny Darter, Largemouth Bass, Northern Pike, Pumpkinseed, Rainbow Darter, Rock Bass, and White Sucker. Several of these species prefer cool water conditions. GRCA recommends that no in-water take place between March 15 and July 15. Conversely, in-water work should be limited to the period between July 16 and

March 14, in accordance with guidance provided by Fisheries and Oceans Canada (DFO).

9. If work is being proposed in fish habitat and the appropriate mitigation measures to protect fish and fish habitat cannot be followed, consultation with Fisheries and Oceans Canada (DFO) would be highly recommended.
10. A scoped environmental impact assessment (EIS) in accordance with the GRCA's guidelines is recommended to provide an updated characterization of the wetland areas that could be impacted by drainage works. We further recommend that the impact on hydrologic and ecological features and functions be minimized to the greatest extent possible, in accordance with GRCA policy.
11. Early consultation with the Ontario Ministry of Environment, Conservation and Parks (MOECP) is highly recommended in order to determine the need for specialized surveys of species at risk and to confirm that any drainage works would not contravene Ontario's Endangered Species Act.

Engineering

12. To assess potential downstream floodplain impacts from upstream storage removal, it is recommended that hydrologic and hydraulic models be created. The loss of storage would be accounted for in the hydrologic model, and would result in an increase to the flow in the hydraulic model.

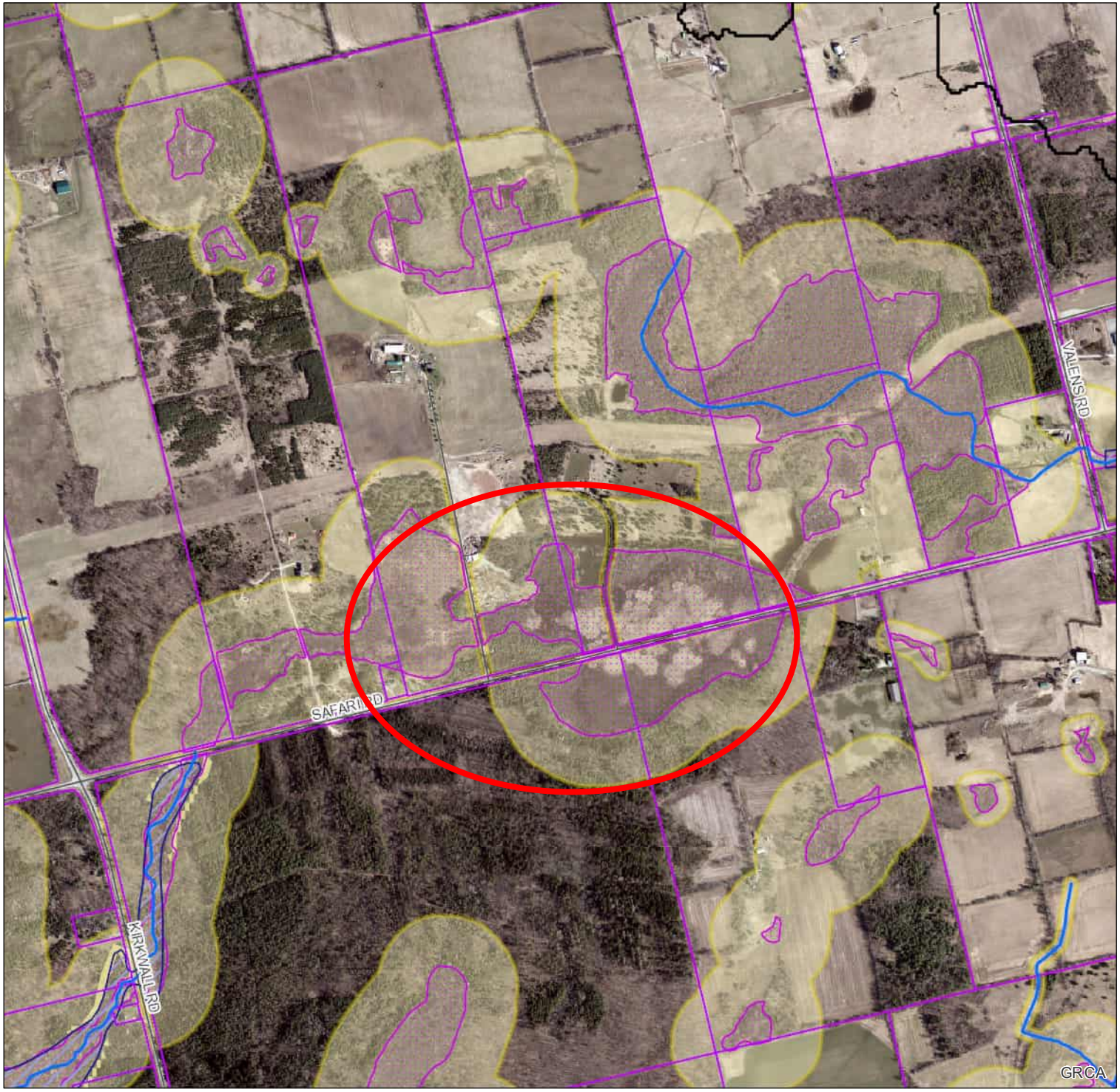
We trust this information is of assistance. If you have any questions or require additional information, please contact me at 519-621-2763 ext. 2236 or clorenz@grandriver.ca.

Sincerely,

Chris Lorenz, M.Sc.
Resource Planner
Grand River Conservation Authority

Attachments: GRCA Resource Mapping
Sheffield-Rockton Wetland Data Record
Hyde-Rockton-Beverly Complex Site Summary
eBird Field Checklist – Westover-Safari Road – Marsh

c.c. Hector Quintero (City of Hamilton; via email)
Don Young (City of Hamilton; via email)
Amanda Wong (City of Hamilton; via email)



Grand River Conservation Authority

Date: Jul 22, 2022

Safari Road

Legend

- Regulation Limit (GRCA)
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Floodplain (GRCA)
  - Engineered
  - Estimated
  - Approximate
  - Special Policy Area
- Slope Valley (GRCA)
  - Steep
  - Oversteep
  - Steep
- Slope Erosion (GRCA)
  - Oversteep
  - Toe
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Parcel - Assessment (MPAC/MNRF)

This legend is static and may not fully reflect the layers shown on the map. The text of Ontario Regulation 150/06 supercedes the mapping as represented by these layers.

Area requiring drainage

0 80 160 320 480 Metres

N

Map Centre (UTM NAD83 z17): 569,876.87 4,799,535.55

This map is not to be used for navigation | 2020 Ortho (ON)

NAD 1983 UTM Zone 17N

Scale: 13,248

Natasha Welch

From: Lesley McDonell <Lesley.McDonell@conservationhamilton.ca>
Sent: August 16, 2024 3:52 PM
To: Sarwar, Ahmad
Cc: Salvucci, Megan; Andrew McGregor; Mila Khatri
Subject: RE: Safari Road Municipal Class EA - Natural Heritage Information
Attachments: ELC - Central portion of Safari Rd.jpg; ELC Eastern portion Safari Road.jpg; ELC Western portion Safari Road.jpg; Flam 85 other taxa-Birds.pdf; Flam 85 other taxa-Herpetofauna.pdf; Flam 85 other taxa-Lepidoptera.pdf; Flam 85 other taxa-mammals.pdf; Flam 85 other taxa-Odonata.pdf; FLAM-95-Birds.pdf; FLAM-95-Herpetofauna.pdf; FLAM-95-Lepidoptera and Odonata.pdf; FLAM-95-Mammals.pdf; NAI Areas - related to other taxa 2024.jpg; Plants from ELC - CUP 3-8.pdf; Plants from ELC -CUP 3.pdf; Plants from ELC -CUP 3-3.pdf; Plants from ELC -CUS.pdf; Plants from ELC FOD 4-2.pdf; Plants from ELC -FOD 5-1.pdf; Plants from ELC -FOD7.pdf; Plants from ELC SWD 3-2.pdf; Plants from ELC-MAM 2-10.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Ahamd
I have finished the data request for you. There are a number of files here to send to you. They include an Ecological Land classifications map and a Natural Areas inventory (NAI) map. I also have a number of pdf files that relate both the ELC map and the NAI map. The attached plant list is broken down by file for each ELC community (vegetation communities). The other taxa (birds, dragonflies, butterflies, mammals etc) are associated with the larger NAI areas. The reason for this relates to the way in which the data is collected. Please let me k now if you have any questions in regards to this data.

Sincerely
Lesley

Lesley McDonell
Terrestrial Ecologist
Hamilton Conservation Authority
838 Mineral Springs Road, P.O. Box 81067
Ancaster, Ontario L9G 4X1
OFFICE 905 525 2181 ext. 231
EMAIL lesley.mcdonell@conservationhamilton.ca

Hamilton Conservation Authority
A Healthy Watershed for Everyone

From: Sarwar, Ahmad <Ahmad.Sarwar@hamilton.ca>
Sent: August 13, 2024 11:16 AM
To: Lesley McDonell <Lesley.McDonell@conservationhamilton.ca>
Cc: Salvucci, Megan <Megan.Salvucci@hamilton.ca>; Andrew McGregor <AMcGregor@rvanderson.com>; Mila Khatri <mkhatri@rvanderson.com>
Subject: RE: Safari Road Municipal Class EA - Natural Heritage Information

Thanks Lesley. I appreciate your help on this project. I am also contacting the GRCA as well for information on fisheries data and regulated features.

Best Regards,
Ahmad S.

Ahmad Sarwar, M.Plan, P.Geo. (he/him)
Project Manager – Capital Planning
Infrastructure Renewal
Engineering Services
Public Works, City of Hamilton
(905) 546-2424 Ext. 1752
Hamilton

Please be advised that at this time my phone extension is not able to receive any incoming calls until further notice. If you would like to get in touch with me, please email me with your contact information and I will give you a call at the earliest possibility. I appreciate your cooperation as we resolve this issue.

From: Lesley McDonell <Lesley.McDonell@conservationhamilton.ca>
Sent: Thursday, August 8, 2024 7:53 AM
To: Sarwar, Ahmad <Ahmad.Sarwar@hamilton.ca>
Cc: Salvucci, Megan <Megan.Salvucci@hamilton.ca>; Andrew McGregor <AMcGregor@rvanderson.com>; Mila Khatri <mkhatri@rvanderson.com>
Subject: RE: Safari Road Municipal Class EA - Natural Heritage Information

Hi Ahmad
Yes there is data in the Natural Heritage Database for terrestrial habitats along this road. For fisheries data, this is currently only gathered by HCA within our watershed. This road is outside the HCA watershed. You will need to contact Grand River Conservation authority for any data they may have. They may have other natural heritage information about the wetlands along this road as well.
I will work on your data request tomorrow as it is a lot of data that will take me some time to compile.

Lesley

Lesley McDonell
Terrestrial Ecologist
Hamilton Conservation Authority
838 Mineral Springs Road, P.O. Box 81067

Ancaster, Ontario L9G 4X1
OFFICE 905 525 2181 ext. 231
EMAIL lesley.mcdonell@conservationhamilton.ca

From: Sarwar, Ahmad <Ahmad.Sarwar@hamilton.ca>
Sent: August 7, 2024 11:28 AM
To: Lesley McDonell <Lesley.McDonell@conservationhamilton.ca>
Cc: Salvucci, Megan <Megan.Salvucci@hamilton.ca>; Andrew McGregor <AMcGregor@rvanderson.com>; Mila Khatri <mkhatri@rvanderson.com>
Subject: RE: Safari Road Municipal Class EA - Natural Heritage Information

Hi Lesley,

Hope all is going well.

I wanted to follow up on my email below and see if you had any natural heritage information that you would be able to share with us for this project.

Let me know if you require any additional information.

Thanks!
Ahmad S.

Ahmad Sarwar, M.Plan, P.Geo. (he/him)
Project Manager – Capital Planning
Infrastructure Renewal
Engineering Services
Public Works, City of Hamilton
(905) 546-2424 Ext. 1752
Hamilton

Please be advised that at this time my phone extension is not able to receive any incoming calls until further notice. If you would like to get in touch with me, please email me with your contact information and I will give you a call at the earliest possibility. I appreciate your cooperation as we resolve this issue.

From: Sarwar, Ahmad
Sent: Friday, July 26, 2024 3:14 PM
To: Lesley.McDonell@conservationhamilton.ca
Cc: Salvucci, Megan <Megan.Salvucci@hamilton.ca>; Andrew McGregor <AMcGregor@rvanderson.com>; Mila Khatri <mkhatri@rvanderson.com>
Subject: Safari Road Municipal Class EA - Natural Heritage Information

Hi Lesley,

Hope the day is going well.

We are looking to commence a Municipal Class Environmental Assessment for Safari Road from Kirkwall Road to Valens Road; I have attached a site plan for reference. We will be issuing a Notice of Commencement in the near future for this project. We understand that our site area includes the Hyde/Rockton/Beverly Complex Environmentally Significant Area (ESA); as also noted in Schedule B-6 of Rural Hamilton Official Plan. I was connecting with you to see if you have any further information on this ESA in your Natural Heritage Database, and/or if you have any additional natural heritage information that would be useful for our project.

I look forward to hearing from you.

Best Regards,
Ahmad S.

Ahmad Sarwar, M.Plan, P.Geo. (he/him)
Project Manager – Capital Planning
Infrastructure Renewal
Engineering Services
Public Works, City of Hamilton
(905) 546-2424 Ext. 1752
Hamilton

Please be advised that at this time my phone extension is not able to receive any incoming calls until further notice. If you would like to get in touch with me, please email me with your contact information and I will give you a call at the earliest possibility. I appreciate your cooperation as we resolve this issue.

Outlook

RE: 247372 - Natural Heritage Screening and Information Request - Hamilton - Safari Road EA

From Denyes, David (MNR) <David.Denyes@ontario.ca>
Date Tue 2025-09-09 11:52 AM
To Zackary Harris <zharris@rvanderson.com>; Henrique Pacheco <hpacheco@rvanderson.com>

3 attachments (11 MB)
20250909_113402.jpg; 20250909_112708.jpg; 20250909_113043.jpg;

Hi Zackary,

There were a number of hard copy maps in the file for this complex, so I focused on the ones for the proposed study area around Safari Road. I believe the one that is black and white is the original and the one with the red ink is the update.

Let me know if you have any questions or need anything else.

Regards,

David

David Denyes
Management Biologist | Aylmer, Guelph District
Ministry of Natural Resources | Ontario Public Service
289-241-6872 | david.denyes@ontario.ca

4890 Victoria Ave North
Vineland ON L0R 2EO

From: Zackary Harris <zharris@rvanderson.com>
Sent: September 4, 2025 2:49 PM
To: Denyes, David (MNR) <David.Denyes@ontario.ca>; Henrique Pacheco <hpacheco@rvanderson.com>
Subject: Re: 247372 - Natural Heritage Screening and Information Request - Hamilton - Safari Road EA

Hi David,

We're trying to understand how the wetland has changed since the PSW was first evaluated. Do you have any mapping associated with the original PSW record? It lists numerous wetland communities, but it's hard to determine where they occurred on the landscape at that time without mapping.

Thanks,

Zackary Harris
Terrestrial Ecologist, Natural Environment

R.V. Anderson Associates Limited
55 King Street West, Suite 400
Kitchener Waterloo ON N2G 4W1
t 519 742 6123 x1327
LinkedIn | Facebook | Website

From: Denyes, David (MNR) <David.Denyes@ontario.ca>
Sent: September 4, 2025 2:36 PM
To: Henrique Pacheco <hpacheco@rvanderson.com>
Cc: Zackary Harris <zharris@rvanderson.com>
Subject: RE: 247372 - Natural Heritage Screening and Information Request - Hamilton - Safari Road EA

Hello Henrique,

For the most up to date mapping of wetland boundaries, please refer to our provincial database Ontario GeoHub and Natural Resources Data Access Requests | Ontario GeoHub. Please note that wetland boundary mapping is considered approximate.

Regards,

David

David Denyes
Management Biologist | Aylmer, Guelph District
Ministry of Natural Resources | Ontario Public Service
289-241-6872 | david.denyes@ontario.ca

4890 Victoria Ave North
Vineland ON L0R 2EO

From: Henrique Pacheco <hpacheco@rvanderson.com>
Sent: September 4, 2025 1:58 PM
To: Denyes, David (MNR) <David.Denyes@ontario.ca>
Cc: Zackary Harris <zharris@rvanderson.com>
Subject: RE: 247372 - Natural Heritage Screening and Information Request - Hamilton - Safari Road EA

Hello David,

Thank you for providing this information. Does any mapping exist for the Sheffield Rockton Provincially Significant Wetland Complex PSW?

Thank you,

Henrique Pacheco (He/Him)
Terrestrial Ecologist

R.V. Anderson Associates Limited
2001 Sheppard Avenue East, Suite 300
Toronto ON M2J 4Z8
t 416 497 8600 x2119 | **m** 647 526 2690
LinkedIn | Facebook | Website

From: Denyes, David (MNR) <David.Denyes@ontario.ca>
Sent: April 16, 2025 4:27 PM
To: Henrique Pacheco <hpacheco@rvanderson.com>
Subject: RE: 247372 - Natural Heritage Screening and Information Request - Hamilton - Safari Road EA

Hello Henrique,

Thank you for contacting the ministry seeking natural heritage information for the Schedule 'B' Municipal Class Environmental Assessment (EA) for drainage improvements along Safari Road from Kirkwall Road to Valens Road, within the City of Hamilton. The Government of Ontario is committed to transparency, customer service, and making information more publicly accessible. Access to natural heritage information is critical to informing municipal planning processes, development activities, and other initiatives such as science and research.

Natural Heritage Data Information Request

MNR has developed a Geohub webpage to assist you with accessing all the natural heritage data and values the Ministry of Natural Resources has available. The new page can be accessed here - Natural Heritage Data Access Requests. The new webpage not only consolidates all MNR natural heritage data into one location, it also functions as a self serve tool, outlines how to make data requests for MNR restricted data and includes links to the Natural Heritage Make a Map tool and natural heritage policies and documentation to reference when conducting a natural heritage screening exercise.

The information available from MNR and the sources listed and linked on the Geohub webpage should **not be considered as a substitute for site visits and appropriate field surveys.** Generally, information available from MNR can be regarded as a starting point from which to conduct further field studies, if needed. While this data represents MNR's best

available current information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. There are many areas where MNR does not currently have information. On-site assessments can better verify site conditions, identify natural heritage features and values, and determine any potential environmental impacts that may result from a proposed activity.

Endangered Species Act

If this inquiry is related to the *Endangered Species Act (ESA),* please note that the Ministry of Environment, Conservation and Parks (MECP) is responsibility for the *ESA*, including species at risk (SAR) in Ontario. All future correspondence related to ESA or SAR should be sent to SAROntario@ontario.ca to reach the MECP directly.

Timing Windows

The Ministry of Natural Resources sets timing window guidelines to protect fish from impacts of works or undertakings in and around water during spawning, migrations and other critical life history stages. The recommended timing restrictions for Fairchild Creek in this area is March 15th to June 30th (Note: Dates represent when in-water work should be avoided.

MNR will apply specific in-water work timing windows, where appropriate, as conditions of work permits issued under the *Public Lands Act* and the *Lakes and Rivers Improvement Act*. When multiple agency approvals are required for a single project, it is the responsibility of the authorizing regulatory agency to set any in-water work timing windows in their authorizations. These timing windows can be based on the MNR guidance.

Natural Hazards

A series of natural hazard technical guides developed by MNR are available to support municipalities and conservation authorities with implementing the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend that you consider these technical guides as you assess specific improvement projects that can be undertaken to reduce the risk of flooding.

Fish and Wildlife Conservation Act

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

For more information about permits required under the *Fish and Wildlife Conservation Act*: Fish and Wildlife

Public Lands Act & Lakes and Rivers Improvement Act

Some projects may be subject to the provisions of the *Public Lands Act* or *Lakes and River Improvement Act*. Please review the information on MNR's web pages provided below

regarding when an approval is, or is not, required. Please note that in Conservation Authority regulated areas many of the authorizations under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

For more information about the *Public Lands Act*:
Crown land work permits | ontario.ca

For more information about the *Lakes and Rivers Improvement Act*: Lakes and Rivers Improvement Act administrative guide | ontario.ca

Other Approvals

It is important for you to determine whether your proposed activity requires authorizations from other agencies such as municipalities and conservation authorities, as well as any federal agencies.

I've also attached a copy of the wetland evaluation record for the Sheffield Rockton Provincially Significant Wetland Complex.

Let me know if you need anything further!

Regards,

David

David Denyes
Management Biologist | Aylmer, Guelph District
Ministry of Natural Resources | Ontario Public Service
289-241-6872 | david.denyes@ontario.ca

4890 Victoria Ave North
Vineland ON L0R 2EO

Ontario

Taking pride in strengthening Ontario, its places and its people

Please note: As part of providing accessible customer service, if you have any accommodation needs, require communication supports, or alternate formats please let me know.

From: Henrique Pacheco <hpacheco@rvanderson.com>
Sent: Friday, April 11, 2025 1:30 PM
To: Scientific Collection Permits Guelph (MNR) <scp.guelph@ontario.ca>
Cc: Paul Mikoda <pmikoda@rvanderson.com>; Tisha Doucette <TDoucette@rvanderson.com>; Andrew McGregor <AMcGregor@rvanderson.com>
Subject: 247372 - Natural Heritage Screening and Information Request - Hamilton - Safari Road EA

Good afternoon,

R.V. Anderson Associates Limited (RVA) has been retained by the City of Hamilton (the City) to undertake Schedule ‘B’ Municipal Class Environmental Assessment (EA) for drainage improvements along Safari Road from Kirkwall Road to Valens Road, within the City of Hamilton. As a component of this project, RVA Ecological Services is undertaking a Natural Heritage Screening in advance of field work.

Please find attached our data request for your review.

If you require any additional information regarding this project or have any questions, please let me know.

Best,

Henrique Pacheco (He/Him)
Terrestrial Ecologist

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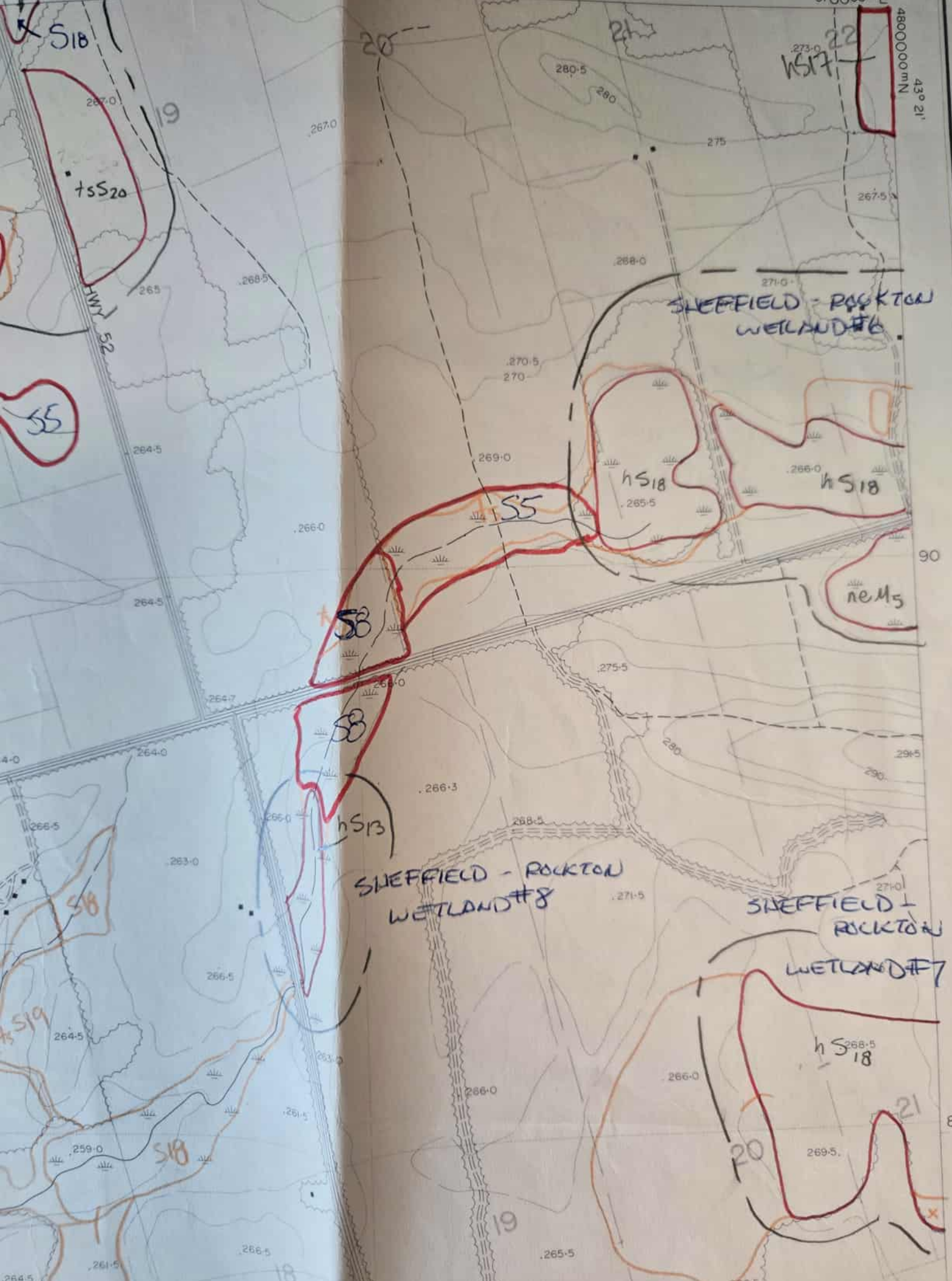
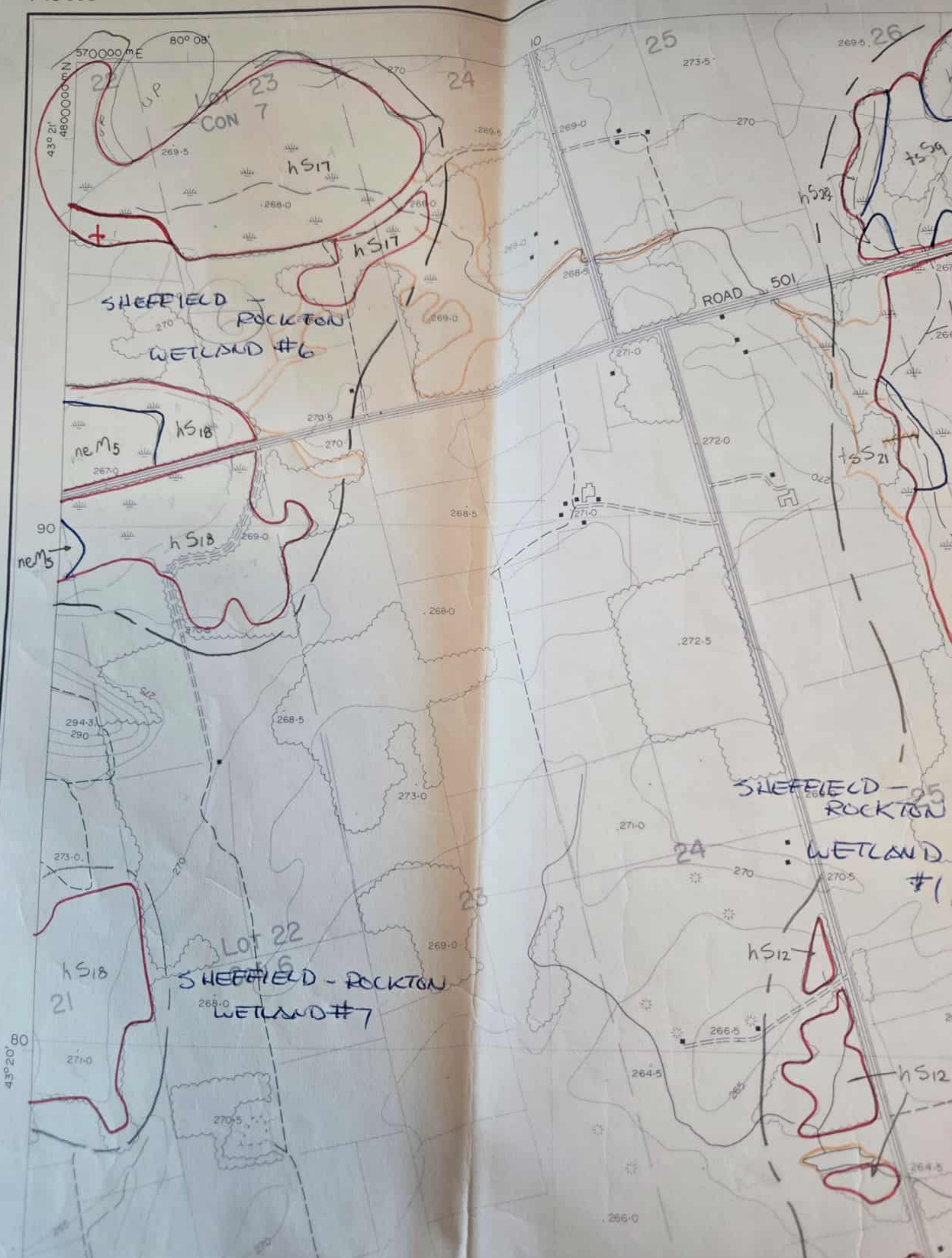
SHEFFIELD - ROCKTON COMPLEX (1:50,000)
WETLAND
CATCHMENT BASIN
HAMILTON-WENTWORTH REGIONAL MUNICIPALITY
WATERLOO REGIONAL MUNICIPALITY
Lumber Yard
Gate
Valens
Beverly
Gas Pipeline
Kirkwall
NU
NT
Game Farm
Amusement Park
Communication 85
Dump
Rockton Airfield
Pioneer Village
Fairgrounds
Rockton
Creek
260
270
256
250
52
66
67
68
03
02
01
00
99
98
97


SHEFFIELD - ROCKTON WETLAND #6
SHEFFIELD - ROCKTON WETLAND #8
SHEFFIELD - ROCKTON WETLAND #7
HWY 52
4800000 mN
43° 21'
43° 20'
90
80
hS18
hS13
neM5
tsS20
S5
S8
S18
S19



570000 mE
80° 08'
4800000 mN
43° 21'
Lot 23
CON 7
24
25
26
10
hS17
hS17
SHEFFIELD - ROCKTON WETLAND #6
ROAD 501
hS18
neM5
hS18
neM5
hS28
tsS9
tsS21
SHEFFIELD - ROCKTON WETLAND #1
hS12
hS12
Lot 22
hS18
21
SHEFFIELD - ROCKTON WETLAND #7
90
80
43° 20'
24
23

0239

WETLAND DATA RECORD

(i). WETLAND NAME AND/OR NUMBER SHEFFIELD-ROCKTON WETLAND COMPLEX

(ii). ADMINISTRATIVE REGION CENTRAL, AND DISTRICT CAMBRIDGE OF ONTARIO MINISTRY OF NATURAL RESOURCES

(iii). CONSERVATION AUTHORITY JURISDICTION GRCA / HAMILTON REGION CA.

If not within a designated Conservation Authority, check here ___

(iv). COUNTY OR REGIONAL MUNICIPALITY HAMILTON - WENTWORTH / WATERLOO/BRANT

(v). TOWNSHIP FLAMBOROUGH / NORTH DUMFRIES / SOUTH DUMFRIES

(vi). LOTS AND CONCESSIONS SEE ATTACHED

(vii). MAP AND AIR PHOTO REFERENCES

(a) Longitude and Latitude 43° 19'20" N 80° 10'45" W

(b) U.T.M. Grid Reference Zone: 17T ; Grid: NT 670 970

(c) National Topographic Series Scale and Map Number(s) & Name 40 P/8 CAMBRIDGE (1:50,000)

(d) Air Photos

(1) Date photo taken 1978

(2) Scale of air photos 1:10,000

(3) Flight and plate numbers 4320 # 123, 4321 # 39-51, 4322 # 417-430, 4323 # 4-12, 224-229, 4324 # 136-148 4325 # 45-56

(viii). WETLAND SIZE AND BOUNDARIES

(a) Single contiguous wetland area: _____ hectares

OR

(b) "Wetland Complex" comprised of 28 individual wetlands as follows:.

Wetland Number (for reference purposes)	Size of each wetland in the complex
Wetland No. 1	_____ hectares
Wetland No. 2	_____ "
Wetland No. 3	_____ " SEE ATTACHED
Wetland No. 4	_____ " LIST
Wetland No. 5	_____ "
Wetland No. 6	_____
Total size of wetland complex:	_____ "

735-2

1.0. BIOLOGICAL COMPONENT

1.1. PRODUCTIVITY VALUES

1.1.1. Growing Degree-Days

Number of accumulated growing degree-days (check one)

____	<2800
____	2800 to 3200
✓	3200 to 3600
____	>3600

1.1.2. Soils

	Estimated % of Area
- Clays, loams or silts (mineral)	90
- Organic	10
- Undesignated	

1.1.3. Type of Wetland

(check one or more)		Estimated % of Area	
____	Bog		
____	Fen		
✓	Swamp	94	(692.7 ha)
✓	Marsh (includes Open Water Marsh)	6	(42.5 ha)

1.1.4. Site

(check one or more)		Estimated % of Area
____	Isolated	
✓	Palustrine (permanent or intermittent outflow)	90
✓	Riverine	10
____	Riverine (at rivermouth)	
____	Lacustrine (at rivermouth)	
____	Lacustrine (on enclosed bay)	
____	Lacustrine (exposed to lake)	

1.1.5. Nutrient Status of Surface Water

(a) Write conductivity bridge reading and calculate T.D.S. at 25°C as per tables in Appendix VIII.

Location Sampled (i.e. inflow, outflow, etc.)	Initial Specific Conductance (µmhos/cm)	Temperature (°C)		Total Dissolved Solids (T.D.S.) (mg/l)
1 OUTFLOW	450	22	=	318.8
2 INFLOW	490	22	=	347.2
3 OUTFLOW	410	18	=	317.5
4 OUTFLOW	690	19	=	522.2
		Average T.D.S.	=	376.4

(b) Check appropriate category (from (a))

Average T.D.S. mg/l	
<100	
100-500	✓
501-1500	
>1500	
NO READING	

1.2. DIVERSITY VALUES

1.2.1. Number of Wetland Types

(check one)

- ____ One
- ✓ Two
- ____ Three
- ____ Four

1.2.2. Vegetation Communities

(enter form and map code if available, or enter dominant species if known, and appropriate code/symbol)

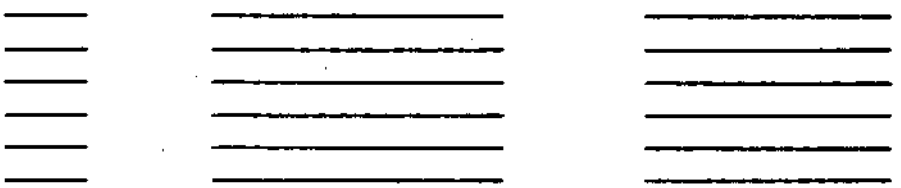
a) One form — SEE ATTACHED

Code

____	____
____	____
____	____
____	____

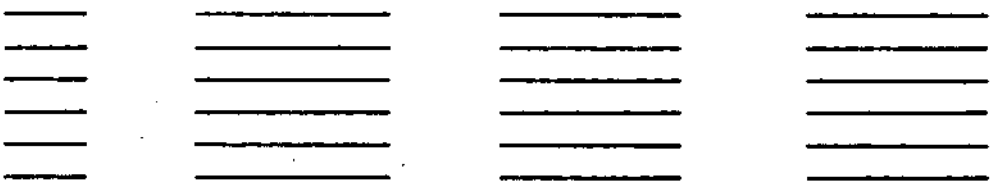
b) Two forms

Code



c) Three forms

Code



d) Four forms

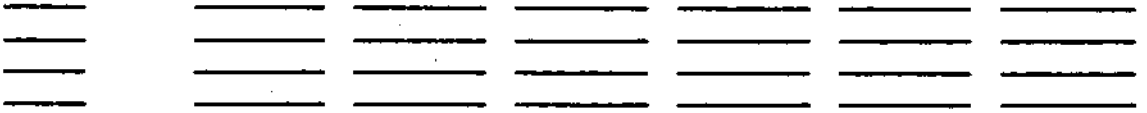
Code

e) Five forms

Code

f) Six or more forms

Code



WETLAND VEGETATION COMMUNITIES

	Nº OF FORMS	CODE	FORMS	SPECIES	FIELD CODE	AREA
	2	S_1	h*	silver maple, ash	4,9,42	14.5
			gc	herbs		
	2	S_2	ts*	black ash, aspen, elm	6,21	3.9
			gc	herbs		
	3	S_3	ts*	silver maple, willow	7	1.3
			gc	herbs		
			ne	grass, sedge		
	3	S_4	h*	black ash, aspen, oak, willow	5,10	7.4
			ts	willow, aspen		
			gc	herbs		
	3	S_5	c*	cedar	8	9.9
			h	black ash		
			gc	jewelweed, ferns		
	3	S_6	h*	elm, willow	11	6.4
			ts	" "		
			gc	herbs		
b	3	S_7	h*	white ash, elm	24,68	22.5
			ts	" , dogwood, buckthorn, elm		
			gc	herbs		
b	3	S_8	h*	silver maple, balsam poplar, elm	26	2.0
			ts	" " " , dogwood		
			gc	herbs		
b	3	S_9	ts*	willow, dogwood	29,35, 38	11.5
			gc	herbs		
			ne	grass, sedge		
b	3	S_{10}	h*	silver maple, elm, willow	37,39,40, 46	20.4
			ts	dogwood, willow		
			gc	herbs		

WETLAND VEGETATION COMMUNITIES

	NO OF FORMS	CODE	FORMS	SPECIES	FIELD CODE	AREA
6	3	S_{11}	h*	elm, white ash, aspen, silver maple	41,68,81, 82,89	36.7
			ts	" , aspen, silver maple		
			gc	herbs		
6	3	S_{12}	h*	trembling aspen, white ash	48,61	12.9
			ts	" , dogwood		
			gc	herbs		
6	3	S_{13}	h*	balsam poplar, trembling aspen, willow, sil. maple	49,55,60 63,73	25.1
			ts	aspen, willow, sil. maple		
			gc ne	herbs		
6	3	S_{14}	h*	sil.maple, trembling aspen, willow	62,64	18.3
			ts	willow, dogwood, elm		
			gc	herbs		
6	3	S_{15}	h*	white ash, aspen	75,89	8.2
			ts	" " , dogwood		
			gc	herbs		
6	3	S_{16}	ts*	willow, black ash, silver maple	72,76,85, 88	3.5
			gc	herbs		
			ne	grass, sedge		
7	4	S_{17}	h*	black ash, oak, elm, silver maple	13,14,15 22,33, 34,67,69, 2,23,50, 52,79	81.0
			ts	dogwood, basswood, willow		
			gc	herbs		
			ne	grass, sedge		
7	4	S_{18}	h*	silver maple, ash	18,25,33, 31,36,43, 44,51,53, 54,87,90 57,58,47, 65,74,77, 78,84,71 80,28	299.7
			ts	" basswood, buckthorn		
			gc	herbs		
			ne	grass, sedge		
8	4	S_{19}	ts*	willow, dogwood	27,45, 66	36.2
			h	sil. maple, aspen		
			gc	herbs		
			ne	grass, sedge		

WETLAND VEGETATION COMMUNITIES

	No OF FORMS	CODE	FORMS	SPECIES	FIELD CODE	AREA
	5	S_{20}	ts*	willow, dogwood, aspen, cedar	3, 12, 16, 20, 30	23.7
			h	willow, ash		
			gc	herbs		
			ne	grass, sedge		
			dh			
	5	S_{21}	ts*	willow, dogwood	wastover DS_5	1.2
			ts	" "		
			gc	seedlings, jewelweed, smartweed		
			ne	grass, sedge		
			re	cattail		
	5	S_{22}	h*	silver maple, black ash, elm	wastover DS_4	46.4
			ts	" " "		
			ts	" " " , cedar		
			gc	sensitive fern, horsetail, jewelweed		
			ne	sedges		
0	1					
3	2					
16	3					
6	4					
3	5					
0	6					

WETLAND VEGETATION COMMUNITIES

	NO OF FORMS	CODE	FORMS	SPECIES	FIELD CODE	AREA
	2	M_1	gc*	mixed herbs	17	1.3
			ne	grass, sedge		
	3	M_2	ne*	grass	19	12.7
			ts	willow, buckthorn		
			gc	herbs		
	3	M_3	re*	cattail	Westover DM_2 54,70,83	14.6
			gc	willow herb, nightshade		
			ne	grass, sedge		
1076	4	M_4	gc*	herbs	1,91	3.1
			ts	willow		
			ne	grass, sedge		
			re	cattail		
1077	4	M_5	ne*	grass, sedge	32,69	8.3
			ts	willow		
			gc	herbs		
			dh			
	4	M_6	gc*	joe pye weed, nightshade, jewelweed, marsh marigold	Westover DM_3	2.5
			ts	willow		
			ne	grass, sedge		
			re	cattail, iris		
1078	M_6	M7	su	submerged veg		
1079	M_4	M8	ne	grasses, sedges		
			gc	herbs,		
			re	cattails		
1080	M_8	M9	ds	deadshrubs		
			re	cattails		
			su			

1.2.3. Diversity of Surrounding Habitat
(check all appropriate items)

- ✓ row crops
- ✓ pasture
- ✓ abandoned agricultural land
- ✓ deciduous forest
- ✓ coniferous forest
- ✓ urban or cottage development
- ✓ pits, quarries or mining waste disposal
- ___ open lake or deep river
- ✓ fence rows with cover, or shelterbelts
- ✓ terraine undulating or hilly with ravines
- ✓ creek(s)

Enter Total = 10

1.2.4. Proximity to Other Wetlands
(check first appropriate category)

i) Hydrologically connected by surface water to other wetlands (different dominant type) or open water within 1.5 km. ✓

ii) Hydrologically connected by surface water to other wetlands (same dominant type) within 0.5 km. ___

iii) Hydrologically connected by surface water to other wetlands (different dominant type) or open water body from 1.5 to 4 km away. ___

iv) Hydrologically connected by surface water to other wetlands (same dominant type) from 0.5 to 1.5 km away. ___

v) Within 0.75 km of other wetlands (different dominant type) or open water body, but not hydrologically connected by surface water. ___

vi) Within 1 km of other wetlands, but not hydrologically connected by surface water. ___

vii) No wetland within 1.5 km. ___

1.2.5. Interspersion
(check one)

- Type 1 ___
- Type 2 ___
- Type 3 ✓
- Type 4 ___

1.2.6. Open Water Types
(check one)

No open water	✓
Type 1	
Type 2	
Type 3	
Type 4	
Type 5	
Type 6	
Type 7	
Type 8	

1.3. SIZE (Biological Component)
(refer to viii)
735.2 hectares

2.0. SOCIAL COMPONENT

2.1. RESOURCE PRODUCTS WITH CASH VALUE

2.1.1. Timber (lumber and firewood)
(1) ✓ 51 to 100% of wetland area has mature trees (>10 cm dbh, >25% cover)
(2) ____ 10 to 50% of wetland area has mature trees (as above)
(3) ____ Wetland has few, immature or no trees
Source of information: FIELD

2.1.2. Wild Rice
(1) ____ Present
(2) ✓ Absent
Source of Information: MNR

2.1.3. Commercial Fish (Bait Fish and/or Coarse Fish)
(1) ____ Fish harvested from the wetland (as per MNR)
(2) ____ Abundant during at least part of the year
(3) ✓ Not abundant or only occasional
(4) ____ Habitat not suitable for fish
Source of Information: MNR

2.1.4. Bullfrogs
(1) ____ Present
(2) ✓ Absent
Source of Information: FIELD

2.1.5. Snapping Turtles

(1) ____ Present
(2) ✓ Absent

Source of Information: FIELD

2.1.6. Furbearers
(check if present)

✓	muskrat	____	mink
✓	raccoon	____	other
✓	beaver		

Source of Information: FIELD

2.2. RECREATIONAL ACTIVITIES
(check appropriate spaces)

	Type of Wetland Associated Use			
Intensity of Use	Hunting	Nature Appreciation or Study	Fishing	Canoeing/Boating
High				
Moderate	✓	✓		
Low				
None Known			✓	✓
Not Possible				
Source of Information	COULSON (MNR) →			

2.3. AESTHETICS

2.3.1. Landscape Distinctness

(1) ✓ Clearly distinct
(2) ____ Indistinct

2.3.2. Absence of Human Disturbances

2.3.2.1. Level of Disturbance

(1) _____ Human disturbances absent or nearly so
(2) _____ One or several singular or localized disturbances
(3) ___✓___ Moderate disturbance or localized water pollution
(4) _____ Impairment of natural quality intense in some areas or severe localized water pollution
(5) _____ Extremely intense disturbance or water pollution severe and widespread.

2.3.2.2. Types of Disturbances

___✓___ roads
___✓___ utility corridor
_____ buildings
___✓___ channelization
___✓___ drainage
_____ filling
_____ water pollution
_____ other: _____.

2.4. EDUCATION AND PUBLIC AWARENESS

2.4.1. Educational Uses

(1) _____ Frequent - an average of 2 or more visits per year by one or more school groups, local clubs for the purpose of studying the animals, plants, environment, etc.
(2) ___✓___ Infrequent - use by organized groups (one visit or less per year or only casual visits)
(3) _____ No known visits

List groups utilizing the wetland

Name of Group(s)	Source of Information
K-W FIELD NAT.	T. CHESKEY

2.4.2. Facilities and Programs
(check one)

(1) _____ Staffed interpretation center with shelters, trails, literature
(2) _____ No interpretation center or staff, but a system of self-guiding trails and observation points or brochures available
(3) ___✓___ No facilities or programs

2.4.3. Research and Studies
(check one)

(1) _____ One or more wetland-related scientific research papers published in a scientific journal
(2) ✓ One or more reports written outlining some aspect of the wetland's natural resources
(3) _____ No reports or papers

List scientific papers, reports, etc.

ECOLOGISTICS LTD. 1976. HAMILTON-WENTWORTH REGION ENVIRONMENTALLY SENSITIVE AREAS STUDY. (HYDE TRACT + ROCKTON WETLAND)

2.5. PROXIMITY TO URBAN AREAS
(check one)

(1) _____ In an urban or suburan area
(2) ✓ <10 km from a population center greater than 10,000
(3) _____ 10 to 60 km from a population center greater than 10,000
(4) _____ Isolated or relatively remote

2.6. OWNERSHIP/ACCESSIBILITY

Estimate % of area and enter in the appropriate space(s)

ACCESSIBILITY	OWNERSHIP				
	Public, unrestricted activities	Public, restricted activities	Private, open to public for limited activities	Private Club, closed to public	Private or Private and posted
1) Easy at most times by road/waterway			5		95
2) Easy only at certain times of the year					
3) Limited, moderate effort required					
4) Difficult*					

* Requires extended effort due to distance from roads, navigable waterways or isolated geographical position.

Source of information FIELD

2.7. Size (Social Component)

135.2 hectares (refer to viii)

3.0. HYDROLOGICAL COMPONENT

3.1. EFFECT OF ADJOINING LARGE WATER BODY

(1) ____ Wetland located on the Ottawa, St. Lawrence, Niagara, Detroit or St. Clair Rivers (Go to 3.3)

(2) ____ Wetland bordering on one of the Great Lakes (Go to 3.3)

(3) ✓ Wetland not located as above (Go to 3.2)

If (1) or (2), omit Section 3.2, FLOW STABILIZATION. Continue with Section 3.3, WATER QUALITY IMPROVEMENT. If (3), proceed to Section 3.2.

3.2. FLOW STABILIZATION

(All wetlands except those bordering on the Great Lakes or the 5 large rivers)

3.2.1. Detention Due to Surface Area

3.2.1.1. Size of Catchment Basin above Wetland Outflow

Catchment Basin Size 126.0 sq. km

3.2.1.2. Total Size of all Detention Areas (Lakes, Reservoirs and Wetlands) Draining into the Wetland (sq. km)

List Detention Areas	Size
Total	0 sq. km

3.2.1.3. Size of Adjoining Lake (Lacustrine wetlands only)

____ hectares

3.2.1.4. Size of Adjoining River (Riverine wetlands only) (not assessed)

3.2.1.5. Location and Size of Detention Areas (Lakes, Reservoirs and Wetlands) within 30 km above and below the wetland

(NOTE: 1 sq. km = 100 ha)

(a) Detention areas above the wetland (within 30 km)

Name and/or Number of Detention Area	Distance upstream from wetland (in km)	Size (hectares)	For Scoring Use

(b) Detention areas below the wetland (within 30 km)

Name and/or Number of Detention Area	Distance downstream from wetland (in km)	Size (hectares)	For Scoring Use
TROY WETLAND	5	54-9	-4
HARRISBURG EAST	6	45.4	-4
FAIRCHILD CREEK WETLAND	8	15	-4

3.2.1.6. Land Use along River or Stream Shoreline for 20 km Below the Wetland
(Palustrine and all Riverine wetlands except those located along the 5 large rivers).

(check one)

(1) Wetland outflow exits into a deep ravine ____
(2) A village, town or urban area is located along outflow within 20 km ✓
(3) Not as above, and actively farmed agricultural land borders onto outflow, and

length of agricultural border =	
(sum of shoreline	<1 km ____
on both sides of	1-3 ____
river within 20 km)	4-8 ____
	>8 ____

(4) Not as above, (eg. lands bordering outflow within 20 km are forested, or abandoned by agriculture, or outflow enters another wetland or lake, etc.) ____

3.2.1.7. Size (Hydrological Component)
(see viii)
735.2 ha

3.2.2. Flow Augmentation (Palustrine wetlands only)

Size of Catchment basin 1260 sq. km (See 3.2.1.1)
Wetland Area as a % of Catchment Basin Size 5.8 %
(Note: convert wetland area to sq. km before calculating %)

3.3. WATER QUALITY IMPROVEMENT (All wetlands)

3.3.1. Short Term Removal of Nutrients from Surface Water

3.3.1.1. Site Type (see 1.1.4 and check dominant site)
____ Isolated
✓ Palustrine (with permanent or intermittent outflow)
____ Riverine
____ Riverine (at rivermouth)
____ Lacustrine (at rivermouth)
____ Lacustrine (on enclosed bay)
____ Lacustrine (exposed to lake)

3.3.1.2. Actual Wetland Area Dominated by Robust Emergents and Submergents
(check one)

_____ <5
__✓__ 5 - 50
_____ 51 - 100
_____ 101 - 250
_____ 251 - 500
_____ 501 - 1000
_____ >1000 hectares

3.3.1.3. Land Use in Catchment Basin
(check one)

(1) __✓__ Mainly agriculture and/or urban
(2) _____ Roughly 40-60% agriculture; remainder forested or abandoned agriculture
(3) _____ Mainly forested and/or less than 40% agriculture

3.3.2. Long Term Nutrient Trap
(check one)

(1) _____ Wetland located on an active delta
(2) _____ Wetland rivermouth but without obvious delta
(3) _____ Wetland with organic soils occupying 50% or more of the area
(4) __✓__ Wetland with organic soils occupying less than 50% of the area (i.e. mainly mineral or undesignated soils)

3.4. EROSION CONTROL

3.4.1. Erosion Buffer (Lacustrine and Riverine wetlands only)

NOTE: Assess for the dominant site type (see 3.3.1.1)

3.4.1.1. Riverine Wetlands (shoreland and flood plain)
(check principal vegetation form)

(1) _____ Trees or Shrubs
(2) _____ Emergents
(3) _____ Non-vegetated or nearly so

3.4.1.2. Lacustrine Wetlands (with or without barrier beach)
(check principal vegetation form)

(1) _____ Trees or Shrubs
(2) _____ Emergents
(3) _____ Submergents and Floating
(4) _____ Non-vegetated or nearly so

3.4.1.3. Fetch (Lacustine wetlands or Riverine wetlands on any of the 5 large rivers)

Maximum distance

(1) _____ barrier beach present
(2) _____ <2 km
(3) _____ 2 to 8 km
(4) _____ >8 km

3.4.2 Sheet Erosion (All except Lacustrine wetlands)
(check the appropriate space)

Wetland Size (ha)	R FACTOR VALUE			
	<50	50-75	75-100	>100
<2				
2-5				
6-10				
11-15				
16-20				
>20			✓	

4.0. SPECIAL FEATURES COMPONENT

4.1. RARITY AND/OR SCARCITY

4.1.1. Individual Wetlands

Name of Physiographic Unit: LAKE ERIE PLAIN

Unit Number: 2

4.1.2. Wetland Type Representation (minimum size 0.5 ha)

(check one or more)

✓	Marsh
✓	Swamp
	Fen
	Bog

4.1.3. Individual Species

4.1.3.1. Breeding Habitat for an Endangered Animal or Plant Species

	Name of Species	Source of Information
(1)		
(2)		

4.1.3.2. Traditional Migration or Feeding Habitat for an Endangered Animal Species

	Name of Species	Source of Information
(1)		
(2)		

4.1.3.3. Breeding or Feeding Habitat for a Provincially Significant Animal Species

	Name of Species	Source of Information
(1)	OPPOSSUM	COULSON (MNR)
(2)	NORTHERN HARRIER	FIELD (1987)

4.1.3.4. Provincially Significant Plant Species

	Name of Species	Source of Information
(1)		
(2)		

4.1.3.5. Regionally Significant Species

	Name of Species	Source of Information
(1)	CARDINAL FLOWER	FIELD (1987, 1988)
(2)	SWAMP WHITE OAK	FIELD (1987)
(3)	YELLOW-BREASTED CHAT	ECOLOGISTICS 1976
(4)	BLACKNOSE SHINER	"
	MOURNING WARBLER	"

4.2. SIGNIFICANT FEATURES AND/OR FISH AND WILDLIFE HABITAT

4.2.1. Nesting of Colonial Waterbirds
(check one)

(1) _____ Currently nesting; species name(s) _____
(2) _____ Known to have nested within past 5 years; species name(s) _____
(3) ✓ Active feeding area
(4) _____ None known

Source of Information: COULSON (MNR)

4.2.2. Winter Cover for Wildlife
(check only highest level of significance)

(1) _____ Provincial signficance for Deer _____, Moose _____
(2) _____ Regional significance for Deer _____, Moose _____
(3) _____ Local significance for Deer _____, Moose _____
(4) ✓ Good winter cover for other species (list): _____ "SMALL GAME"
(5) _____ Poor winter cover

Source of Information: COULSON (MNR)

4.2.3. Waterfowl Staging
(check only highest level of significance)

(1) _____ National significance
(2) _____ Provincial significance
(3) _____ Regional signficance
(4) ✓ Local or no significance

Source of Information: MNR

4.2.4. Waterfowl Production
(check only highest level of significance)

(1) _____ Provincial significance
(2) _____ Regional significance
(3) ✓ Local significance
(4) _____ Little or no significance

Source of Information: MNR

4.2.5. Migratory Passerine and/or Shorebird Stopover Area
(check one)
(1) _____ High significance
(2) ✓ No significance
Source of Information: MNR

4.2.6. Significance for Fish Spawning and Rearing
(check one)
(1) _____ Regional significance
(2) _____ Present
(3) ✓ Unknown
(4) _____ Not possible
Species and Source of Information: MNR

4.2.7. Unusual Geological or other Surficial Features
(check one)
(1) _____ Present
Feature and Source of Information: _____
(2) ✓ Poorly expressed or absent

4.3. ECOLOGICAL AGE

Type of Wetland	Enter % of Area
_____ Bog	_____
_____ Fen	_____
✓ Swamp	94
✓ Marsh	6

INVESTIGATORS

1987: B. BERGMANN, M. RASS, N. SULLIVAN
1988: " , D. STEPHENSON

AFFILIATION

1987: CAMBRIDGE MNR, 1988 ECOLOGISTICS LTD.

DATE

1988 (UNKNOWN)
JULY 13 1988

ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"

1988: 4 hrs 1987: UNKNOWN

WEATHER CONDITIONS
(i) at time of field work: 1987: UNKNOWN, 1988: hot, overcast - rain
(ii) summer conditions in general:

WETLAND EVALUATION RECORD

WETLAND NAME AND/OR NUMBER SHEFFIELD - ROCKTON COMPLEX

1.0 BIOLOGICAL COMPONENT

1.1. PRODUCTIVITY VALUES

1.1.1.	Growing Degree-Days	14
1.1.2.	Soils	10
1.1.3.	Type of Wetland	12
1.1.4.	Site	4
1.1.5.	Nutrient Status of Surface Water	20
	TOTAL for Productivity Values	60

1.2. DIVERSITY VALUES

1.2.1.	Number of Wetland Types	6
1.2.2.	Vegetation Communities (not to exceed 30)	30
1.2.3.	Diversity of Surrounding Habitat	10
1.2.4.	Proximity to Other Wetlands	10
1.2.5.	Interspersion	20
1.2.6.	Open Water Types	0
	TOTAL for Diversity Values	76

1.3. SIZE (Biological Component) 50

TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250) 186

2.0 SOCIAL COMPONENT

2.1.	RESOURCE PRODUCTS WITH CASH VALUE		
	2.1.1. Timber (lumber and firewood)	20	
	2.1.2. Wild Rice	0	
	2.1.3. Commercial Fish (Bait Fish and/or Coarse Fish)	5	
	2.1.4. Bullfrogs	0	
	2.1.5. Snapping Turtles	0	
	2.1.6. Furbearers	15	
	TOTAL for Resource Products with Cash Value (not to exceed 60)		40
2.2.	RECREATIONAL ACTIVITIES (not to exceed 70)		40
2.3.	AESTHETICS		
	2.3.1. Landscape Distinctness	5	
	2.3.2. Absence of Human Disturbances	10	
	TOTAL for Aesthetics		15
2.4.	EDUCATION AND PUBLIC AWARENESS		
	2.4.1. Educational Uses	5	
	2.4.2. Facilities and Programs	0	
	2.4.3. Research and Studies	3	
	TOTAL for Education and Public Awareness		8
2.5.	PROXIMITY TO URBAN AREAS		16
2.6.	OWNERSHIP/ACCESSIBILITY		5
2.7.	SIZE (Social Component)		20
	TOTAL FOR SOCIAL COMPONENT (not to exceed 250)		144

3.0. HYDROLOGICAL COMPONENT

3.1. EFFECT OF ADJOINING LARGE WATER BODY

3.2. FLOW STABILIZATION

3.2.1. Detention Due to Surface Area

3.2.1.1. and 3.2.1.2.	FIRST step (from table)			110	
3.2.1.3.	SECOND step	minus 0	=	110	
3.2.1.5.	THIRD step	minus -12	=	98	
3.2.1.6.	FOURTH step	minus 0	=	98	←(minimum allowable = 0)
3.2.1.7.	FIFTH step	plus 40	=	138	

TOTAL for Detention Due to Surface Area: 138

3.2.2. Flow Augmentation (from table): 40

TOTAL for Flow Stabilization: 178

3.3. WATER QUALITY IMPROVEMENT

3.3.1. Short Term Removal of Nutrients from Surface Water

3.3.1.1. Site Type	2
3.3.1.2. Actual Wetland Area Dominated by Robust Emergents and Submergents	2
3.3.1.3. Land Use in Catchment Basin	10

TOTAL for Short Term Removal of Nutrients from Surface Water: 14

3.3.2. Long Term Nutrient Trap: 4

TOTAL for Water Quality Improvement: 18

3.4. EROSION CONTROL

3.4.1. Erosion Buffer

3.4.1.1. Riverine Wetlands	0
3.4.1.2. Lacustrine Wetlands	0
3.4.1.3. Fetch	0

TOTAL for Erosion Buffer: 0

3.4.2. Sheet Erosion: 4

TOTAL for Erosion Control: 4

TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250): 200

4.0 SPECIAL FEATURES COMPONENT

4.1. RARITY AND/OR SCARCITY

4.1.1.	Individual Wetlands	35
4.1.2.	Wetland Type Representation	10
4.1.3.	Individual Species	
4.1.3.1.	Breeding Habitat for an Endangered Animal or Plant Species	0
4.1.3.2.	Traditional Migration or Feeding Habitat for an Endangered Animal Species	0
4.1.3.3.	Breeding or Feeding Habitat for a Provincially Significant Animal Species	150
4.1.3.4.	Provincially Significant Plant Species	0
4.1.3.5.	Regionally Significant Species	30
	TOTAL for Individual Species (not to exceed 250)	180
	TOTAL FOR RARITY AND/OR SCARCITY (not to exceed 250)	225

4.2. SIGNIFICANT FEATURES AND/OR FISH AND WILDLIFE HABITAT

4.2.1.	Nesting of Colonial Waterbirds	3
4.2.2.	Winter Cover for Wildlife	10
4.2.3.	Waterfowl Staging	0
4.2.4.	Waterfowl Production	5
4.2.5.	Migratory Passerine and/or Shorebird Stopover Area	0
4.2.6.	Significance for Fish Spawning and Rearing	0
4.2.7.	Unusual Geological or other Surficial Features	0
	TOTAL FOR SIGNIFICANT FEATURES AND/OR FISH AND WILDLIFE HABITAT (not to exceed 250)	18

4.3. ECOLOGICAL AGE 2

TOTAL FOR SPECIAL FEATURES COMPONENT (not to exceed 250) 245

SUMMARY OF EVALUATION RESULTS

FOR THE SHEFFIELD - ROCKTON COMPLEX WETLAND
(name or number)

TOTAL FOR 1.0, BIOLOGICAL COMPONENT	186
TOTAL FOR 2.0, SOCIAL COMPONENT	144
TOTAL FOR 3.0, HYDROLOGICAL COMPONENT	200
TOTAL FOR 4.0, SPECIAL FEATURES COMPONENT	245
TOTAL:	775
CLASS:	1

INVESTIGATORS

D. STEPHENSON, B. BERGMANN, H. ROSS, N. SULLIVAN

AFFILIATION

MNR / ECOLOGISTICS LTD.

DATE

DEC. 1988

WETLAND	1	79.7
	2	114.6
	3	7.2
	4	1.7
	5	2.8
	6	55.4
	7	17.9
	8	1.7
	9	1.7
	10	38.6
	11	2.8
	12	2.8
	13	114.6
	14	18.9
	15	13.5
	16	2.0
	17	41.1
	18	27.6
	19	12.2
	20	25.0
	21	2.9
	22	25.2
	23	5.4
	24	23.8
	25	53.2
	26	11.3
	27	26.0
	28	5.6
TOTAL		735.2

APPENDIX B

Photographic Record

1 – 20250602 – South-facing view of Mineral Cultural Plantation within Polygon 6.

2 – 20250711 – Dead conifers within Polygon 10, an emerging Mineral Thicket Swamp within a declining Coniferous Cultural Plantation.

3 – 20250711 – South-facing view Typical Mineral Cultural Meadow within Polygon 25c.

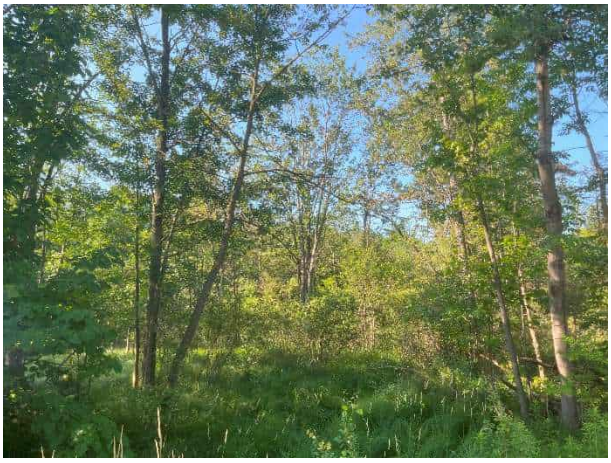
4 – 20250905 – South-facing view of Mineral Cultural Thicket, Polygon 15.

5 – 20250704 – North-facing view of edge of Polygon 8, a Mineral Cultural Woodland.

6 – 20250624 – South-facing view of Mineral Cultural Woodland within Polygon 9 showing relativdly open canopy and dead Ash.

7 – 20250711 – North-facing view of Polygon 1 showing mature Dry-Fresh Sugar Maple –Hardwood Deciduous Forest.

8 – 20250604 – North-facing view of flooded area along Fairchild Creek within Polygon 3, a Swamp Maple Mineral Deciduous Swamp.



9 – 20250711 – South-facing view of Polygon 4 showing Swamp Maple Mineral Deciduous Swamp with pockets of Narrow-leaved Mineral Sedge Marsh.

10 – 20250711 – Southeast-facing view of Polygon 12d showing dense Cattail Mineral Shallow Marsh.

1 1 – 20250711 – South-facing view of Polygon 11 (background showing Buttonbush-dominant Mineral Thicket Swamp.

12 – 20250711 – South-facing view of Polygon 10 showing dead conifers in canopy and dense Mineral Thicket Swamp undergrowth.

13 – 20250905 – Mineral Thicket Swamp (Polygon 17) with dead standing Ash trees.

14 – 20250711 – Dense stand of European Reed in Polygon 12b.

APPENDIX C

ELC Field Sheets

Sheet 1 247372 North side

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope UTM

	Plot	PP	Str	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

Polygon 21
5 more Juglans

ELC PLANT SPECIES LIST

SITE: Safari Rd
POLYGON: 1, 20, 21
DATE: May 22, 26, 2025, July 4/25
SURVEYOR(S): ZH, MP

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ACERSAS	A	A			
ACERNIG	A	A			
TILAMER	O				
QUERMACR	O				
OSTVIRG		O			
CORNALT		O	O		
QUERMEUH	R				
PINSYLV	R	R			
PINSTRO	O				
JUGLNIGR	R				
CARYCORD	R				
CAROVAT	R				
QUERRUBR	R				
SYMPALBU		O			
CELSCAN		R			
RIBCYNO		·	O		
VIBRAFI		O			
XANAMER		A			
CORNRUGO		R			
CORNRACE		O			

SPECIES CODE	LAYER 1	2	3	4	COL.
GERMACU				A	
VIOLROST				O	
CARGRAC				A	
CARWOOD				A	
CARPENNS				R	
CARHITCH				R	
CARBLAN				O	
CARFORM				A	
FRAVESC				O	
FRAVIRG				O	
ERIGPULC				O	
SANI-SP					Add
PENSDIGI				O	
CYPRPARV					
↳ makasin				R	
RANUACRI				O	
PHLODIVA				O	
CELASCAN				R	
HYDRVIRG				O	
HELIDECA				O	
LILIMICH				R	
GALICIRC				R	
ASTMACR				O	
ASTURSP				O	
~~GALEORG~~					
LACT			R		
MAIARACE				O	Add
ANEVIRG				O	
THALDIO				O	
JUNTENU				R	
GALICIRC					

Page 1 of 1

Polygon 20 & 21
Roadside only - No PTS

247372

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Safari Rd. EA		POLYGON:	
SURVEYOR(S): ZH	DATE:	TIME: start / finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☑ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ EMERGENT VEG. ☐ MARSH			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACERNIGR > ACERSAS > FRAMER > QUER SP
2	SUB-CANOPY	3	4	ACER SPP > QUER SPP
3	UNDERSTOREY	4	4	CORNUS > XANTAMER
4	GRD LAYER	5	4	CAREX SPP > CAERNACU > PHEGRA

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

		< 10		10 - 24		25 - 50		> 50
SIZE CLASS ANALYSIS:	N		A		A		R	
STANDING SNAGS:	O		O		O		R	
DEADFALL / LOGS:	O		O		R		N	

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	D-F Sugar Maple Dec.* Forest	FOD5-1
INCLUSION		
COMPLEX		

Notes: * Based on HCA Mapping. Area closer to road contains moist pockets of FOD4-1 - presence of oak ↑

ELC STAND CHARACTERISTICS

SITE:	Safari Rd EA
POLYGON:	1
DATE:	May 22, 26; July 4, 2025
SURVEYOR(S):	ZH, HD

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

sheet 2 247572 South side.

ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope UTM

	Plot	PP	Dr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Salaw
POLYGON: 21
DATE: May 22, July 18, 22
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ACERSAS	A	A			
PINSTRO	O	R			
QUERRUBR	O	O			
QUERMEUL	R	R			
OSTVIRG		R			
CARPCAR		R			
CARYCOR	R	R			
CAROVAT	R				
XANSTRU			O		
PYRCOMM		R			
MALCOLO			R		
VIBRAFI			O		
AMEL_SP			R		
CORALTE			O		
CRATCALP			R		
RIBCYNO			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
GERAMAC				O	
CARWOOD				O	
CARERUR				R	
ARISTRI				R	
ASTMACR				R	
ASTLATE				O	
SOLICAES				R	
SOLIFLEX				R	
CARERLAN				O	
CAREFORM				O	
CARGRAC				O	
PHLODIVA				R	
ASTUROP				R	
MAIARACE				R	
MAIASTEL				O	

Similar to #1, but less diverse

Page 1 of 1

247372

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Salt Rd. EA		POLYGON: 2	
SURVEYOR(S): ZM	DATE: May 26/25	TIME: start	finish
UTMZ:	UTME: July 18/25	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☑ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☑ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☑ FOREST ☐ PLANTATION

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ INTERMITTENT
☐ SPRING

COVER

☐ OPEN
☐ SHRUB
☑ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACESAS > PINSTRO > QUEFRUBR
2	SUB-CANOPY	3	4	ACERSAS
3	UNDERSTOREY	4	4	PINSTRO > CORNALTI > VIBRAFI
4	GRD. LAYER	5-7	4	CAREWOOD > OSMRAC

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	O	< 10	A	10 - 24	A	25 - 50	R	> 50
STANDING SNAGS:	O	< 10	O	10 - 24	R	25 - 50	R	> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24	R	25 - 50	R	> 50

Ash.

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	D-F Sugar Maple-White Pine Mixed Fo	FOM2-2
INCLUSION		
COMPLEX		

Notes:
- Bets must closer to Wetland / Watercourse
- shallow soil over bedrock

ELC — STAND CHARACTERISTICS

SITE:	Salt Rd. EA
POLYGON:	2
DATE:	
SURVEYOR(S):	

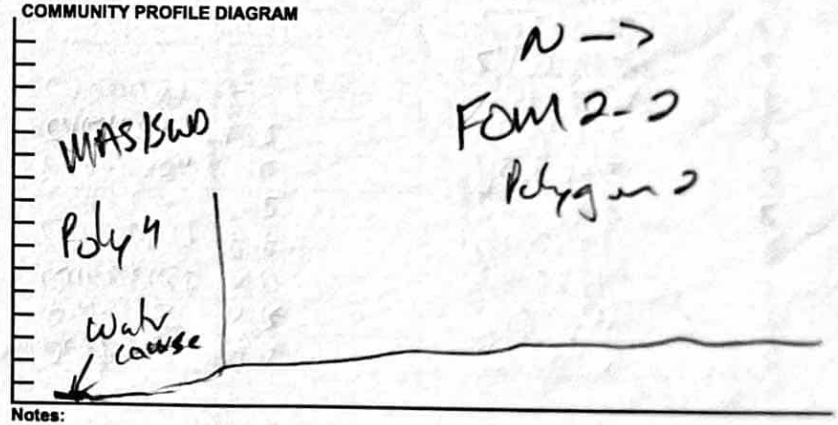
TREE TALLY BY SPECIES:

PRISM FACTOR ☐

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



N ->
FOM 2-2
Polygon 2

Notes:

Sheet 3 247372 SWD 3-3 N side of Safari

ELC

SOILS ONTARIO

SITE:

POLYGON:

DATE:

SURVEYOR(S):

				Slope					UTM	
			Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1										
2										
3										
4										
5										

SOIL	1	2	3	4	5

ELC

PLANT SPECIES LIST

SITE: Safari Rd.

POLYGON: 3

DATE: May 26, 2025

SURVEYOR(S): ZH, MP

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ACEXFRE	D				
ULMAMER		O			
CARPCARO		O	O		
TILAMER	R				
QUERMACR	R	R			
FRXPENN		O			
THUJOCCI		R			
XANSTRU		R			
VIBLENT		R			
CORSTOL		R			

Dead / Dying

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLIGIGA				O	
CARSTRI				O	
CARSCOP				A	
GLYCSTRI				A	
SIUSUAV				O	
CHELGLAB				A	
CARINT				A	✓
PROSPALU				A	
LILIMICH				O	
PROSPALU				O	
Roripa sp					
CARZINT				O	
SOLIGIGA				O	
GLYSTRI				A	
CHELGLAB				R	
MENTCANA				O	

common S of Rd

→ in H_2O

247372

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Safari Rd. POLYGON: 3

SURVEYOR(S): ZH DATE: May 26, 25 TIME: start / finish

UTMZ: UTME: UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☑ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☑ SUBSTRATE ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACERFRE
2	SUB-CANOPY	3	4	ACERFRE > ULMAMER
3	UNDERSTOREY	4	3	" " " "
4	GRD. LAYER	5-7	4	Cakespp > POLYSTOL > PRUSPALU

→ in creek

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION: BA:

SIZE CLASS ANALYSIS:	O	< 10	A	10 - 24	A	25 - 50	R	> 50
STANDING SNAGS:	O	< 10	O	10 - 24	O	25 - 50	R	> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24	R	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Swamp Maple Mixed Swamp	SWD3-3
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE: Safari Rd.

POLYGON: 3

DATE: May 26, July 18, 25

SURVEYOR(S): ZH, HP

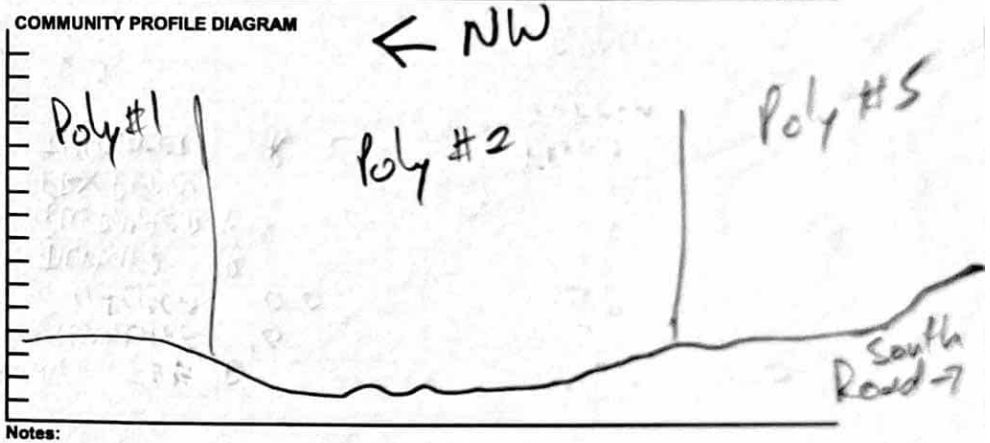
TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

Sheet 4 247372 SWD 3-3 / MAS - Narrow lvd sedge. ↳ South side of Rd.

ELC

SOILS (ONTARIO)

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM
EASTING | NORTHING

SOIL 1 2 3 4 5

ELC PLANT SPECIES LIST

SITE: Sofer
POLYGON: 4-
DATE: July 4/25
SURVEYOR(S): 2H

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
ACERFRE	A				
TILAMER		O			
FRXPENN		O	O		
POPTREM	O	O			
QUEMACR		O			
ULMAMER					
SALIAMYG			R		
ck. → SALIALBA	R				
POPDELT	R				
THUOCCI		O			
QUERMUHL		R	R		
SAMCANA		O			
CORNSTOL		O			
VIBLENT		O			
RHAMCATH	R	O			

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
CARSTRI				A	
PHAARUN			O		
AROCANN				O	
TUSSFARF				O	
CICBULB				O	
SOLADULC				O	
IMPCAPE				O	
EUTRMACR			O		
MENCANA				O	
LILMICH			R		
SOLIGIGA			O		
LYCUNIF				O	
CARCRIS				O	
CARCRAC			O		
CARLUPU				O	
POASPALU				O	
TYPHANG			O		
POAPALU				O	
AGRGIGA				O	
LYTSALI			O		
Gentiana sp				R	WOR
GLYCSTRI				A	
CAREPROJ				O	
CARETEN				O	
CALTPALU				R	

Swamp close to road but opens up behind. More open canopy than #3.

247372

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sydenham Rd. EA | POLYGON: 4
SURVEYOR(S): ZH | DATE: Jul 18, 25 | TIME: start / finish
UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☐ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD ☑ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☑ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION

SITE
☐ OPEN WATER ☐ SHALLOW WATER ☐ SUBTIDAL SED. ☐ BEDROCK

COVER
☐ OPEN ☐ SHRUB ☐ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	ACERXFRE > SALIX > POP SPP (50-60%)
2	SUB-CANOPY	3	3	ACERXFRE > ULMAMER > QUERMAC
3	UNDERSTOREY	4	3	CORNRACE > VIBLENT
4	GRD LAYER	5.7	4	CARSTRI > PHLARUN > THYPANG

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m
CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	O	< 10	O	10 - 24	O	25 - 50	O	> 50
STANDING SNAGS:	O	< 10	O	10 - 24	R	25 - 50	N	> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24	R	25 - 50	N	> 50

Ash, Elm

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Swamp Maple Mineral Swamp	SWD3-3
INCLUSION		
COMPLEX	NL Sedge Shallow Marsh	MAS2-3

Notes: Carex stricta

ELC
STAND CHARACTERISTICS

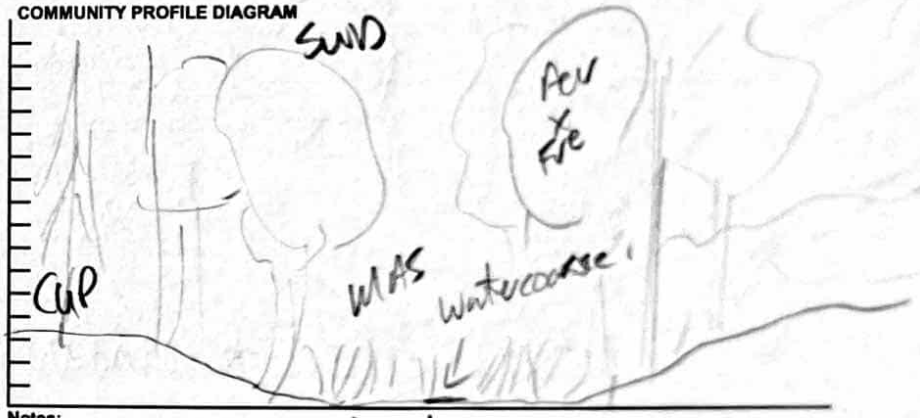
SITE: Sydenham Rd. EA
POLYGON: 4
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:
PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:
- SWD dominant closer to road, MAS more abundant moving south.
- H_2O ~ 10cm-20cm depth in July in Sedge-dominant areas

Sheet 5 247372

ELC

SCALS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope UTM

	Plot	FP	Str	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC PLANT SPECIES LIST

SITE: Safari Rd.
POLYGON: 5
DATE: May 29/25, July 18, 25
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ACERSAS	A				
ACERNEG	O				
QUERRUBR	D	O			
ULMAMER		R			
PICGLAU		R			
PINSTRO	R				

SPECIES CODE	LAYER 1	2	3	4	COL.
ASTMACR				A	
CARPENS				A	
ASTLAT				O	
MALRACE					
Similar to dry pockets with #1					

Big Patch

247372

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: S. of EA | POLYGON: 5

SURVEYOR(S): ZH | DATE: May 26, July 18, 23 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☐ MINERAL SOIL ☑ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ BENCH ☑ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☑ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☑ SHORELINE / BEACH ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACERSAS > QUERRUBR
2	SUB-CANOPY	3	4	" " ULMAMER
3	UNDERSTOREY	4	3	" "
4	GRD. LAYER	5-7	4	CAREPENS > ASTMAER

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0 = NONE 1 = 0% < CVR < 10% 2 = 10 < CVR < 25% 3 = 25 < CVR < 60% 4 = CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	A	25 - 50	R	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	D-F Sugar Maple-Oak Dec. Forest	FOD5-3
INCLUSION		
COMPLEX		

Notes:

ELC
STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:
- Small pocket on slope.

Sheet 6

Polygon 6 - CUP 3

ELC — SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

Plot	Rep	Th	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
4										
5										
3										
2										
1										

SOIL	1	2	3	4	5
TEXTURE / HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROUGHNESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
SEEPAGE					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC — PLANT SPECIES LIST

SITE: Salvi FA
POLYGON: Polygon 6
DATE: 06/14/25, 07/04/25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE A	LAYER 1	2	3	4	COL.
PINSTRO	A	O			
PICABIE	A	O			
PRUNVIR		R			
QUERUBR				R	
FRX. SPP					
ULMAMER	R		O		
ACESASA		O	O	O	
TILAMER		O			
JUGLNIGR	R		O		
PICGLAU	O	O			
OSTVIRG		O	O	O	
CARCORD		R			
PINRESI	R				
B:					
Younger					
than A					
+ Deciduous					
More dense					
FRXRADI				O	
RIBCYNO			O		
CORNSERI			R		
UTTRIPA					
PRUNVIRG			O		
CORNALTE		O	A	A	
RHAMFRA			O		
XANSTRU			O		
PARNOSE				O	
EUDOBOU				R	
RUBOCCI				O	
CORRACE			O		
RHAMCATH		A	A	A	
VIBRAFI					

+ Deciduous Roadside. CRATCHE Moist

SPECIES CODE A & B	LAYER 1	2	3	4	COL.
ACEPENS				O	
ERIPHIL				O	
DACTGLOM				O	
GALTRIF				R	
ACRYGRYP				O	
FILIFACH?				R	
CLINVULG				O	
LEEUVIG				O	✓
RANACRI				O	
VIOLLABR				O	
PRUNVULG				O	
CARGRAC				O	
CARFORM				O	
PLANRUGE				O	
ASTURYP				O	
SANCANA				R	
POAPRAT				O	
CARVULP				R	
GEUMCANA				O	
VERUPTI			O		
RANREPE				R	
SOLIGIGA				O	
JUNITENU				R	
CERVULG				O	
MEDLUPI				O	
SOLICAES				R	
HIEPILO				R	
MAIARAC				R	
JARDITI				R	
GALAPOL				R	
Red Clover				O	
LEUCVULG					

Page 2 of .....

RANREC
SOLIRUG
ELYTCANA
DRYING
ASCSYR
Act.SP
SOLIFLX
MATTSTRU

247372

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sydney Rd, BA | POLYGON: 6

SURVEYOR(S): ZH | DATE: May 26, July 4, 21 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☑ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☑ PLANTATION

SITE	COVER
☐ OPEN WATER ☐ SHALLOW WATER ☐ INTERTIDAL SED. ☐ SEDIMENT	☐ OPEN ☐ SHRUB ☑ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	PINUSSP > PICABIE
2	SUB-CANOPY	3	3	" " > FRAMER > ULMAMER
3	UNDERSTOREY	4	4	RHAMCATH > CORNALTE > FRAALNU
4	GRD. LAYER	5-7	4	RHAMCATH > CORNALTE

HT CODES: 1 = >25 m | 2 = 10<HT≤25 m | 3 = 2<HT≤10 m | 4 = 1<HT≤2 m | 5 = 0.5<HT≤1 m | 6 = 0.2<HT≤0.5 m | 7 = HT<0.2 m

CVR CODES: 0= NONE | 1= 0% < CVR < 10% | 2= 10 < CVR < 25% | 3= 25 < CVR < 60% | 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50		> 50
	A		A		A		N	
STANDING SNAGS:	O	< 10	O	10 - 24	O	25 - 50	N	> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24	R	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Coniferous Plantation	CUP3
INCLUSION	Deciduous Forest	FOD/CUW1 - Pockets of regen.
COMPLEX	Mineral Cultural Woodland	

Notes:

ELC STAND CHARACTERISTICS

SITE: | POLYGON: | DATE: | SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
	✓						
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

Sheet 7

Dedoubs Red Pine CUP ~ CUM Inclusion

ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	Slope							UTM	
	Prob	PP	Sh	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

CUM ind. by parks

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Salem Rd. EA
POLYGON: Polygon 7 / 8
DATE: June 24/25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
PINRES	O				
POPTREM	O	O	O		
JUGNIGR	O	O	O		
PICGLAU	R		O	O	
FRXAMER		O	A	A	
PINSTRO	O				
TILAMER	R			O	
ACERSACA	O				
ACERXFRE					
ACGLAU	O	O			
MORUBRA	R		R		
ULMAMER					
PICABIE	R				
ANEVIRG				O	
SCIATRU					
RIB. SP.				R	
ADISTRD				R	
LESVULG					
DESCESP					
XANSTRU					
TOXRADI				A	
CORNALTE		O	O		
EUOBOV				O	
SALPURP			R		
RUBALL			O	O	
VITRIPA			O		
CORNDRC			O	O	
RHACATH		O	A	A	
RHUSTYP					
SALFRIS			R		
JUNVIRG			R		

SPECIES CODE	LAYER 1	2	3	4	COL.
+ ONOVIC					
+ SILVULG					
GEUMALB				O	
SOLI. SP					
ERIGANNU					
+ CENT. SP					
+ FESRUBR					
+ LOTCORN				O	
ACINOM					
DAUCAR					
+ LEUVULG					
+ Red Clover					
MEDLUPU					
+ VICCRA					
ASTURIP					
CLINVULG				O	
GEUCANA				O	
VALERI				O	
GALTRIF					
PLANMAJ					
+ GLAMMY grass like					
+ White Clover					
RANREP				O	
CIRCMITE					
+ AGRSTOL				R	
+ SCIRCYP				R	
JUNCTEN				R	
JUNCOMM				O	
AGRGRYP					
CAREX					
SPHENOP					

CARBSAN

Polygon 8 - from road side only.
↳ more conifers than #7, less mature

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: [illegible] FA | POLYGON: 7

SURVEYOR(S): ZH | DATE: | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☐ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☑ CONIFEROUS ☑ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☑ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK			**COVER** ☐ OPEN ☑ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	PINUS SP > JUGLNIGR > TILAMER
2	SUB-CANOPY	3	4	POPTREM > JUGLNIGR
3	UNDERSTOREY	4	4	RHAMCATH > FRX-SP > JUGLNIGR
4	GRD. LAYER	5	4	Equicomm > CLINUNIF

HT CODES: 1 = >25 m 2 = 10<HT<25 m 3 = 2<HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<1 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION: | BA:

		< 10		10 - 24		25 - 50		> 50
SIZE CLASS ANALYSIS:		A		A		O		N
STANDING SNAGS:		O		A		A		N
DEADFALL / LOGS:		A		A		O		N

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Pine Plantation	CUP3
INCLUSION		
COMPLEX	Mineral cultural Woodland	CUW

Notes:

ELC STAND CHARACTERISTICS

SITE:

POLYGON:

DATE:

SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

East of Parking lot is patches of more deciduous regen. Wetter than west of parking lot.

41. - CUW

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	Pln	Pf	Str	Slope Position	Slope Aspect	Slope %	Slope Type	Slope Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Safari Road EA
POLYGON: Polygon 8 - Sheet 12
DATE: July 11/25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
ULMAMER	O				
PINSTRO	A	O			
TILAMER	O	O			
PORTREM		R			
FRX_SP		O			
PICGLAU	O				
PICABIE	R				
JUGNIGR	A				
PICSMU	O	O			
QUERRUBR	R	R			
CARCORD		R			
VITRIPA		O			
LONIMOR		O			
RHACATH		O			
CORNALT		A			

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
Meadowsedge					
Woodland ground cover					
not visible					

Across from parking area

ELC

COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: | POLYGON:

SURVEYOR(S): | DATE: | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☑ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☑ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ INTERTIDAL MUD ☐ BEDROCK (*)			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	PINUSRES > ACERNEGU > ACESAH
2	SUB-CANOPY	3	4	" " "
3	UNDERSTOREY	4	4	" " CORNASI
4	GRD. LAYER	5-7	?	Not visible.

HT CODES: 1 = >25 m 2 = 10<HT<25 m 3 = 2<HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<1 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m

CVR CODES: 0 = NONE 1 = 0% < CVR < 10% 2 = 10 < CVR < 25% 3 = 25 < CVR < 60% 4 = CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	?	< 10	?	10 - 24	?	25 - 50	?	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER	✓	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Cultural Woodland	CUW1
INCLUSION		
COMPLEX		

Notes:

ELC

STAND CHARACTERISTICS

SITE:

POLYGON:

DATE:

SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

- Was meadow / CUS 15-20 years ago
- Mostly not planted.

Sheet 8

Was Ash FOD but declining. Moist

ELC

SCIRLS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1								
2								
3								
4								
5								

FOD or CUW?

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROUGHNESS					
DEPTH TO / OF					
BOTTLES					
GLEY					
MOTTLES					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

Walnut Gap? w/ Ash FOD regen CUTRUN openings

Was

ELC PLANT SPECIES LIST

SITE: Safari Rd.
POLYGON: Polygon 9
DATE: 06/04/25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRXPENN		?	?		
FRXAMBE		?	A		
JUGLNIGR	A	D			
QUERMACR	O	O			
QUERRUBR	R				
TILAMER	R				
QUERMEL			RO		
CELSCAN			R		
XANSTRU			O		
RIBCYNO			O		
LONMACR			O		
UTRIPA			O		
SAMCANA			R		
RHAFRAN			O		
MAIOFIL			R	R	
PRUPENN			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
COPRCANA				A	
DRYCART				O	
SOLIRUGO				R	
AGOGRYP				O	
ERIGANNU				O	
LEEUNIG				O	
SPHEINTE				O	✓
RANREPT				O	
ASTLANE				O	
MACGLOM				A	
RANACRI				O	
GEUROSE				R	
CAREPRIM				O	
SISMONT				R	
POACOMP				R	
DICH-SP IMPL				R	✓
ASTUNIP				O	
CARTRIB				O	
DANSPIC				R	
HIER-SP				O	
CLINUTG				O	
Horse Gentian				R	
SOLVIRG				O	✓ ✓
FRAGVIR				O	
SCHIZIRR				O	
LACTSER				R	

CUGUP

Page ..... of .....

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Stn 5A		POLYGON: 4	
SURVEYOR(S): 24	DATE:	TIME: start / finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
TERRESTRIAL WETLAND AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☑ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL Dominion	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☑ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ SHORELINE ROCK ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	2	JUGLANS NIGRA >> QUERCUS RUBRA > ULMUS AMERICANA
2	SUB-CANOPY	3	3	FRAXINUS PENNSYLVANICA > JUGLANS NIGRA > QUERCUS SP
3	UNDERSTOREY	4	4	FRAXINUS PENNSYLVANICA > PRUNUS VIRGINIANA > ACER SACCHARUM
4	GRD. LAYER	6-7	4	SOLIDAGO SP > GEUM CANADENSE > ACER SACCHARUM > RUBUS IDAEUS

Moist

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0 = NONE 1 = 0% < CVR < 10% 2 = 10 < CVR < 25% 3 = 25 < CVR < 60% 4 = CVR > 60%

STAND COMPOSITION:	BA:

		< 10		10 - 24		25 - 50		> 50
SIZE CLASS ANALYSIS:	A		A		O		N	
STANDING SNAGS:	C		O		R		N	
DEADFALL / LOGS:			O		R		N	

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: ELC CODE

COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Mineral Cultural Woodland	CUW1
INCLUSION		
COMPLEX		

Notes:

ELC
STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

Sheet #9

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope UTM

	Plot	PP	Elr	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC PLANT SPECIES LIST

SITE: Solonex EA
POLYGON: E — Polygon 10
DATE: 06 24 25 & 07 11 25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
FRXPENN	D	O	O		
FRAMAL			A		
PICGLAU	A				
ULMAMER		O			
ACERRUB	O				
RHUSTYP	A				
CIRCRIS				R	✓
SALIRRP			R		
VIBLENT			R		
FRAPALU			D		
SALDISC			O		
SOLIRIRA			O		
CORNSER			O		

Dead → RD.

SPECIES CODE	LAYER 1	2	3	4	COL.
CARHYS				O	
CARINTE				A	
LYCUNIF					
JUNCPHA					✓
CAREBEB					✓
CARTENE					✓
PHOLEPTAN					
CARPSEU					✓
JUNCARALP				O	✓
LYCAMER				O	
CAREFLAV				O	
UTRISP				O	✓
LYTSALI				O	
SALIX CANDI?					
ARCANA - [illegible]					
PILPUMI				O	
CAREXTIP					
LYSTHYRS					
SAMRAMER					
ALISMA - [illegible]					
~~TYPHLAT~~					
CAREXSP Pedun				R	✓
GLYSTRIA					
CAREXRIP					
CICPUNC					
SCHLOTT					
GLYGRAN					
CAREXRAS					
HYPE-					
IRISSIB					
CAREXVU				A	

west edge of water

Same

CHARA
SCIATRO
PHLAUST

Page ..... of .....

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sifton EA | POLYGON: 12

SURVEYOR(S): ZH | DATE: July 11/25 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ WETTLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☑ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☑ SHALLOW WATER ☐ SHORELINE ☐ BEDROCK			**COVER** ☐ OPEN ☑ SHRUB ☐ TREED		

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	ACER x FRE
2	SUB-CANOPY	3	1	ACER x FRE > FRX PENN > FRAN AM
3	UNDERSTOREY	4	3	FRAN AM > SAL SSP > ACER x FR
4	GRD LAYER	5-7	4	Potentilla / Strawberry > Clem > Comm spp

HT CODES: 1 = >25 m 2 = 10<HT ≤ 25 m 3 = 2<HT ≤ 10 m 4 = 1<HT ≤ 2 m 5 = 0.5<HT ≤ 1 m 6 = 0.2<HT ≤ 0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	A	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	A	< 10	A	10 - 24	A	25 - 50	N	> 50
DEAD FALL / LOGS:	A	< 10	A	10 - 24	A	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM AGE:		PIONEER	✓	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Mineral thicket Sw.	SWT1
INCLUSION		
COMPLEX		

Notes: Mostly Roadside survey except west edge

ELC STAND CHARACTERISTICS

SITE: | POLYGON: | DATE: | SURVEYOR(S):

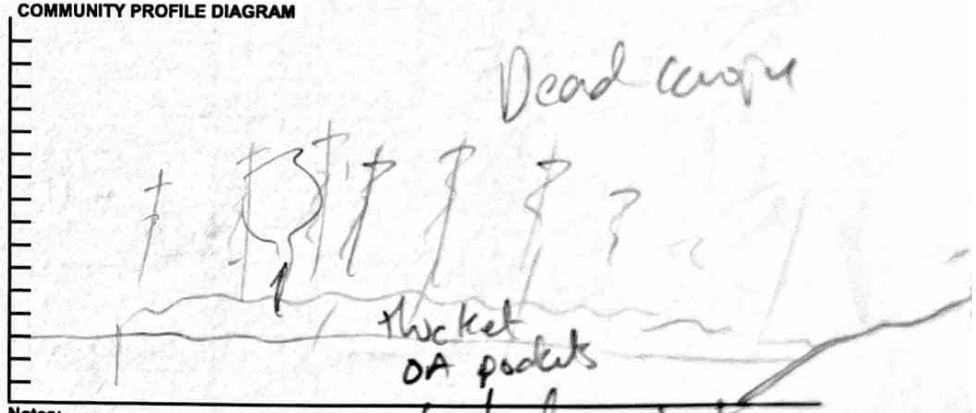
TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:
- Was spruce plantation but died due to ↑ H2O
- thicket swamp / OA emerging through dead canopy.

ELC
SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	Fm	Mf	Sh	Position	Slope Aspect	Slope %	Slope Type	Slope Class	UTM Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE & HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

Road side

Sheet 10

ELC
PLANT SPECIES LIST

SITE: Safari Rd. EA
POLYGON: Polygon 11 - Sheet 10
DATE: July 11/25
SURVEYOR(S): 24

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
ACERVFRE		R			
SALIDISC			?		
SALISEOB			?		
SPIRALBA			?	?	
SALIFRIO					
SALNIGR			?		
SALI-SP			A		
CYPHECCI			A	A	

Bog willow?

Exb/INCR?,

Too far

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
TYPANGU			D		

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sakitawa | POLYGON: 11

SURVEYOR(S): ZH | DATE: | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☑ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☑ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☑ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☑ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE: ☐ UPLAND ☐ WETLAND ☐ WATER			COVER: ☐ OPEN ☑ SHRUB ☐ TREED		

Open Water 10-15%

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY	3	1	ACERxRE
3	UNDERSTOREY	4	2	CEMOCC >> SalSPP > MYRANG
4	GRD LAYER	5-7	H	CEMOCC > Submergents

HT CODES: 1 = >25 m; 2 = 10<HT≤25 m; 3 = 2<HT≤10 m; 4 = 1<HT≤2 m; 5 = 0.5<HT≤1 m; 6 = 0.2<HT≤0.5 m; 7 = HT<0.2 m

CVR CODES: 0= NONE; 1= 0% < CVR ≤ 10%; 2= 10 < CVR ≤ 25%; 3= 25 < CVR ≤ 60%; 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	A	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	O	< 10	O	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24		25 - 50	N	> 50

ABUNDANCE CODES: N = NONE; R = RARE; O = OCCASIONAL; A = ABUNDANT

COMM. AGE:		PIONEER	✓	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Buttonbush Mineral Swamp	SWT2-4
☐ INCLUSION		
☐ COMPLEX		

Notes:

ELC
STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

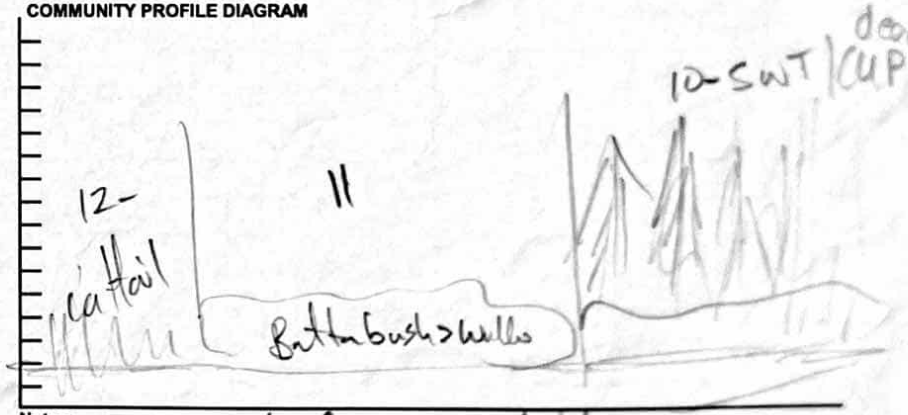
TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:
- Evaluated from roadside.
- Submergent + overgen veg similar to polygon 12

Sheet 11

Roadside

MAS ? - 1

ELC

SITE:

POLYGON:

DATE:

SURVEYOR(S):

			Shape					UTM	
			Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1										
2										
3										
4										
5										

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
# TEXTURE					
COARSE FRAGMENTS					
# TEXTURE					
COARSE FRAGMENTS					
# TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
SEEPAGE					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Salvi Rd E

POLYGON: Polygon 12 - Sheet 11

DATE: July 11/25

SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ACERXFRE		R			
SALIALBA	R				
SALIANYG	R				
CAREXXX					

SPECIES CODE	LAYER 1	2	3	4	COL.
ACERNEG			D		
URTI VULG				A	✓
PHALARUN				R	
POTENTILLA palu				R	
FLOERUN				O	✓
JUNCAST				R	
JUNCALPI				O	
LYCAMER				O	
SPARAMER				O	✓
LEUCANTHEMUM				A	
ELEOPALU ?				O	✓
ASCLINCA				R	
SAGLATI					
CAREBEBB				O	
CARECOMO				O	
CIRBULB				O	
SCHOTABB				O	
LYTSALI				O	
PHALARUN			O		
CARECOMO				O	

MAS2-1 Cattail

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Safari Rd ER		POLYGON: 12	
	SURVEYOR(S): ZH	DATE: July 11/25	TIME: start / finish	
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☑ WETLAND ☐ AQUATIC	☐ ORGANIC ☐ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☑ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☑ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE			**COVER**		
☐ OPEN WATER ☑ SHALLOW WATER ☐ SURFICIAL DEP. ☐ BEDROCK			☑ OPEN ☐ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY	3	1	ACERxPR
3	UNDERSTOREY	4	4	TYPHANGU >> CEPHOCCI
4	GRD. LAYER	5-7	2	UTRI.SP?? MIDI.SP > PHALARUN Chara?

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	R	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER	✓	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: **ELC CODE**

COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Cattail Mineral Shallow Marsh.	MAS2-1
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE: Safari
	POLYGON: 12
	DATE: July 11/25
	SURVEYOR(S): ZH

TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes: Evaluated from Roadside

ELC

SITE:
POLYGON:
DATE:
SURVEYOR(S):

			Position	Aspect	Slope %	Slope Type	Class	Z	UTM EASTING	UTM NORTHING

SOIL	1	2	3	4	5

ELC PLANT SPECIES LIST

SITE: Sol(?) EA
POLYGON: 13
DATE:
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
ACERxFRE	A	A			
ULMAMER					
FRXPENN					
CORNSTOL					
SALI-SP					
CEPHOCCI					

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
LEMNMINO				A	
CARPSEU				O	
Potamogeton				?	
STUCK-SP				>	
UTRIVULG				?	
PHOSPALU				?	
ELEO-SP				?	
SAGILATI				?	
SPAR-SPP				?	
ASCINCA				R	
SCIRPUS				?	
TYPHANG				O	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Selwyn BA | POLYGON: 13
SURVEYOR(S): ZH | DATE: July 11/25 | TIME: start / finish
UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☑ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☑ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION

SITE
☐ OPEN WATER
☐ SHALLOW WATER
☐ BOREAL SCP.
☐ BEDROCK

COVER
☐ OPEN
☐ SHRUB
☑ TREED

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY		4	ACERXFRE > ULMAMER/FRAPENN
2	SUB-CANOPY		4	" " FRAALN
3	UNDERSTOREY			TYPLAT > SALI / CORN
4	GRD LAYER			FERNING > UTRIVULG > Pondweeds > SIUMSUAV.

HT CODES: 1 = >25 m 2 = 10<HT<25 m 3 = 2<HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<1 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m
CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	A	25 - 50	R	> 50
STANDING SNAGS:	A	< 10	A	10 - 24	A	25 - 50	R	> 50
DEADFALL / LOGS:	A	< 10	A	10 - 24	A	25 - 50	R	> 50

cont. from road

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Swamp Maple Min. Swamp.	SWD3-3
INCLUSION		
COMPLEX		

Notes:
- North end may be more SWT

ELC STAND CHARACTERISTICS

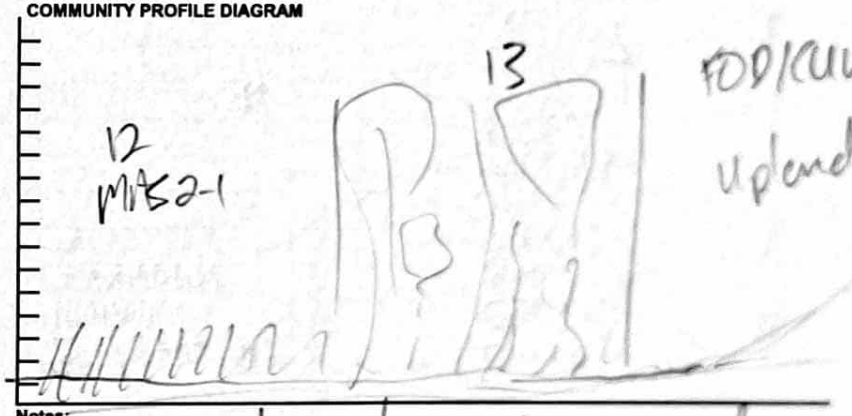
SITE:
POLYGON:
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:
PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:
- Dieback along inner edge associated w ↑ H2O
- Roadside Survey - No PTE
- Similar to Polygon 3 & 4

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

				Slope				UTM	
			Position	Aspect	%	Type	Class	EASTING	NORTHING

SOIL	1	2	3	4	5

ELC

PLANT SPECIES LIST

SITE: Bafoni EA
POLYGON: SWM
DATE: July 11/25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
PINSTRO	A				
RHAMCATH			A		
ACERSAS		D			
FRX sp		O			
Roadside → ACERXFRE			O		
FRANALN					

Not visible

Page 1 of 1

No PTE - Roadside

- some flooded areas visible - SWD along Road?

ELC

COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Solon		POLYGON: 14	
SURVEYOR(S): ZH	DATE: July 11 05	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☐ MINERAL SOIL ☑ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☑ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☑ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☑ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ INTERTIDAL SED. ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	PINSTRO
2	SUB-CANOPY	3	4	" " ACER SSP
3	UNDERSTOREY	4	?	RHAMCATH > ALN IRA
4	GRD. LAYER	59	?	NA

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	A	25 - 50	N	> 50
STANDING SNAGS:	?	< 10	?	10 - 24	?	25 - 50	?	> 50
DEADFALL / LOGS:	?	< 10	?	10 - 24	?	25 - 50	?	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	White Pine Conifers Plantation	CUP3-2
☐ INCLUSION		
☐ COMPLEX		

Notes:

ELC

STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

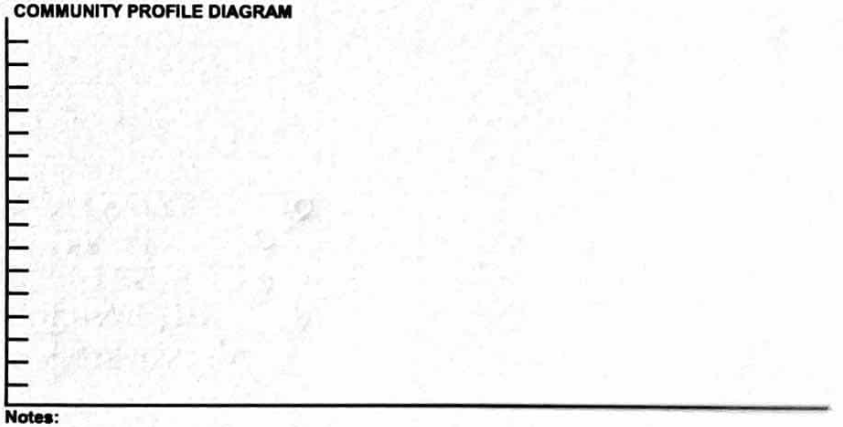
TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

Roadside only - No PTE

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

	Fig	Stp	Str	Slope: Position	Slope: Aspect	Slope: %	Slope: Type	Slope: Class	Z	UTM: EASTING	UTM: NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE & HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC

PLANT SPECIES LIST

SITE: Safari EA
POLYGON: 15
DATE: July 11/25
SURVEYOR(S): ZA

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
TILIAMER	R				
JUGLNIGR		O			
dead -> FRX-SP		O			
ULMAMER		R			
CRATSUCC			R		
SYRIVULG		O	O		
CORNRACE		O	O		

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Selwyn BA		POLYGON: 15	
SURVEYOR(S): ZH	DATE: JY 11/25	TIME: start	finish
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☑ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ INTERTIDAL ZONE ☐ BEDROCK			**COVER** ☐ OPEN ☑ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	TILAMER
2	SUB-CANOPY	3	4	JUGLNIGR > TILAMER > FRAX
3	UNDERSTOREY	4	4	CORNSERI > CORNRACE
4	GRD. LAYER	5	?	?? - similar to 16?

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	D	< 10	O	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	O	< 10	O	10 - 24	R	25 - 50	N	> 50
DEADFALL / LOGS:	?	< 10	?	10 - 24	?	25 - 50	?	> 50

Ash

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Mineral Cultural Thicket	CUT1
INCLUSION		
COMPLEX		

Notes:

ELC
STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes: Roadside Assessment - No PTE

HR

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope | UTM

	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1								
2								
3								
4								
5								

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROUGHNESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Safari BP
POLYGON: 16
DATE: July 11/25
SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
POPX_SP	O	O			
TILIAMER	O	O			
JUGLNIGR	O	O			
SYRIVULG		O	O		
PINSYLV	O				
CRATPUNC		R			
CRATSUCC			R		
CORNRACE			O		
ULTIRUB			A		
PYRUANGE			A		

SPECIES CODE	LAYER 1	2	3	4	COL.
SOLICAN				A	
BROMINER				A	
LOLI_SP				O	
TUSFARF				O	
POAPRAT				O	
ALLPETI				R	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: Solar	POLYGON: 16
	SURVEYOR(S): ZH	DATE: July 11/23
	UTMZ:	UTME:
	TIME: start / finish	
	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☑ UPLAND ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2/3	3	JUGLNIGR > TIAMER > FRAXSP
2	SUB-CANOPY	4	4	" " SYRIVULG > CORNRACE
3	UNDERSTOREY	5	4	SOLICANA > Grasses
4	GRD. LAYER	6	4	" "

HT CODES: 1 = >25 m 2 = 10<HT ≤ 25 m 3 = 2<HT ≤ 10 m 4 = 1<HT ≤ 2 m 5 = 0.5<HT ≤ 1 m 6 = 0.2<HT ≤ 0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	0	< 10	0	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	0	< 10	0	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER	✓	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: ELC CODE

COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Hedgerows	HR
☐ INCLUSION		
☐ COMPLEX		

Notes:

ELC STAND CHARACTERISTICS	SITE:
	POLYGON:
	DATE:
	SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR ☐

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

ELC

SOILS ONTARIO

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

	Fld.	Rf	Sr	Position	Aspect	Slope %	Slope Type	Slope Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC (I)					
PORE SIZE DISC (II)					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: SAFARI 6A
POLYGON: 17
DATE: July 11/25
SURVEYOR(S): 24

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
THUJOCCI		O	A		
RHAMCATH			A		
FRAPENN			A		
JUGLNIGR (Mat↑)		O	O		
FRXPENN (Dead x)	X	O			
ULMAMER					
SAMCANA			O		
TOXRADI				O	
VITRIPA			O		

SPECIES CODE	LAYER 1	2	3	4	COL.
ASTLANC			O		
ASTLATE				A	
SOLIGIGA			O		
PRUNVULG				A	
GEUMURBA				O	
ASTUPOP				O	
SOLICANA			O		
CENT Brown				O	
DACTGLOM				O	
ARISTRIP				O	
TAROFFI					
RANACRI				O	
SOLADULC					

Page ...... of ......

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sulphur BA		POLYGON: 17	
SURVEYOR(S): ZH	DATE: July 11/25	TIME: start	
UTMZ:	UTME:	UTMN:	finish

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☑ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☑ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☑ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ SUBTIDAL SED. ☐ BEDROCK			**COVER** ☐ OPEN ☑ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	1	THUOCC > FRX (mostly dead
2	SUB-CANOPY	3	4	RHAMCATH > FRANANA > THUOCC
3	UNDERSTOREY	4	4	" " "
4	GRD. LAYER	4-7	4	Acers > Solidago > ferns

HT CODES: 1 = >25 m 2 = 10<HT<25 m 3 = 2<HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<1 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	O	< 10	A	10 - 24	O	25 - 50	R?	> 50
DEADFALL / LOGS:	O	< 10	O	10 - 24	O	25 - 50	R?	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER	✓	YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Mineral cultural thicket	SWT1
INCLUSION		
COMPLEX		

Notes:

ELC
STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

- Was SWD3-2
Mapped by HCA
But looks like it was Ash-dominant

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope

UTM

	P/S	PP	Sl	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Site BA
POLYGON: 18
DATE: JUN 11, 2025
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
PINSTRO	A				
THUOCC		O			
JUGLNIG		O			
RHAMCAT		A	A	A	
VITRIPA			O		
PRUNVIR.			O		
ASTURYP				O	
SAMCANA				A	
CARCPAC				O	
PRUNSER				O	
ASTLAEK				O	
FRIGPHL				O	
MALCORO			R		
AMORCOR					
CRATSUC			R		
PARTQUI				O	
CIRAPUN			R		
FRXPENN			O		
RACOMI				O	

SPECIES CODE	LAYER 1	2	3	4	COL.

ELC

COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Safari EA		POLYGON: 18	
SURVEYOR(S): ZH	DATE: July 11/25	TIME: start	finish
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☑ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☑ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☑ SUBTIDAL SED. ☐ BEDROCK			COVER ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION

Dead Ash

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	PINSTRO > PICGLAU >> ACERSAS
2	SUB-CANOPY	3	4	PINRES > JUGNIG > TILAMER
3	UNDERSTOREY	4	4	RHACATH > PRUVIRG
4	GRD LAYER	5	4	[illegible] > PRUVIRG > ARCT UVA

HT CODES: 1 = >25 m; 2 = 10<HT≤25 m; 3 = 2<HT≤10 m; 4 = 1<HT≤2 m; 5 = 0.5<HT≤1 m; 6 = 0.2<HT≤0.5 m; 7 = HT≤0.2 m

CVR CODES: 0 = NONE; 1 = 0% < CVR ≤ 10%; 2 = 10 < CVR ≤ 25%; 3 = 25 < CVR ≤ 60%; 4 = CVR > 60%

STAND COMPOSITION:	BA:

Most

SIZE CLASS ANALYSIS:	A	< 10	A	10 - 24	R	25 - 50	N	> 50
STANDING SNAGS:	R	< 10	A	10 - 24	A	25 - 50	?	> 50
DEADFALL / LOGS:	R	< 10	O	10 - 24	R	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG	✓	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	White Pine Con. Plant.	CUP3-8
INCLUSION		
COMPLEX		

Notes:

white pine CUP

ELC

STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

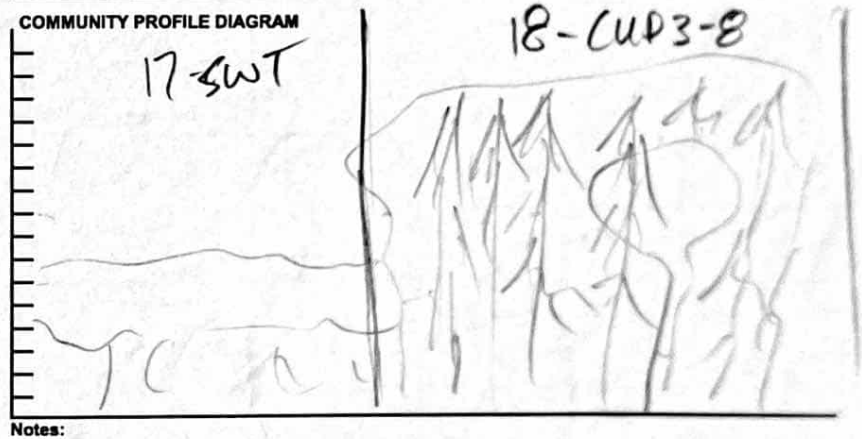
TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

ELC

SOILS ONTARIO

SITE:

POLYGON:

DATE:

SURVEYOR(S):

Slope UTM

	Plot	PP	Th	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL TEXTURE + HORIZON	1	2	3	4	5
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC

PLANT SPECIES LIST

SITE: Sifton 64

POLYGON: 16

DATE: JLY 11/25

SURVEYOR(S): ZY

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
ACERPLAT					
PICGLAU					
JUGLNIGR					
ACERSACH					
PICABIE					
FRAX_SP					
Malus (crab-apple?)					

SPECIES CODE	LAYER 1	2	3	4	COL.
Lawn					

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 3 of 2 Rd. PA | POLYGON: 19

SURVEYOR(S): ZH | DATE: Jun 4/11/25 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION

SITE

☐ OPEN WATER
☐ SHALLOW WATER
☐ INTERTIDAL SED.
☐ BEDROCK

COVER

☑ OPEN
☐ SHRUB
☐ TREED

Res.

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY		1	ACERPNAT > Picea
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT<25 m 3 = 2<HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<1 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	0	< 10	0	10 - 24	0	25 - 50	N	> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER	✓	YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Residential.	
☐ INCLUSION		
☐ COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

ELC

SOILS ONTARIO

SITE:

POLYGON:

DATE:

SURVEYOR(S):

	Pm	PP	Dr	Position	Aspect	Slope %	Slope Type	Slope Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Sofini EA

POLYGON: 22

DATE: July 11/25

SURVEYOR(S): ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
Zea mays					
Glycine max					

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sowi BA		POLYGON: 22	
SURVEYOR(S): ZH	DATE: July 11/25	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☐ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☐ SUBTIDAL SED. ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			Corn & Soy

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

		< 10		10 - 24		25 - 50		> 50
SIZE CLASS ANALYSIS:								
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION: ELC CODE

COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Agricultural	AGGR
☐ INCLUSION		
☐ COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

TREE TALLY BY SPECIES:

PRISM FACTOR ☐

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

ELC

SOILS ONTARIO

SITE:

POLYGON:

DATE:

SURVEYOR(S):

	Typ	MF	Sh	Position	Aspect	Slope %	Slope Type	Slope Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROUGHNESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Sofast BA

POLYGON: 23

DATE:

SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
TYPHANG				D	

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: S. Fen | POLYGON: 23

SURVEYOR(S): ZH | DATE: 5/11/25 | TIME: start / finish

UTMZ: | UTME: | UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☑ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☑ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☐ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL Was AGR	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☑ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☑ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☑ CRITICAL DEP. ☐ BEDROCK			**COVER** ☑ OPEN ☐ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER	4.2	4	Typha lat. > ??

HT CODES: 1 = >25 m 2 = 10<HT≤25 m 3 = 2<HT≤10 m 4 = 1<HT≤2 m 5 = 0.5<HT≤1 m 6 = 0.2<HT≤0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR ≤ 10% 2= 10 < CVR ≤ 25% 3= 25 < CVR ≤ 60% 4= CVR > 60%

STAND COMPOSITION: | BA:

SIZE CLASS ANALYSIS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50
DEADFALL / LOGS:	N	< 10	N	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Cattail Mineral Marsh.	MAS2-1
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE: | POLYGON: | DATE: | SURVEYOR(S):

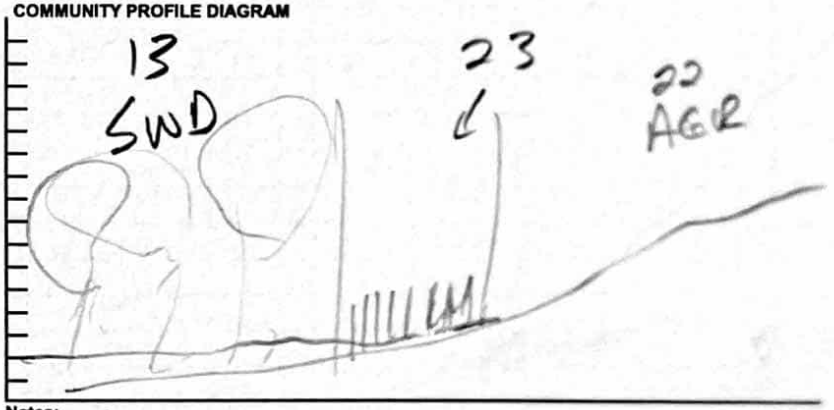
TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM



Notes:

- No PTE
- Surveyed from Road
- Was AGR Field on 4 ~5 ya.

ELC

SOILS ONTARIO

SITE:
POLYGON:
DATE:
SURVEYOR(S):

Slope UTM

	Plot	PP	Str	Position	Aspect	%	Type	Class	Z	EASTING	NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROUGHNESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC
PLANT SPECIES LIST

SITE: Salmon RA 2H
POLYGON:
DATE: July 11/25 2H
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER
ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
Similar to polygons 1 & 2					

SPECIES CODE	LAYER 1	2	3	4	COL.

Not visible, no PTE

Page ____ of ____

ELC — COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Salmon FP		POLYGON: 24	
SURVEYOR(S): 24	DATE: Jul 11, 25	TIME: start / finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN ☐ ACIDIC BEDRK ☐ BASIC BEDRK ☐ CARB BEDRK	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☑ VALLEY SLOPE ☐ FLATELAND ☐ ROLL UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☑ NATURAL ☐ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☐ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☑ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☐ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☑ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ SHALLOW WATER ☑ UPLAND DEP. ☐ BEDROCK			**COVER** ☐ OPEN ☐ SHRUB ☑ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			NA - Acer / Quercus / Tilia ?
2	SUB-CANOPY			ACPE
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT ≤ 25 m 3 = 2<HT ≤ 10 m 4 = 1<HT ≤ 2 m 5 = 0.5<HT ≤ 1 m 6 = 0.2<HT ≤ 0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

		< 10		10 - 24		25 - 50		> 50
SIZE CLASS ANALYSIS:								
STANDING SNAGS:								
DEADFALL / LOGS:								

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Deciduous Forest	FOR
INCLUSION		
COMPLEX		

Notes:

ELC — STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

TREE TALLY BY SPECIES:

PRISM FACTOR:

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:
- Not accessible or visible.
- Satellites only.

ELC

SOILS ONTARIO

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

	Pit			Slope Position	Aspect	%	Type	Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE + HORIZON					
A TEXTURE					
COARSE FRAGMENTS					
B TEXTURE					
COARSE FRAGMENTS					
C TEXTURE					
COARSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC

PLANT SPECIES LIST

SITE:	Silvi EA
POLYGON:	25
DATE:	July 11/25
SURVEYOR(S):	ZH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
Pinus sp					
POPTREM					
DADTNSE					
UITRIPA					
RHAMCATH			O		
MALUCCIO			R		
Salixpup			R		

SPECIES CODE	LAYER 1	LAYER 2	LAYER 3	LAYER 4	COL.
POAPRAT				D	
DACTGLOM				A	
Lolium				A	
CENT Brown					
CIRINTY					
SISMONT				R	
Hieracium sp				A	
DAUCARO				O	
JUNCTENU				O	
ASCSYRI					
GALIALBY					
Trifolium					
ASTURUP					
ASTERIC					
SOLINEMO					
ANTHEUE				R	
CIRVULG					
ANEMVIRG					
SILE VULG					
ERIGANNU					
LOTUCORN					
ASTNOVA					
MEDLUPU					
PLATMAJO					

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Sifton BA		POLYGON: 25	
SURVEYOR(S): ZH	DATE: July 11/25	TIME: start	finish
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ TERRESTRIAL ☐ WETLAND ☐ AQUATIC	☐ ORGANIC ☑ MINERAL SOIL ☐ PARENT MIN. ☐ ACIDIC BEDRK. ☐ BASIC BEDRK. ☐ CARB. BEDRK.	☐ LACUSTRINE ☐ RIVERINE ☐ BOTTOMLAND ☐ TERRACE ☐ VALLEY SLOPE ☑ TABLELAND ☐ ROLL. UPLAND ☐ CLIFF ☐ TALUS ☐ CREVICE / CAVE ☐ ALVAR ☐ ROCKLAND ☐ BEACH / BAR ☐ SAND DUNE ☐ BLUFF	☐ NATURAL ☑ CULTURAL	☐ PLANKTON ☐ SUBMERGED ☐ FLOATING-LVD. ☑ GRAMINOID ☐ FORB ☐ LICHEN ☐ BRYOPHYTE ☐ DECIDUOUS ☐ CONIFEROUS ☐ MIXED	☐ LAKE ☐ POND ☐ RIVER ☐ STREAM ☐ MARSH ☐ SWAMP ☐ FEN ☐ BOG ☐ BARREN ☑ MEADOW ☐ PRAIRIE ☐ THICKET ☐ SAVANNAH ☐ WOODLAND ☐ FOREST ☐ PLANTATION
SITE ☐ OPEN WATER ☐ FLOWING WATER ☐ INTERTIDAL SED. ☑ BEDROCK			**COVER** ☑ OPEN ☐ SHRUB ☐ TREED		

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY	4	1	Plant spp > RHAMCATH
4	GRD. LAYER	5-7	4	Grasses > Hiracium

HT CODES: 1 = >25 m 2 = 10<HT<25 m 3 = 2<HT<10 m 4 = 1<HT<2 m 5 = 0.5<HT<1 m 6 = 0.2<HT<0.5 m 7 = HT<0.2 m

CVR CODES: 0= NONE 1= 0% < CVR < 10% 2= 10 < CVR < 25% 3= 25 < CVR < 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:	R	< 10	R	10 - 24	N	25 - 50	N	> 50
STANDING SNAGS:	O	< 10	R	10 - 24	R	25 - 50	N	> 50
DEADFALL / LOGS:	O	< 10	R	10 - 24	N	25 - 50	N	> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH
	✓									

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		
COMMUNITY SERIES:		
ECOSITE:		
VEGETATION TYPE:	Mixed cultural meadow	CUM1-1
INCLUSION		
COMPLEX		

Notes:

ELC STAND CHARACTERISTICS

SITE:	
POLYGON:	
DATE:	
SURVEYOR(S):	

TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

- No access to 25b - looks like one
- 25c - around parking lot soil

APPENDIX D

Floral Inventory

Floral Inventory

Common Name	Scientific Name	SARO	SRank	Hamilton	Invasive
Alpine Rush	*Juncus alpinoarticulatus ssp. americanus*		S5	R	
Alternate-leaved Dogwood	*Cornus alternifolia*		S5	C	
American Beech	*Fagus grandifolia*		S4	C	
American Burreed	*Sparganium americanum*		S5	R	
American Water-horehound	*Lycopus americanus*		S5	C	
American Woodland Strawberry	*Fragaria vesca ssp. americana*		S5	C	
Andrews' Bottle Gentian	*Gentiana andrewsii var. andrewsii*		S4	C	
Annual Fleabane	*Erigeron annuus*		S5	C	
Arrow-leaved Aster	*Symphyotrichum urophyllum*		S4	C	
Autumn Olive	*Elaeagnus umbellata*		SE3	IX	Y
Awl-fruited Sedge	*Carex stipata var. stipata*		S5	C	
Balsam Fir	*Abies balsamea*		S5	C	
Barren Strawberry	*Geum fragarioides*		S5	C	
Basswood	*Tilia americana*		S5	C	
Bearded Sedge	*Carex comosa*		S5	C	
Bebb's Sedge	*Carex bebbii*		S5	C	
Bebb's Willow	*Salix bebbiana*		S5	C	
Bitter Wintercress	*Barbarea vulgaris*		SE5	IX	
Bitternut Hickory	*Carya cordiformis*		S5	C	
Bittersweet Nightshade	*Solanum dulcamara*		SE5	IC	Y
Black Cherry	*Prunus serotina*		S5	C	
Black Maple	*Acer nigrum*		S4?	C	
Black Medick	*Medicago lupulina*		SE5	IC	
Black Raspberry	*Rubus occidentalis*		S5	C	
Black Walnut	*Juglans nigra*		S4?	C	
Black-eyed Susan	*Rudbeckia hirta*		S5	C	
Bladder Campion	*Silene vulgaris*		SE5	IC	
Bloodroot	*Sanguinaria canadensis*		S5	C	
Blue Spruce	*Picea pungens*		SE1	IR	
Blue Vervain	*Verbena hastata*		S5	C	
Blue-beech	*Carpinus caroliniana*		S5	C	
Blue-stemmed Goldenrod	*Solidago caesia*		S5	C	
Blunt Broom Sedge	*Carex tribuloides var. tribuloides*		S4	C	
Branching Centaury	*Centaurium pulchellum*		SE3	IR	
Bristle-leaved Sedge	*Carex eburnea*		S5	C	
Bristly Greenbriar	*Smilax tamnoides*		S5	C	
Broad-leaved Arrowhead	*Sagittaria latifolia*		S5	C	
Broad-leaved Cattail	*Typha latifolia*		S5	C	
Broad-leaved Helleborine	*Epipactis helleborine*		SE5	IX	Y
Brown Flatsedge	*Cyperus fuscus*		SE2	0	
Brown Knapweed	*Centaurea jacea*		SE5	IX	

Common Name	Scientific Name	SARO	SRank	Hamilton	Invasive
Bulbous Water-hemlock	*Cicuta bulbifera*		S5	C	
Bull Thistle	*Cirsium vulgare*		SE5	IX	
Bur Oak	*Quercus macrocarpa*		S5	C	
Calico Aster	*Symphyotrichum lateriflorum*		S5	C	
Canada Avens	*Geum canadense*		S5	C	
Canada Bluegrass	*Poa compressa*		SE5	IX	
Canada Enchanter's Nightshade	*Circaea canadensis ssp. canadensis*		S5	C	
Canada Goldenrod	*Solidago canadensis var. canadensis*		S5	C	
Canada Horseweed	*Erigeron canadensis*		S5	C	
Canada Mint	*Mentha canadensis*		S5	C	
Canada Sanicle	*Sanicula canadensis*		S4	0	
Canada Thistle	*Cirsium arvense*		SE5	IC	Y
Canada Wild-ginger	*Asarum canadense*		S5	C	
Canada Yew	*Taxus canadensis*		S4	C	
Chinquapin Oak	*Quercus muehlenbergii*		S4	C	
Chokecherry	*Prunus virginiana*		S5	C	
Clammy Ground-cherry	*Physalis heterophylla*		S4	C	
Climbing Bittersweet	*Celastrus scandens*		S5	C	
Coltsfoot	*Tussilago farfara*		SE5	IX	Y
Common Apple	*Malus pumila*		SE4	IX	
Common Barberry	*Berberis vulgaris*		SE5	IX	Y
Common Boneset	*Eupatorium perfoliatum*		S5	C	
Common Buttercup	*Ranunculus acris*		SE5	IC	
Common Dandelion	*Taraxacum officinale*		SE5	IC	
Common Evening-primrose	*Oenothera biennis*		S5	C	
Common Hawkweed	*Hieracium vulgatum*		SE2?	IX	
Common Juniper	*Juniperus communis*		S5	R	
Common Lamb's-quarters	*Chenopodium album*		SE5	IX	
Common Lilac	*Syringa vulgaris*		SE5	IR	Y
Common Marsh Bedstraw	*Galium palustre*		S5	C	
Common Milkweed	*Asclepias syriaca*		S5	C	
Common Motherwort	*Leonurus cardiaca*		SE5	IC	
Common Mouse-ear Chickweed	*Cerastium fontanum ssp. vulgare*		SE5	IC	
Common Mullein	*Verbascum thapsus*		SE5	IC	
Common Panicgrass	*Panicum capillare*		S5	C	
Common Pear	*Pyrus communis*		SE4	IX	
Common Plantain	*Plantago major*		SE5	IC	
Common Prickly-ash	*Zanthoxylum americanum*		S5	C	
Common Ragweed	*Ambrosia artemisiifolia*		S5	C	
Common Scouring-rush	*Equisetum hyemale*		S5	C	
Common Self-heal	*Prunella vulgaris ssp. vulgaris*		SE3	IX	
Common Speedwell	*Veronica officinalis*		SE5	IC	
Common Tansy	*Tanacetum vulgare*		SE5	IX	

Common Timothy	*Phleum pratense*		SE5	IC	
Common Viper's Bugloss	*Echium vulgare*		SE5	IX	
Common Water-parsnip	*Sium suave*		S5	C	
Common Woolly Bulrush	*Scirpus cyperinus*		S5	C	
Common Wormwood	*Artemisia vulgaris*		SE5	IX	
Common Yarrow	*Achillea millefolium*		SE5?	IX	
Corn	*Zea mays*		SE1	0	
Corn Mustard	*Sinapis arvensis*		SE5	IX	
Cottony Willow	*Salix eriocephala*		S5	C	
Crack Willow	*Salix euxina*		SE	IX	
Cranberry Viburnum	*Viburnum opulus ssp. opulus*		SE3?	IX	Y
Creeping Bentgrass	*Agrostis stolonifera*		SE5	IX	
Creeping Buttercup	*Ranunculus repens*		SE5	IX	
Creeping Saltbush	*Atriplex prostrata*		SE5	IR	
Creeping Spikerush	*Eleocharis palustris*		S5	C	
Crested Sedge	*Carex cristatella*		S5	C	
Curled Dock	*Rumex crispus*		SE5	IX	
Cursed Buttercup	*Ranunculus sceleratus*		S5	0	
Cut-leaved Toothwort	*Cardamine concatenata*		S5	C	
Cyperus-like Sedge	*Carex pseudocyperus*		S5	C	
Cypress Spurge	*Euphorbia cyparissias*		SE5	IX	
Dark-green Bulrush	*Scirpus atrovirens*		S5	C	
Devil's Beggarticks	*Bidens frondosa*		S5	C	
Dotted Hawthorn	*Crataegus punctata*		S5	C	
Downy Arrowwood	*Viburnum rafinesqueanum*		S5	C	
Downy Serviceberry	*Amelanchier arborea*		S5	C	
Drooping Sedge	*Carex prasina*		S4	U	
Dudley's Rush	*Juncus dudleyi*		S5	C	
Dwarf Honeysuckle	*Lonicera xylosteum*		SE2	IX	Y
Early Meadow-rue	*Thalictrum dioicum*		S5	C	
Eastern Buttonbush	*Cephalanthus occidentalis var. occidentalis*		S5	C	
Eastern Cottonwood	*Populus deltoides ssp. deltoides*		S5	C	
Eastern Hop-hornbeam	*Ostrya virginiana*		S5	C	
Eastern Prickly Gooseberry	*Ribes cynosbati*		S5	C	
Eastern Red Cedar	*Juniperus virginiana var. virginiana*		S5	C	
Eastern Spring Beauty	*Claytonia virginica*		S5	C	
Eastern Tall Goldenrod	*Solidago altissima var. altissima*		S5	C	
Eastern White Cedar	*Thuja occidentalis*		S5	C	
Eastern White Pine	*Pinus strobus*		S5	C	
English Plantain	*Plantago lanceolata*		SE5	IC	
English Walnut	*Juglans regia*		SE1	0	
Erect Hedge-parsley	*Torilis japonica*		SE4	IX	Y

Common Name	Scientific Name	SARO	SRank	Hamilton	Invasive
European Buckthorn	*Rhamnus cathartica*		SE5	IC	Y
European Field Pansy	*Viola arvensis*		SE4	IX	
European Reed	*Phragmites australis ssp. australis*		SE5	IC	Y
Evergreen Wood Fern	*Dryopteris intermedia*		S5	C	
Field Horsetail	*Equisetum arvense*		S5	C	
Field Peppergrass	*Lepidium campestre*		SE5	IX	
Field Sow-thistle	*Sonchus arvensis*		SE5	IX	
Field Wormwood	*Artemisia campestris*		S5	0	
Fireberry Hawthorn	*Crataegus chrysocarpa*		S5	0	
Fleshy Hawthorn	*Crataegus succulenta var. succulenta*		S5	C	
Floating-leaved Pondweed	*Potamogeton natans*		S5	C	
Fowl Bluegrass	*Poa palustris*		S5	C	
Fowl Mannagrass	*Glyceria striata var. striata*		S5	C	
Fox Sedge	*Carex vulpinoidea*		S5	C	
Foxglove Beardtongue	*Penstemon digitalis*		S4	C	
Fragrant Sumac	*Rhus aromatica*		S4	R	
Freeman Maple	*Acer x freemanii*		SNA	hyb	
Garden Bird's-foot Trefoil	*Lotus corniculatus*		SE5	IC	Y
Garlic Mustard	*Alliaria petiolata*		SE5	IC	Y
Giant Goldenrod	*Solidago gigantea var. gigantea*		S5	0	
Glossy Buckthorn	*Frangula alnus*		SE5	IX	Y
Grass-leaved Goldenrod	*Euthamia graminifolia*		S5	C	
Gray's Sedge	*Carex grayi*		S4	U	
Greater Bladderwort	*Utricularia vulgaris ssp. macrorhiza*		S5	U	
Green Foxtail	*Setaria viridis*		SE5	IX	
Grey Dogwood	*Cornus racemosa*		S5	C	
Grey-stemmed Goldenrod	*Solidago nemoralis ssp. nemoralis*		S5	C	
Hairy Crabgrass	*Digitaria sanguinalis*		SE5	IX	
Handsome Sedge	*Carex formosa*		S4	R	
Harlequin Blue Flag	*Iris versicolor*		S5	C	
Heart-leaved Aster	*Symphyotrichum cordifolium*		S5	C	
Hemp Dogbane	*Apocynum cannabinum var. cannabinum*		S5	C	
Herbaceous Carrionflower	*Smilax herbacea*		S4?	C	
Herb-Robert	*Geranium robertianum*		S5	C	
Hitchcock's Sedge	*Carex hitchcockiana*		S4S5	C	
Hooked Agrimony	*Agrimonia gryposepala*		S5	C	
Hooked Buttercup	*Ranunculus recurvatus*		S5	C	
Hop Sedge	*Carex lupulina*		S5	C	
Howell's Pussytoes	*Antennaria howellii*		S5	R	
Hybrid Cattail	*Typha x glauca*		SNA	hyb	Y
Inland Sedge	*Carex interior*		S5	U	

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Jack Pine	*Pinus banksiana*		S5	IR	
Jack-in-the-pulpit	*Arisaema triphyllum ssp. triphyllum*		S5	C	
Jointed Rush	*Juncus articulatus*		S5	C	
Kentucky Bluegrass	*Poa pratensis ssp. pratensis*		SE5	IC	Y
Labrador Violet	*Viola labradorica*		S5	C	
Large Barnyard Grass	*Echinochloa crus-galli*		SE5	IC	
Large False Solomon's Seal	*Maianthemum racemosum*		S5	C	
Large-leaved Aster	*Eurybia macrophylla*		S5	C	
Large-toothed Aspen	*Populus grandidentata*		S5	C	
Lesser Periwinkle	*Vinca minor*		SE5	IX	Y
Licorice Bedstraw	*Galium circaezans*		S5	C	
Limber Honeysuckle	*Lonicera dioica*		S5	C	
Limestone Meadow Sedge	*Carex granularis*		S5	C	
Long-spurred Violet	*Viola rostrata*		S5	C	
Long-stalked Sedge	*Carex pedunculata*		S5	C	
Mad-dog Skullcap	*Scutellaria lateriflora*		S5	C	
Manitoba Maple	*Acer negundo*		S5	C	Y
Marsh Cinquefoil	*Comarum palustre*		S5	R	
Marsh Mermaidweed	*Proserpinaca palustris*		S4	R	
Marsh Seedbox	*Ludwigia palustris*		S5	C	
Marsh Skullcap	*Scutellaria galericulata*		S5	C	
May-apple	*Podophyllum peltatum*		S5	C	
Michigan Lily	*Lilium michiganense*		S4	C	
Morrow's Honeysuckle	*Lonicera morrowii*		SE3	IX	Y
Musk Mallow	*Malva moschata*		SE5	IX	
Nannyberry	*Viburnum lentago*		S5	C	
Narrow-leaved Cattail	*Typha angustifolia*		SE5	IX	Y
Necklace Sedge	*Carex projecta*		S5	U	
New England Aster	*Symphyotrichum novae-angliae*		S5	C	
Nodding Beggarticks	*Bidens cernua*		S5	C	
Northern Red Oak	*Quercus rubra*		S5	C	
Northern Water-horehound	*Lycopus uniflorus*		S5	C	
Northern Water-plantain	*Alisma triviale*		S5	X	
Northern Yellow Lady's-slipper	*Cypripedium parviflorum var. makasin*		S4S5	C	
Norway Maple	*Acer platanoides*		SE5	IX	Y
Norway Spruce	*Picea abies*		SE3	IR	
Old Field Aster	*Symphyotrichum pilosum*		S5	0	
Orange Daylily	*Hemerocallis fulva*		SE5	IX	Y
Orange-fruit Horse-gentian	*Triosteum aurantiacum var. aurantiacum*		S4S5	C	
Orchard Grass	*Dactylis glomerata*		SE5	IC	
Ostrich Fern	*Matteuccia struthiopteris var. pensylvanica*		S5	C	

Common Name	Scientific Name	SARO	SRank	Hamilton	Invasive
Oxeye Daisy	*Leucanthemum vulgare*		SE5	IX	
Panicled Aster	*Symphyotrichum lanceolatum*		S5	C	
Panicled Hydrangea	*Hydrangea paniculata*		SE1	0	
Paper Birch	*Betula papyrifera*		S5	C	
Path Rush	*Juncus tenuis*		S5	C	
Peach-leaved Willow	*Salix amygdaloides*		S5	C	
Pear Hawthorn	*Crataegus calpodendron*		S4	U	
Pennsylvania Sedge	*Carex pensylvanica*		S5	C	
Philadelphia Fleabane	*Erigeron philadelphicus var. philadelphicus*		S5	C	
Poison Ivy	*Toxicodendron radicans*		S5	0	
Porcupine Sedge	*Carex hystericina*		S5	C	
Poverty Oatgrass	*Danthonia spicata*		S5	C	
Prickly Lettuce	*Lactuca serriola*		SE5	IX	
Prickly Sow-thistle	*Sonchus asper*		SE5	IX	
Prostrate Knotweed	*Polygonum aviculare ssp. aviculare*		SE5	IX	
Purple Crown-vetch	*Securigera varia*		SE5	IC	Y
Purple False Melic	*Schizachne purpurascens*		S5	C	
Purple Loosestrife	*Lythrum salicaria*		SE5	IC	Y
Purple Willow	*Salix purpurea*		SE4	IX	
Purple-stemmed Aster	*Symphyotrichum puniceum var. puniceum*		S5	C	
Purple-stemmed Beggarticks	*Bidens connata*		S4?	0	
Pussy Willow	*Salix discolor*		S5	C	
Red Ash	*Fraxinus pennsylvanica*		S4	C	
Red Clover	*Trifolium pratense*		SE5	IC	
Red Columbine	*Aquilegia canadensis*		S5	C	
Red Fescue	*Festuca rubra*		S5	0	
Red Pine	*Pinus resinosa*		S5	R	
Red Raspberry	*Rubus idaeus*		S5	0	
Red-osier Dogwood	*Cornus sericea*		S5	C	
Redroot Amaranth	*Amaranthus retroflexus*		SE5	IX	
Redtop	*Agrostis gigantea*		SE5	IX	Y
Reed Canarygrass	*Phalaris arundinacea var. arundinacea*		S5	C	
Riverbank Grape	*Vitis riparia*		S5	C	
Robin's-plantain Fleabane	*Erigeron pulchellus var. pulchellus*		S5	C	
Rock Elm	*Ulmus thomasii*		S4	C	
Rough Cockleburr	*Xanthium strumarium*		S5	C	
Rough-leaved Mountain Rice	*Oryzopsis asperifolia*		S5	C	
Rough-stemmed Goldenrod	*Solidago rugosa*		S5	C	
Round-leaved Dogwood	*Cornus rugosa*		S5	C	
Round-lobed Hepatica	*Hepatica americana*		S5	C	
Rugel's Plantain	*Plantago rugelii*		S5	C	
Running Strawberry-bush	*Euonymus obovatus*		S4	C	

Common Name	Scientific Name	SARO	SRank	Hamilton	Invasive
Sago Pondweed	*Stuckenia pectinata*		S5	C	
Sandbar Willow	*Salix interior*		S5	C	
Scots Pine	*Pinus sylvestris*		SE5	IX	Y
Sensitive Fern	*Onoclea sensibilis*		S5	C	
Shagbark Hickory	*Carya ovata*		S5	C	
Shining Flatsedge	*Cyperus bipartitus*		S5	R	
Short-fringed Knapweed	*Centaurea nigrescens*		SE5	IX	
Siberian Water-milfoil	*Myriophyllum sibiricum*		S5	R	
Silver Maple	*Acer saccharinum*		S5	C	
Slender Wedgegrass	*Sphenopholis intermedia*		S4S5	C	
Slender-stemmed Panicgrass	*Dichanthelium implicatum*		S5	X	
Small Burnet	*Poterium sanguisorba*		SE4	IX	
Small Burreed	*Sparganium natans*		S5	0	
Small Duckweed	*Lemna minor*		S5?	C	
Small-spike False Nettle	*Boehmeria cylindrica*		S5	C	
Smooth Bedstraw	*Galium mollugo*		SE5	IX	Y
Smooth Brome	*Bromus inermis*		SE5	IC	Y
Smooth Crabgrass	*Digitaria ischaemum*		SE5	IX	
Smooth Rose	*Rosa blanda*		S5	C	
Soft-stemmed Bulrush	*Schoenoplectus tabernaemontani*		S5	C	
Soybean	*Glycine max*		SE2	IR	
Spinulose Wood Fern	*Dryopteris carthusiana*		S5	C	
Spotted Geranium	*Geranium maculatum*		S5	C	
Spotted Lady's-thumb	*Persicaria maculosa*		SE5	IC	
Staghorn Sumac	*Rhus typhina*		S5	C	
Star-flowered False Solomon's Seal	*Maianthemum stellatum*		S5	C	
Strict Blue-eyed-grass	*Sisyrinchium montanum*		S5	C	
Sugar Maple	*Acer saccharum*		S5	C	
Sulphur Cinquefoil	*Potentilla recta*		SE5	IX	
Swamp Milkweed	*Asclepias incarnata ssp. incarnata*		S5	C	
Sweet Cherry	*Prunus avium*		SE4	IX	
Sweet Crabapple	*Malus coronaria*		S4	C	
Tall Anemone	*Anemone virginiana*		S5	C	
Tall Hawkweed	*Pilosella piloselloides*		SE5	0	
Tall Mannagrass	*Glyceria grandis var. grandis*		S5	C	
Tall Ryegrass	*Lolium arundinaceum*		SE5	IX	
Tansy Ragwort	*Jacobaea vulgaris*		SE1	IR	
Tender Sedge	*Carex tenera*		S5	C	
Ten-rayed Sunflower	*Helianthus decapetalus*		S4	R	
Thin-leaved Snowberry	*Symphoricarpos albus*		S5	0	
Three-flowered Bedstraw	*Galium triflorum*		S5	C	
Trembling Aspen	*Populus tremuloides*		S5	C	
Tufted Vetch	*Vicia cracca*		SE5	IC	Y
Tufted Yellow Loosestrife	*Lysimachia thyrsiflora*		S5	C	
Tussock Sedge	*Carex stricta*		S5	C	

Common Name	Scientific Name	SARO	SRank	Hamilton	Invasive
Upright Yellow Wood-sorrel	*Oxalis stricta*		S5	C	
Velvetleaf	*Abutilon theophrasti*		SE5	IX	
Virginia Creeper	*Parthenocissus quinquefolia*		S4?	C	
Virginia Waterleaf	*Hydrophyllum virginianum var. virginianum*		S5	C	
Water Smartweed	*Persicaria amphibia*		S5	C	
White Ash	*Fraxinus americana*		S4	C	
White Cutgrass	*Leersia virginica*		S4	C	
White Elm	*Ulmus americana*		S5	C	
White Heath Aster	*Symphyotrichum ericoides*		S5	0	
White Meadowsweet	*Spiraea alba var. alba*		S5	C	
White Mulberry	*Morus alba*		SE5	IC	Y
White Poplar	*Populus alba*		SE5	IX	Y
White Spruce	*Picea glauca*		S5	C	
White Sweet-clover	*Melilotus albus*		SE5	IC	Y
White Trillium	*Trillium grandiflorum*		S5	C	
White Turtlehead	*Chelone glabra*		S5	C	
White Vervain	*Verbena urticifolia*		S5	C	
White Willow	*Salix alba*		SE4	IX	
Wild Basil	*Clinopodium vulgare ssp. vulgare*		S5	C	
Wild Blue Phlox	*Phlox divaricata*		S4	C	
Wild Carrot	*Daucus carota*		SE5	IC	
Wild Chicory	*Cichorium intybus*		SE5	IC	
Wild Leek	*Allium tricoccum*		S4	0	
Wild Lily-of-the-valley	*Maianthemum canadense*		S5	C	
Wild Strawberry	*Fragaria virginiana ssp. virginiana*		S5	C	
Wood Anemone	*Anemone quinquefolia var. quinquefolia*		S5	C	
Woodland Sedge	*Carex blanda*		S5	C	
Wood's Sedge	*Carex woodii*		S4	C	
Woolly Blue Violet	*Viola sororia*		S5	C	
Yellow Foxtail	*Setaria pumila*		SE5	IX	

Notes:
SRank: S5 – Secure, S4 – Apparently secure, S3 – Vulnerable, S2 – Imperiled, S1 – Critically imperiled (NHIC 2025)
Hamilton: U – Uncommon, R – Rare (Oldham 2017)
Invasive: Y – Invasive in Ontario based on UFA (2002)

APPENDIX E

Tree Inventory and Mapping (Map 4)

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1	*Carya ovata*	Shagbark Hickory	17	2	Good	No observable defect
2	*Pinus sylvestris*	Scots Pine	12	1	Poor	Dieback
3	*Pinus sylvestris*	Scots Pine	15	2	Fair	Dieback
4	*Tilia americana*	Basswood	10	1	Good	No observable defect
5	*Populus grandidentata*	Large-toothed Aspen	26, 24	5	Good	Codominance (U-shaped junction), dead leader
6	*Populus grandidentata*	Large-toothed Aspen	12	3	Good	Crowded, uncorrected lean
7	*Populus grandidentata*	Large-toothed Aspen	17	4	Good	Lost leader
8	*Pinus sylvestris*	Scots Pine	14	1	Poor	Dieback
9	*Populus grandidentata*	Large-toothed Aspen	23	4	Good	Uncorrected lean
10	*Populus grandidentata*	Large-toothed Aspen	18	3	Fair	Lost leader
11	*Tilia americana*	Basswood	10, 3, 3, 3, 3, 3	2	Fair	Coppice growth, dieback
12	*Tilia americana*	Basswood	11	3	Good	Dieback
13	*Tilia americana*	Basswood	14, 10	2	Good	Dead branch
14	*Acer saccharum*	Sugar Maple	12	2	Good	Missing stem, dieback on leader
15	*Pinus strobus*	Eastern White Pine	22	3	Good	Codominance (U-shaped junction), no observable defect
16	*Tilia americana*	Basswood	14	2	Good	No observable defect
17	*Tilia americana*	Basswood	13, 7	3	Good	Poor union
18	*Acer saccharum*	Sugar Maple	15	3	Good	No observable defect
19	*Tilia americana*	Basswood	15	2	Good	Uncorrected lean, dieback
20	*Tilia americana*	Basswood	22	4	Good	No observable defect
21	*Tilia americana*	Basswood	12	3	Good	Uncorrected lean
22	*Tilia americana*	Basswood	14, 13	3	Good	Dieback
23	*Tilia americana*	Basswood	19	3	Good	Dieback
24	*Tilia americana*	Basswood	11, 10	3	Good	Uncorrected lean, dieback
25	*Tilia americana*	Basswood	19, 17, 10	4	Good	No observable defect
26	*Tilia americana*	Basswood	11	2	Good	Uncorrected lean
27	*Tilia americana*	Basswood	11	2	Good	No observable defect
28	*Tilia americana*	Basswood	19, 18, 9	4	Good	Multiple leaders
29	*Tilia americana*	Basswood	11	2	Good	No observable defect
30	*Acer saccharum*	Sugar Maple	18	4	Good	No observable defect
31	*Tilia americana*	Basswood	14	2	Good	Dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
32	*Acer nigrum*	Black Maple	21	5	Good	Uncorrected lean
33	*Ostrya virginiana*	Eastern Hop hornbeam	10	2	Good	Uncorrected lean
34	*Quercus alba*	White Oak	27	4	Good	Dieback
35	*Pinus strobus*	Eastern White Pine	30	3	Good	Dieback
36	*Acer nigrum*	Black Maple	27	5	Good	Dead branch, dieback
37	*Acer saccharum*	Sugar Maple	23	4	Good	Dieback
38	*Pinus strobus*	Eastern White Pine	24	3	Good	Uncorrected lean, dieback
39	*Quercus rubra*	Northern Red Oak	20	4	Good	Uncorrected lean, dieback
40	*Quercus macrocarpa*	Bur Oak	18	4	Good	Stem wound
41	*Acer saccharum*	Sugar Maple	33	5	Good	Dead branch
42	*Tilia americana*	Basswood	14	2	Good	No observable defect
43	*Tilia americana*	Basswood	14, 8	3	Good	Dead leader, dieback
44	*Acer nigrum*	Black Maple	11	3	Fair	Dead branch, decay
45	*Tilia americana*	Basswood	11	1	Good	Dieback
46	*Tilia americana*	Basswood	25, 13	5	Good	Burl
47	*Quercus rubra*	Northern Red Oak	38	6	Good	Dieback
48	*Pinus strobus*	Eastern White Pine	19	3	Fair	Crowded, dieback
49	*Juglans nigra*	Black Walnut	29	5	Good	Dieback
50	*Pyrus communis*	Common Pear	40	3	Good	Cavities
51	*Quercus macrocarpa*	Bur Oak	46	4	Good	Dieback
52	*Quercus rubra*	Northern Red Oak	34	5	Good	Pruning wounds
53	*Tilia americana*	Basswood	20	3	Good	No observable defect
54	*Quercus macrocarpa*	Bur Oak	39	5	Fair	Decay, base rot, dieback
55	*Tilia americana*	Basswood	12	3	Good	Uncorrected lean, minor dieback
56	*Ostrya virginiana*	Eastern Hop hornbeam	13	3	Good	No observable defect
57	*Tilia americana*	Basswood	22	3	Good	No observable defect
58	*Quercus rubra*	Northern Red Oak	11	4	Good	No observable defect
59	*Tilia americana*	Basswood	16, 6	4	Good	Codominance (U-shaped junction), poor form
60	*Quercus macrocarpa*	Bur Oak	43	4	Fair	Dieback
61	*Tilia americana*	Basswood	10	3	Good	Insect damage
62	*Acer nigrum*	Black Maple	13	2	Good	No observable defect
63	*Acer saccharum*	Sugar Maple	13	3	Good	Uncorrected lean, dieback
64	*Tilia americana*	Basswood	19	4	Good	Uncorrected lean

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
65	*Quercus rubra*	Northern Red Oak	29	4	Good	Codominance (V-shaped junction), minor dieback
66	*Pinus strobus*	Eastern White Pine	13	2	Good	Crowded
67	*Quercus rubra*	Northern Red Oak	25	5	Good	Codominance (V-shaped junction)
68	*Acer saccharum*	Sugar Maple	36	6	Good	No observable defect
69	*Acer saccharum*	Sugar Maple	51	5	Good	Uncorrected lean
70	*Ostrya virginiana*	Eastern Hop hornbeam	10	2	Good	No observable defect
71	*Tilia americana*	Basswood	13	3	Good	Poor form, insect damage
72	*Ostrya virginiana*	Eastern Hop hornbeam	14	3	Good	Uncorrected lean
73	*Tilia americana*	Basswood	45, 20	5	Good	Dieback
74	*Quercus rubra*	Northern Red Oak	15	4	Good	No observable defect
75	*Ostrya virginiana*	Eastern Hop hornbeam	11	2	Good	No observable defect
76	*Quercus rubra*	Northern Red Oak	12	3	Good	Crowded
77	*Ostrya virginiana*	Eastern Hop hornbeam	13	2	Good	No observable defect
78	*Tilia americana*	Basswood	18, 11, 8, 4, 3	4	Fair	Decay, poor form, stem wound
79	*Ostrya virginiana*	Eastern Hop hornbeam	15	3	Good	No observable defect
80	*Ostrya virginiana*	Eastern Hop hornbeam	17	3	Good	Uncorrected lean
81	*Quercus rubra*	Northern Red Oak	18	5	Good	Uncorrected lean, insect damage
82	*Acer nigrum*	Black Maple	30	5	Good	No observable defect
83	*Tilia americana*	Basswood	17	4	Fair	Stem wound, decay, uncorrected lean
84	*Ostrya virginiana*	Eastern Hop hornbeam	13	3	Good	No observable defect
85	*Quercus rubra*	Northern Red Oak	25	4	Good	No observable defect
86	*Quercus rubra*	Northern Red Oak	23	5	Good	No observable defect
87	*Acer nigrum*	Black Maple	21	4	Poor	No observable defect
88	*Tilia americana*	Basswood	32	4	Good	Dead branch, uncorrected lean
89	*Acer saccharum*	Sugar Maple	25	4	Good	No observable defect
90	*Tilia americana*	Basswood	25	3	Poor	Dead, good
91	*Ostrya virginiana*	Eastern Hop hornbeam	14	3	Good	Uncorrected lean
92	*Quercus rubra*	Northern Red Oak	25	5	Good	No observable defect
93	*Quercus rubra*	Northern Red Oak	17	5	Good	Codominance u-shape, uncorrected lean
94	*Pinus strobus*	Eastern White Pine	44	5	Good	No observable defect
95	*Acer nigrum*	Black Maple	17	4	Good	Uncorrected lean
96	*Tilia americana*	Basswood	22	5	Good	Insect damage
97	*Ostrya virginiana*	Eastern Hop hornbeam	11	3	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
98	*Tilia americana*	Basswood	15	2	Fair	Dead branch, crowded, insect damage
99	*Acer saccharum*	Sugar Maple	37	5	Good	No observable defect
100	*Ostrya virginiana*	Eastern Hop hornbeam	12	3	Good	No observable defect
101	*Pinus strobus*	Eastern White Pine	27	3	Good	No observable defect
102	*Acer saccharum*	Sugar Maple	39	5	Good	Codominance (U-shaped junction)
103	*Ostrya virginiana*	Eastern Hop hornbeam	12	3	Good	Decay, cavities, base rot
104	*Quercus macrocarpa*	Bur Oak	28	5	Good	Uncorrected lean, dieback
105	*Carya ovata*	Shagbark Hickory	19, 12	5	Good	Poor form
106	*Ostrya virginiana*	Eastern Hop hornbeam	11	3	Good	Pruning wounds
107	*Carya ovata*	Shagbark Hickory	18	4	Good	Dieback
108	*Tilia americana*	Basswood	26, 23	4	Good	Codominance (V-shaped junction), stem wound
109	*Ostrya virginiana*	Eastern Hop hornbeam	21, 7	3	Good	Cavities, uncorrected lean
110	*Acer nigrum*	Black Maple	26	5	Good	Dieback
111	*Ostrya virginiana*	Eastern Hop hornbeam	12	3	Good	Crowded
112	*Acer saccharum*	Sugar Maple	27	4	Good	Codominance (U-shaped junction)
113	*Cornus alternifolia*	Alternate leaved Dogwood	12	3	Good	Poor form, epicormic branching, stem wound
114	*Pinus strobus*	Eastern White Pine	36	5	Good	Uncorrected lean
115	*Quercus rubra*	Northern Red Oak	44	7	Good	Uncorrected lean
116	*Carya ovata*	Shagbark Hickory	20	5	Good	Uncorrected lean
117	*Tilia americana*	Basswood	23, 21	4	Poor	Cavities, stem wound, dieback
118	*Ostrya virginiana*	Eastern Hop hornbeam	15	3	Good	Codominance (U-shaped junction), uncorrected lean
119	*Tilia americana*	Basswood	21	3	Good	Stem wound
120	*Ostrya virginiana*	Eastern Hop hornbeam	13	3	Good	Poor form, uncorrected lean
121	*Carya ovata*	Shagbark Hickory	27, 21, 21, 19	7	Good	Multiple leader
122	*Quercus macrocarpa*	Bur Oak	28	3	Good	Dead branch
123	*Acer nigrum*	Black Maple	22	5	Good	No observable defect
124	*Ostrya virginiana*	Eastern Hop hornbeam	22	3	Good	Decay, cavities, base rot, uncorrected lean
125	*Carya ovata*	Shagbark Hickory	27	4	Good	No observable defect
126	*Carya ovata*	Shagbark Hickory	21, 20	5	Good	Multiple leader
127	*Fagus grandifolia*	American Beech	12	3	Good	Poor form

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
128	*Fagus grandifolia*	American Beech	10	4	Fair	Stem wound, decay, poor form
129	*Acer nigrum*	Black Maple	15	4	Good	No observable defect
130	*Ostrya virginiana*	Eastern Hop hornbeam	19	3	Good	Stem wound, dead leader
131	*Ostrya virginiana*	Eastern Hop hornbeam	10	3	Good	No observable defect
132	*Tilia americana*	Basswood	15	4	Good	Stem wound, uncorrected lean
133	*Carya ovata*	Shagbark Hickory	29	5	Good	No observable defect
134	*Carya ovata*	Shagbark Hickory	26	5	Good	Codominance (U-shaped junction)
135	*Tilia americana*	Basswood	33	6	Good	No observable defect
136	*Pinus strobus*	Eastern White Pine	51	5	Good	No observable defect
137	*Fagus grandifolia*	American Beech	10	4	Good	Stem wound, poor form
138	*Prunus avium*	Sweet Cherry	11	3	Good	Uncorrected lean
139	*Pinus strobus*	Eastern White Pine	21	4	Good	No observable defect
140	*Pinus strobus*	Eastern White Pine	34	3	Good	No observable defect
141	*Pinus strobus*	Eastern White Pine	18	2	Good	No observable defect
142	*Acer saccharum*	Sugar Maple	31	5	Good	No observable defect
143	*Acer nigrum*	Black Maple	54	6	Good	Cavities, crook
144	*Acer nigrum*	Black Maple	59	8	Good	Cavities, crack, dieback. could be Good
145	*Pinus strobus*	Eastern White Pine	38	4	Good	No observable defect
146	*Acer nigrum*	Black Maple	20	4	Good	No observable defect
147	*Ostrya virginiana*	Eastern Hop hornbeam	15	3	Good	No observable defect
148	*Tilia americana*	Basswood	28	4	Good	Cavities, uncorrected lean
149	*Quercus macrocarpa*	Bur Oak	38	4	Good	Dead branch, codominance (U-shaped junction)
150	*Ostrya virginiana*	Eastern Hop hornbeam	12	3	Good	No observable defect
151	*Tilia americana*	Basswood	29, 24, 16	6	Good	Decay, poor form
152	*Carya ovata*	Shagbark Hickory	17	4	Good	Poor form, uncorrected lean
153	*Ostrya virginiana*	Eastern Hop hornbeam	12	3	Good	No observable defect
154	*Quercus muehlenbergii*	Chinquapin Oak	41	5	Good	No observable defect
155	*Acer saccharum*	Sugar Maple	44	5	Good	Codominance (U-shaped junction)
156	*Ostrya virginiana*	Eastern Hop hornbeam	10	2	Good	Uncorrected lean
157	*Ostrya virginiana*	Eastern Hop hornbeam	16, 6	3	Good	Crowded, uncorrected lean
158	*Acer nigrum*	Black Maple	64	7	Fair	Codominance (V-shaped junction), crack, broken branches

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
159	*Ostrya virginiana*	Eastern Hop hornbeam	14	3	Good	Poor form, crowded, uncorrected lean
160	*Quercus muehlenbergii*	Chinquapin Oak	47	6	Good	Minor dieback
161	*Quercus rubra*	Northern Red Oak	17	4	Good	No observable defect
162	*Acer saccharum*	Sugar Maple	38	6	Good	No observable defect
163	*Ostrya virginiana*	Eastern Hop hornbeam	18	3	Good	Codominance (U-shaped junction), uncorrected lean
164	*Pinus strobus*	Eastern White Pine	34	3	Good	Dieback
165	*Ostrya virginiana*	Eastern Hop hornbeam	15	2	Good	Decay, crack, uncorrected lean
166	*Pinus strobus*	Eastern White Pine	20	1	Good	Crowded
167	*Ulmus americana*	American Elm	24	4	Good	No observable defect
168	*Quercus rubra*	Northern Red Oak	44	6	Good	Storm damage, no observable defect
169	*Quercus rubra*	Northern Red Oak	30	4	Good	Uncorrected lean
170	*Acer saccharum*	Sugar Maple	17	3	Good	No observable defect
171	*Pinus strobus*	Eastern White Pine	44	3	Good	Dieback
172	*Acer saccharum*	Sugar Maple	27	3	Good	Codominance (U-shaped junction)
173	*Acer nigrum*	Black Maple	23	4	Good	No observable defect
174	*Pinus strobus*	Eastern White Pine	38	3	Good	Uncorrected lean
175	*Pinus strobus*	Eastern White Pine	36	3	Good	No observable defect
176	*Acer nigrum*	Black Maple	40	6	Good	Codominance (V-shaped junction), broken branches, minor dieback
177	*Acer nigrum*	Black Maple	24	4	Good	No observable defect
178	*Pinus strobus*	Eastern White Pine	20	1	Fair	Poor form, crowded
179	*Acer saccharum*	Sugar Maple	12, 12	4	Good	Codominance (V-shaped junction)
180	*Quercus macrocarpa*	Bur Oak	14	2	Good	Uncorrected lean
181	*Pinus strobus*	Eastern White Pine	31	3	Good	Uncorrected lean
182	*Fagus grandifolia*	American Beech	15	4	Fair	Dead limb, decay, cavities
183	*Acer nigrum*	Black Maple	10	3	Good	Burl
184	*Pinus strobus*	Eastern White Pine	44	4	Good	No observable defect
185	*Acer saccharum*	Sugar Maple	12	3	Good	Codominance (U-shaped junction), uncorrected lean
186	*Quercus rubra*	Northern Red Oak	34	5	Good	Codominance (V-shaped junction), uncorrected lean
187	*Acer nigrum*	Black Maple	31	4	Good	No observable defect
188	*Tilia americana*	Basswood	31, 10	5	Good	Uncorrected lean, insect damage

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
189	*Acer nigrum*	Black Maple	19	5	Good	Minor dieback
190	*Pinus strobus*	Eastern White Pine	49	4	Good	No observable defect
191	*Acer nigrum*	Black Maple	23	4	Good	Dieback
192	*Quercus macrocarpa*	Bur Oak	13	3	Good	Crowded
193	*Acer nigrum*	Black Maple	10	2	Good	Cavities, decay
194	*Pinus strobus*	Eastern White Pine	35	3	Good	No observable defect
195	*Acer nigrum*	Black Maple	14	3	Good	Dieback
196	*Ostrya virginiana*	Eastern Hop hornbeam	10	2	Good	Uncorrected lean
197	*Ostrya virginiana*	Eastern Hop hornbeam	10	3	Good	No observable defect
198	*Acer nigrum*	Black Maple	12	4	Good	No observable defect
199	*Quercus macrocarpa*	Bur Oak	41	4	Good	Dieback
200	*Acer saccharum*	Sugar Maple	13	4	Good	No observable defect
201	*Acer nigrum*	Black Maple	21	4	Good	Crowded, burl, dieback
202	*Tilia americana*	Basswood	23, 22, 10, 7, 7, 6	4	Fair	Dead limb, mostly dead. resprouts healthy
203	*Tilia americana*	Basswood	37, 19, 11	5	Fair	Cavities, uncorrected lean
204	*Acer nigrum*	Black Maple	30	5	Good	Minor dieback
205	*Acer nigrum*	Black Maple	31	4	Good	Codominance (U-shaped junction), dieback
206	*Pinus strobus*	Eastern White Pine	22	2	Good	No observable defect
207	*Acer saccharum*	Sugar Maple	12, 11	3	Good	Codominance (V-shaped junction), uncorrected lean
208	*Acer saccharum*	Sugar Maple	13	3	Good	Dieback
209	*Acer saccharum*	Sugar Maple	34	5	Good	No observable defect
210	*Tilia americana*	Basswood	33	6	Good	Stem wound
211	*Acer nigrum*	Black Maple	31	6	Good	Minor dieback
212	*Acer nigrum*	Black Maple	29	4	Good	No observable defect
213	*Acer nigrum*	Black Maple	30	4	Good	Codominance (U-shaped junction), dieback
214	*Tilia americana*	Basswood	19	3	Fair	Stem wound, decay, cavities
215	*Acer saccharum*	Sugar Maple	23	3	Poor	Poor form, codominance (U-shaped junction), storm damage, sig dieback
216	*Pinus strobus*	Eastern White Pine	46	3	Good	Minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
217	*Quercus rubra*	Northern Red Oak	25	5	Good	Codominance (U-shaped junction)
218	*Acer nigrum*	Black Maple	39	6	Good	Codominance (U-shaped junction), dieback
219	*Acer nigrum*	Black Maple	23	6	Good	Codominance (U-shaped junction), no observable defect
220	*Quercus rubra*	Northern Red Oak	22, 8	4	Good	No observable defect
221	*Acer nigrum*	Black Maple	18	5	Good	Minor dieback
222	*Acer saccharum*	Sugar Maple	37	6	Good	Girdling root
223	*Acer saccharum*	Sugar Maple	21	5	Good	No observable defect
224	*Acer nigrum*	Black Maple	12	4	Good	Crowded, dieback
225	*Acer saccharum*	Sugar Maple	33	5	Good	Cavities, uncorrected lean
226	*Pinus strobus*	Eastern White Pine	34	2	Good	Crowded
227	*Acer nigrum*	Black Maple	16	3	Poor	Decay, stem wound, crowded, dieback
228	*Acer nigrum*	Black Maple	25	5	Good	Dieback
229	*Juglans nigra*	Black Walnut	16	5	Good	Codominance (U-shaped junction)
230	*Pinus strobus*	Eastern White Pine	35	2	Fair	Dead branch, crowded, dieback
231	*Pinus strobus*	Eastern White Pine	12	2	Good	Crowded
232	*Quercus rubra*	Northern Red Oak	23	3	Good	No observable defect
233	*Tilia americana*	Basswood	23	6	Fair	Cavities, uncorrected lean
234	*Acer saccharum*	Sugar Maple	19	5	Good	Cavities, uncorrected lean
235	*Acer nigrum*	Black Maple	25	5	Good	Codominance (U-shaped junction)
236	*Acer saccharum*	Sugar Maple	18	5	Good	Girdling root
237	*Ostrya virginiana*	Eastern Hop hornbeam	15	4	Good	Crowded, decay
238	*Acer nigrum*	Black Maple	12	3	Good	No observable defect
239	*Tilia americana*	Basswood	15, 7, 2, 2, 2	3	Good	Stem wound, decay, crowded
240	*Tilia americana*	Basswood	16, 12	1	Poor	Codominance (V-shaped junction), poor form, stem wound, decay, uncorrected lean, dead leader
241	*Acer nigrum*	Black Maple	24	4	Good	Codominance (V-shaped junction), crowded
242	*Acer saccharum*	Sugar Maple	13	3	Good	Crowded
243	*Carya ovata*	Shagbark Hickory	16, 16	5	Good	Codominance (V-shaped junction)
244	*Tilia americana*	Basswood	18	6	Good	Poor form, uncorrected lean
245	*Acer saccharum*	Sugar Maple	10	3	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
246	*Acer nigrum*	Black Maple	43	5	Good	Codominance (V-shaped junction), stem wound
247	*Tilia americana*	Basswood	24	5	Fair	Cavities
248	*Acer nigrum*	Black Maple	35	5	Good	Cavities, codominance (U-shaped junction), stem wound
249	*Acer saccharum*	Sugar Maple	29	4	Good	No observable defect
250	*Carya ovata*	Shagbark Hickory	23	4	Good	No observable defect
251	*Acer nigrum*	Black Maple	26	7	Good	Uncorrected lean
252	*Acer nigrum*	Black Maple	38	7	Good	Minor dieback
253	*Acer saccharum*	Sugar Maple	15	4	Good	No observable defect
254	*Pinus strobus*	Eastern White Pine	15	1	Good	Crowded
255	*Prunus serotina*	Black Cherry	26	4	Good	Dead branch, poor form, uncorrected lean
256	*Ostrya virginiana*	Eastern Hop hornbeam	13	4	Good	Crowded
257	*Pinus strobus*	Eastern White Pine	30	3	Good	Codominance (V-shaped junction)
258	*Ulmus americana*	American Elm	16	3	Good	Crowded
259	*Acer saccharum*	Sugar Maple	28	5	Good	No observable defect, stem wound, minor dieback
260	*Pinus strobus*	Eastern White Pine	36	2	Good	Girdling root
261	*Acer saccharum*	Sugar Maple	18, 3	4	Good	No observable defect
262	*Pinus strobus*	Eastern White Pine	40	3	Good	No observable defect
263	*Pinus strobus*	Eastern White Pine	16	2	Fair	Uncorrected lean
264	*Quercus muehlenbergii*	Chinquapin Oak	41	5	Good	Codominance (U-shaped junction)
265	*Acer nigrum*	Black Maple	36	6	Good	No observable defect
266	*Acer saccharum*	Sugar Maple	25	4	Good	No observable defect
267	*Tilia americana*	Basswood	10, 3, 3	2	Good	Crowded
268	*Ostrya virginiana*	Eastern Hop hornbeam	11	3	Good	No observable defect
269	*Pinus strobus*	Eastern White Pine	10	1	Good	Crowded
270	*Tilia americana*	Basswood	22, 10	4	Good	No observable defect
271	*Acer nigrum*	Black Maple	27	6	Good	No observable defect
272	*Tilia americana*	Basswood	16, 10, 7, 5	3	Fair	Stem wound, decay
273	*Ostrya virginiana*	Eastern Hop hornbeam	12	4	Good	No observable defect
274	*Pinus strobus*	Eastern White Pine	35	4	Good	No observable defect
275	*Acer nigrum*	Black Maple	31	5	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
276	*Pinus strobus*	Eastern White Pine	35	3	Good	No observable defect
277	*Acer saccharum*	Sugar Maple	11	4	Good	Uncorrected lean
278	*Ostrya virginiana*	Eastern Hop hornbeam	19	4	Good	No observable defect
279	*Acer saccharum*	Sugar Maple	13	4	Good	Stem wound
280	*Acer nigrum*	Black Maple	33	6	Good	No observable defect, codominance (U-shaped junction)
281	*Acer saccharum*	Sugar Maple	25	1	Poor	Stem wound, decay, cavities, lost leader
282	*Ostrya virginiana*	Eastern Hop hornbeam	14	3	Good	Poor form
283	*Pinus strobus*	Eastern White Pine	11	2	Good	Crowded
284	*Quercus macrocarpa*	Bur Oak	38	5	Good	Minor dieback
285	*Pinus strobus*	Eastern White Pine	22	3	Good	Crowded
286	*Pinus strobus*	Eastern White Pine	27	3	Good	No observable defect
287	*Acer saccharum*	Sugar Maple	14	4	Good	Dead leader
288	*Acer nigrum*	Black Maple	25	5	Good	Codominance (U-shaped junction)
289	*Pinus strobus*	Eastern White Pine	17	2	Good	Crowded
290	*Pinus strobus*	Eastern White Pine	27	3	Good	No observable defect
291	*Acer nigrum*	Black Maple	22	4	Good	Dieback
292	*Acer saccharum*	Sugar Maple	42	5	Good	Codominance (U-shaped junction), cavities, stem wound
293	*Acer saccharum*	Sugar Maple	15	3	Good	Uncorrected lean
294	*Pinus strobus*	Eastern White Pine	25	3	Good	No observable defect
295	*Quercus muehlenbergii*	Chinquapin Oak	51	7	Good	Dieback
296	*Acer saccharum*	Sugar Maple	22	4	Good	Uncorrected lean
297	*Carya cordiformis*	Bitternut Hickory	10	3	Good	Stem wound, uncorrected lean
298	*Acer saccharum*	Sugar Maple	42	6	Good	Girdling root, codominance (U-shaped junction)
299	*Acer saccharum*	Sugar Maple	30	4	Good	No observable defect
300	*Acer nigrum*	Black Maple	29	4	Good	No observable defect
301	*Tilia americana*	Basswood	19	3	Good	No observable defect
302	*Carya ovata*	Shagbark Hickory	12	3	Good	Crowded, uncorrected lean
303	*Acer nigrum*	Black Maple	13	4	Good	Crowded
304	*Ostrya virginiana*	Eastern Hop hornbeam	13	3	Good	Crowded
305	*Acer saccharum*	Sugar Maple	26	5	Good	Codominance (U-shaped junction)
306	*Acer saccharum*	Sugar Maple	54	6	Poor	Stem wound, decay

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
307	*Tilia americana*	Basswood	34	5	Fair	Cavities, stem wound, decay
308	*Acer nigrum*	Black Maple	19	4	Good	Crowded
309	*Acer nigrum*	Black Maple	24	5	Good	No observable defect
310	*Pinus strobus*	Eastern White Pine	19	2	Good	Crowded
311	*Acer saccharum*	Sugar Maple	16	3	Good	Crowded
312	*Tilia americana*	Basswood	32	4	Fair	Codominance (U-shaped junction), cavities, fungus
313	*Acer nigrum*	Black Maple	28, 21, 9	6	Good	Codominance (V-shaped junction), dieback
314	*Tilia americana*	Basswood	38, 10, 1	5	Good	Dieback
315	*Ulmus americana*	American Elm	13	4	Good	Uncorrected lean
316	*Ostrya virginiana*	Eastern Hop hornbeam	11, 10	4	Good	Codominance (U-shaped junction), crowded, burl, multiple leader
317	*Ostrya virginiana*	Eastern Hop hornbeam	14, 14	4	Good	Codominance (V-shaped junction), crowded
318	*Acer saccharum*	Sugar Maple	28	4	Good	No observable defect
319	*Acer saccharum*	Sugar Maple	35	5	Good	Codominance (V-shaped junction), burl
320	*Acer nigrum*	Black Maple	39, 30, 26, 21	7	Poor	Decay, stem wound
321	*Ulmus americana*	American Elm	14	4	Good	Uncorrected lean
322	*Tilia americana*	Basswood	13	3	Fair	Burl, dieback
323	*Tilia americana*	Basswood	27	3	Good	Dieback
324	*Ulmus americana*	American Elm	12	3	Good	Crowded
325	*Ostrya virginiana*	Eastern Hop hornbeam	11	3	Good	No observable defect
326	*Tilia americana*	Basswood	32, 22, 10	4	Fair	Cavities, stem wound, insect damage
327	*Acer saccharum*	Sugar Maple	14	3	Good	No observable defect
328	*Acer saccharum*	Sugar Maple	14	2	Fair	Stem wound
329	*Ostrya virginiana*	Eastern Hop hornbeam	14, 13	3	Fair	Crowded, base rot, uncorrected lean
330	*Acer saccharum*	Sugar Maple	28	5	Good	Codominance (U-shaped junction), minor dieback
331	*Tilia americana*	Basswood	22, 5, 3, 3	4	Good	No observable defect
332	*Acer saccharum*	Sugar Maple	42	5	Poor	Decay, stem wound
333	*Ostrya virginiana*	Eastern Hop hornbeam	14	3	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
334	*Acer saccharum*	Sugar Maple	17	3	Good	No observable defect
335	*Acer saccharum*	Sugar Maple	16	4	Good	Codominance (U-shaped junction)
336	*Quercus macrocarpa*	Bur Oak	15	2	Good	No observable defect
337	*Acer nigrum*	Black Maple	21	4	Good	Dieback
338	*Ostrya virginiana*	Eastern Hop hornbeam	14	2	Good	No observable defect
339	*Acer saccharum*	Sugar Maple	22	6	Good	Poor form, codominance (U-shaped junction), uncorrected lean, dieback
340	*Acer saccharum*	Sugar Maple	24	5	Good	Codominance (V-shaped junction), dieback
341	*Acer saccharum*	Sugar Maple	22	6	Good	Crowded, decay, cavities, stem wound, uncorrected lean, dieback
342	*Quercus macrocarpa*	Bur Oak	22	4	Good	Uncorrected lean, dieback
343	*Acer saccharum*	Sugar Maple	21	4	Good	No observable defect
344	*Acer saccharum*	Sugar Maple	12	4	Good	Stem wound, uncorrected lean
345	*Ulmus americana*	American Elm	19	4	Good	Epicormic branching
346	*Tilia americana*	Basswood	29, 15, 13	5	Good	Uncorrected lean
347	*Ostrya virginiana*	Eastern Hop hornbeam	14	2	Good	Crowded, dead branch
348	*Acer nigrum*	Black Maple	35	5	Good	Cavities, dieback
349	*Acer saccharum*	Sugar Maple	10	2	Fair	Stem wound
350	*Acer saccharum*	Sugar Maple	14	4	Good	No observable defect
351	*Ostrya virginiana*	Eastern Hop hornbeam	12	2	Good	Minor dieback
352	*Ostrya virginiana*	Eastern Hop hornbeam	10	2	Good	Dieback
353	*Acer saccharum*	Sugar Maple	12	3	Good	No observable defect
354	*Acer saccharum*	Sugar Maple	16	4	Good	No observable defect
355	*Acer saccharum*	Sugar Maple	18	3	Good	Stem wound
356	*Ostrya virginiana*	Eastern Hop hornbeam	11	3	Good	Crowded
357	*Acer saccharum*	Sugar Maple	10	3	Good	No observable defect
358	*Tilia americana*	Basswood	17	6	Poor	Poor form, cavities
359	*Acer saccharum*	Sugar Maple	17, 10	4	Good	Codominance (U-shaped junction), stem wound
360	*Ostrya virginiana*	Eastern Hop hornbeam	20, 17	4	Good	Codominance (V-shaped junction), dieback
361	*Ostrya virginiana*	Eastern Hop hornbeam	11	2	Good	Dieback
362	*Acer saccharum*	Sugar Maple	20	4	Good	Minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
363	*Acer saccharum*	Sugar Maple	12	3	Good	Dead tree leaning on it. dieback
364	*Acer saccharum*	Sugar Maple	13	3	Good	No observable defect
365	*Acer nigrum*	Black Maple	17	3	Good	Dieback
366	*Acer saccharum*	Sugar Maple	25	4	Good	Codominance (V-shaped junction), minor dieback
367	*Acer saccharum*	Sugar Maple	21	4	Good	Crack, uncorrected lean, dieback
368	*Acer saccharum*	Sugar Maple	19	4	Good	Codominance (U-shaped junction)
369	*Acer saccharum*	Sugar Maple	13	2	Good	Codominance (U-shaped junction)
370	*Acer saccharum*	Sugar Maple	20	4	Good	Uncorrected lean, minor dieback
371	*Acer saccharum*	Sugar Maple	12	4	Good	Uncorrected lean
372	*Ostrya virginiana*	Eastern Hop hornbeam	13	3	Good	Dieback
373	*Acer nigrum*	Black Maple	25	4	Good	Dead branch, dieback
374	*Tilia americana*	Basswood	24, 14	5	Fair	Uncorrected lean, insect damage
375	*Acer nigrum*	Black Maple	29	5	Good	Cavities, dead branch, codominance (V-shaped junction), dieback
376	*Pinus strobus*	Eastern White Pine	25	3	Good	Girdling root, minor dieback
377	*Acer nigrum*	Black Maple	14	3	Fair	Dead branch, crowded, dieback
378	*Ostrya virginiana*	Eastern Hop hornbeam	11	2	Good	Minor dieback
379	*Pinus strobus*	Eastern White Pine	42	4	Good	No observable defect
380	*Ulmus americana*	American Elm	11	4	Good	Crowded, uncorrected lean, dead leader, dieback
381	*Acer saccharum*	Sugar Maple	23	5	Good	No observable defect
382	*Ostrya virginiana*	Eastern Hop hornbeam	12, 11, 10	2	Fair	Dead branch, codominance (U-shaped junction), dead leader, dieback
383	*Acer saccharum*	Sugar Maple	19	3	Good	No observable defect
384	*Acer nigrum*	Black Maple	23	3	Good	Dieback
385	*Juglans nigra*	Black Walnut	28	5	Good	No observable defect
386	*Acer saccharum*	Sugar Maple	12	4	Good	Codominance (U-shaped junction)
387	*Acer nigrum*	Black Maple	22	4	Good	No observable defect
388	*Juglans nigra*	Black Walnut	14	3	Good	No observable defect
389	*Rhamnus cathartica*	European Buckthorn	14	3	Good	Poor form
390	*Tilia americana*	Basswood	20, 14, 10, 9	5	Fair	Stem wound, base rot, uncorrected lean
391	*Tilia americana*	Basswood	30, 11, 5	6	Good	Uncorrected lean, dieback
392	*Ostrya virginiana*	Eastern Hop hornbeam	12	2	Good	Dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
393	*Acer saccharum*	Sugar Maple	17	3	Good	Strangling root, codominance (U-shaped junction), uncorrected lean
394	*Acer saccharum*	Sugar Maple	11	3	Good	Dieback
395	*Tilia americana*	Basswood	18	4	Fair	Dead branch, uncorrected lean, dieback
396	*Pinus strobus*	Eastern White Pine	12	1	Poor	Crowded, dieback
397	*Acer nigrum*	Black Maple	28	4	Good	Codominance (V-shaped junction), cavities
398	*Acer nigrum*	Black Maple	13	3	Good	Dead branch, codominance (U-shaped junction)
399	*Fraxinus americana*	White Ash	16	3	Poor	Stem wound, epicormic branching, Emerald Ash Borer
400	*Acer saccharum*	Sugar Maple	12	4	Good	Codominance (U-shaped junction)
401	*Acer nigrum*	Black Maple	21	3	Good	Dead branch, dieback
402	*Acer saccharum*	Sugar Maple	12	4	Good	Cavities, uncorrected lean
403	*Acer saccharum*	Sugar Maple	11	4	Good	Codominance (U-shaped junction), uncorrected lean
404	*Acer nigrum*	Black Maple	20	4	Good	Dead branch, dieback
405	*Pinus strobus*	Eastern White Pine	29	4	Good	No observable defect
406	*Tilia americana*	Basswood	13, 9	4	Good	Crowded, burl
407	*Pinus strobus*	Eastern White Pine	33	4	Good	No observable defect
408	*Pinus strobus*	Eastern White Pine	43	4	Good	No observable defect
409	*Pinus strobus*	Eastern White Pine	48	5	Good	No observable defect
410	*Tilia americana*	Basswood	11, 11, 9, 8, 7	4	Fair	Poor form, uncorrected lean
411	*Acer saccharum*	Sugar Maple	10	4	Good	Crowded
412	*Tilia americana*	Basswood	24	3	Good	Uncorrected lean, minor dieback
413	*Carya cordiformis*	Bitternut Hickory	34	4	Good	Codominance (U-shaped junction)
414	*Acer nigrum*	Black Maple	11	2	Good	Minor dieback
415	*Tilia americana*	Basswood	18, 17, 11, 11	5	Good	Codominance (V-shaped junction), poor form, minor dieback
416	*Tilia americana*	Basswood	19	4	Fair	Stem wound, codominance (V-shaped junction), uncorrected lean, minor dieback
417	*Acer saccharum*	Sugar Maple	13	4	Good	Uncorrected lean
418	*Tilia americana*	Basswood	10	2	Fair	Crowded, uncorrected lean, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
419	*Juglans nigra*	Black Walnut	44	7	Good	Codominance (U-shaped junction), crack, dieback
420	*Pinus strobus*	Eastern White Pine	20	1	Poor	Poor form, crowded, strangling root
421	*Quercus macrocarpa*	Bur Oak	32	5	Fair	Dieback
422	*Quercus macrocarpa*	Bur Oak	39	6	Poor	Codominance (V-shaped junction), dieback
423	*Acer saccharum*	Sugar Maple	12	3	Good	No observable defect
424	*Prunus serotina*	Black Cherry	27	5	Fair	Poor form, codominance (U-shaped junction), dead branch, cavities
425	*Tilia americana*	Basswood	32	4	Good	Dead branch
426	*Acer saccharum*	Sugar Maple	16	5	Good	Uncorrected lean
427	*Acer saccharum*	Sugar Maple	14	3	Good	Codominance (U-shaped junction)
428	*Acer saccharum*	Sugar Maple	11	5	Good	Uncorrected lean
429	*Acer nigrum*	Black Maple	15	4	Good	Uncorrected lean, dieback
430	*Tilia americana*	Basswood	32	4	Fair	Stem wound, dead branch, root damage, insect damage
431	*Acer nigrum*	Black Maple	34, 15	5	Good	Minor dieback
432	*Acer nigrum*	Black Maple	19	4	Good	Minor dieback
433	*Tilia americana*	Basswood	12	3	Good	2 stems, bigger one dead
434	*Tilia americana*	Basswood	20	3	Good	Dead branch, epicormic branching
435	*Tilia americana*	Basswood	24	3	Good	Minor dieback. twisted stem
436	*Pinus strobus*	Eastern White Pine	27	4	Good	No observable defect
437	*Pinus strobus*	Eastern White Pine	29	3	Good	No observable defect
438	*Acer saccharum*	Sugar Maple	32	4	Fair	Stem wound, dead branch, dieback
439	*Rhamnus cathartica*	European Buckthorn	11	3	Good	Codominance (U-shaped junction), uncorrected lean
440	*Acer saccharum*	Sugar Maple	11	3	Good	Girdling root, uncorrected lean
441	*Acer saccharum*	Sugar Maple	11	4	Good	Girdling root, crowded
442	*Acer nigrum*	Black Maple	22	4	Good	Dieback
443	*Acer saccharum*	Sugar Maple	10	3	Good	Uncorrected lean
444	*Tilia americana*	Basswood	23, 9, 6	4	Good	Codominance (U-shaped junction), dieback
445	*Acer saccharum*	Sugar Maple	10	3	Good	Uncorrected lean
446	*Pinus strobus*	Eastern White Pine	12	2	Fair	Crowded, dieback
447	*Tilia americana*	Basswood	11	3	Good	Uncorrected lean, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
448	*Ostrya virginiana*	Eastern Hop hornbeam	13, 9, 8, 8, 6	3	Fair	Codominance (V-shaped junction), poor form, dead leader, multiple leaders, dieback
449	*Acer saccharum*	Sugar Maple	22, 7	6	Good	Codominance (U-shaped junction)
450	*Tilia americana*	Basswood	20	4	Good	Crowded, uncorrected lean
451	*Pinus strobus*	Eastern White Pine	14	1	Poor	Crowded
452	*Tilia americana*	Basswood	19, 13	3	Fair	Codominance (V-shaped junction), stem wound, dieback
453	*Acer saccharum*	Sugar Maple	22	5	Good	Dead branch, uncorrected lean, minor dieback
454	*Quercus macrocarpa*	Bur Oak	42	3	Poor	Codominance (U-shaped junction), mostly dead.
455	*Acer saccharum*	Sugar Maple	13	4	Good	Uncorrected lean
456	*Pinus strobus*	Eastern White Pine	39	4	Good	Codominance (U-shaped junction)
457	*Acer saccharum*	Sugar Maple	12	4	Good	No observable defect
458	*Acer saccharum*	Sugar Maple	26	4	Good	Codominance (U-shaped junction), minor dieback
459	*Ostrya virginiana*	Eastern Hop hornbeam	10	3	Good	Poor form, uncorrected lean, dieback
460	*Fraxinus americana*	White Ash	12	1	Poor	One branch alive. Emerald Ash Borer
461	*Quercus macrocarpa*	Bur Oak	27	4	Good	Minor dieback
462	*Acer saccharum*	Sugar Maple	16	5	Good	Dieback
463	*Pinus strobus*	Eastern White Pine	27	4	Good	No observable defect
464	*Acer nigrum*	Black Maple	21, 20	5	Good	Codominance (V-shaped junction), dieback
465	*Acer saccharum*	Sugar Maple	14	3	Poor	Stem wound
466	*Acer saccharum*	Sugar Maple	17	3	Good	No observable defect
467	*Acer saccharum*	Sugar Maple	15	5	Good	Dieback
468	*Acer nigrum*	Black Maple	24	5	Good	Dieback
469	*Acer nigrum*	Black Maple	19, 18	4	Good	Codominance (V-shaped junction), cavities
470	*Acer nigrum*	Black Maple	12	3	Good	Stem wound, dieback
471	*Acer nigrum*	Black Maple	17	3	Good	Epicormic branching, dieback
472	*Ostrya virginiana*	Eastern Hop hornbeam	13	4	Good	Stem wound, uncorrected lean
473	*Acer nigrum*	Black Maple	15	4	Good	No observable defect
474	*Acer saccharum*	Sugar Maple	13	3	Good	Dead leader, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
475	*Acer saccharum*	Sugar Maple	21	4	Good	Codominance (U-shaped junction), stem wound, minor dieback
476	*Ostrya virginiana*	Eastern Hop hornbeam	30	5	Good	Stem wound, minor dieback
477	*Pinus strobus*	Eastern White Pine	24	3	Good	Dieback
478	*Acer saccharum*	Sugar Maple	13	5	Good	Codominance (U-shaped junction), uncorrected lean
479	*Acer saccharum*	Sugar Maple	32	5	Good	Codominance (V-shaped junction), minor dieback
480	*Acer nigrum*	Black Maple	11	3	Good	Crowded, uncorrected lean, dieback
481	*Quercus macrocarpa*	Bur Oak	24	4	Good	Dieback
482	*Juglans nigra*	Black Walnut	27	6	Good	No observable defect
483	*Tilia americana*	Basswood	27, 14	5	Good	Codominance (V-shaped junction)
484	*Acer nigrum*	Black Maple	15	4	Good	No observable defect
485	*Ostrya virginiana*	Eastern Hop hornbeam	17	3	Good	No observable defect
486	*Acer saccharum*	Sugar Maple	20	4	Good	Codominance (U-shaped junction), poor form
487	*Quercus macrocarpa*	Bur Oak	12	1	Good	Crowded, uncorrected lean, dieback
488	*Acer saccharum*	Sugar Maple	20	3	Fair	Dead branch, poor form, uncorrected lean, dieback
489	*Acer saccharum*	Sugar Maple	19	2	Good	Minor dieback. healed old cankers along stem.
490	*Acer saccharum*	Sugar Maple	20	6	Good	Codominance (U-shaped junction), uncorrected lean, dieback
491	*Quercus macrocarpa*	Bur Oak	18	3	Good	Minor dieback
492	*Acer saccharum*	Sugar Maple	35	6	Good	Codominance (V-shaped junction)
493	*Acer saccharum*	Sugar Maple	13	3	Good	Codominance (U-shaped junction), dieback
494	*Acer nigrum*	Black Maple	12	4	Good	Crack, dieback
495	*Quercus macrocarpa*	Bur Oak	16	3	Good	Minor dieback
496	*Ostrya virginiana*	Eastern Hop hornbeam	10	3	Good	Stem wound
497	*Acer saccharum*	Sugar Maple	12	4	Good	Dead branch, crack, uncorrected lean, dieback
498	*Acer nigrum*	Black Maple	13	4	Good	No observable defect
499	*Acer saccharum*	Sugar Maple	25	5	Good	Codominance (V-shaped junction)
500	*Pinus sylvestris*	Scots Pine	21	3	Poor	Crowded, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
501	*Tilia americana*	Basswood	36, 10, 10, 9, 8, 4, 4	6	Good	Epicormic branching, dead branch, cavities, lost leader
502	*Acer nigrum*	Black Maple	13	2	Fair	Crack, dieback
503	*Acer saccharum*	Sugar Maple	21	3	Good	Codominance (U-shaped junction), no observable defect
504	*Quercus macrocarpa*	Bur Oak	19	1	Poor	Dieback
505	*Acer nigrum*	Black Maple	18	4	Good	Stem wound
506	*Acer saccharum*	Sugar Maple	13	4	Good	No observable defect
507	*Acer saccharum*	Sugar Maple	18	4	Good	Stem wound, uncorrected lean
508	*Acer saccharum*	Sugar Maple	10	3	Good	Epicormic branching
509	*Acer saccharum*	Sugar Maple	14	4	Good	Dead branch, crack, uncorrected lean
510	*Tilia americana*	Basswood	14	3	Good	No observable defect
511	*Ostrya virginiana*	Eastern Hop hornbeam	19	3	Good	Minor
512	*Acer nigrum*	Black Maple	27	5	Good	Epicormic branching, dieback
513	*Pinus sylvestris*	Scots Pine	18	3	Fair	Dieback
514	*Acer saccharum*	Sugar Maple	10	2	Poor	Stem wound, frost crack, uncorrected lean, dieback
515	*Acer saccharum*	Sugar Maple	12	3	Good	Stem wound
516	*Acer saccharum*	Sugar Maple	10	2	Good	Dead branch
517	*Tilia americana*	Basswood	28, 7	4	Good	No observable defect
518	*Acer saccharum*	Sugar Maple	12	2	Poor	Dead branch, stem wound, uncorrected lean, dead leader
519	*Acer nigrum*	Black Maple	24	4	Good	No observable defect
520	*Ostrya virginiana*	Eastern Hop hornbeam	21, 17, 15	3	Good	Poor form, dieback
521	*Quercus macrocarpa*	Bur Oak	37	4	Poor	Dead branch, dead leader
522	*Acer nigrum*	Black Maple	13	3	Good	No observable defect
523	*Ulmus americana*	American Elm	14	2	Good	Crowded
524	*Acer nigrum*	Black Maple	22	5	Good	Crack, minor dieback
525	*Fraxinus pennsylvanica*	Green Ash	12	1	Poor	Epicormic branching, stem wound, uncorrected lean, grapevine competition, Emerald Ash Borer
526	*Pinus sylvestris*	Scots Pine	28	3	Fair	Sap sucker holes, dieback
527	*Ostrya virginiana*	Eastern Hop hornbeam	15	3	Good	Minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
528	*Fraxinus pennsylvanica*	Green Ash	11	2	Good	Stem wound, epicormic branching, uncorrected lean, Emerald Ash Borer
529	*Populus tremuloides*	Trembling Aspen	12	3	Poor	Dieback
530	*Pinus sylvestris*	Scots Pine	16	1	Fair	Dieback
531	*Acer saccharum*	Sugar Maple	11	2	Good	Dead branch
532	*Ostrya virginiana*	Eastern Hop hornbeam	17	2	Good	Dead branch, minor dieback
533	*Fraxinus americana*	White Ash	10	3	Poor	Emerald Ash Borer dieback
534	*Populus tremuloides*	Trembling Aspen	27	5	Good	No observable defect
535	*Pinus sylvestris*	Scots Pine	21	2	Fair	Dieback
536	*Fraxinus pennsylvanica*	Green Ash	11	3	Good	Emer damage
537	*Acer saccharum*	Sugar Maple	15	3	Good	No observable defect
538	*Quercus macrocarpa*	Bur Oak	14	2	Good	Dieback
539	*Ulmus americana*	American Elm	12	2	Good	Minor dieback
540	*Acer nigrum*	Black Maple	15	4	Good	Minor dieback
541	*Acer saccharum*	Sugar Maple	14	3	Good	No observable defect
542	*Acer nigrum*	Black Maple	24	4	Good	Dead branch, minor dieback
543	*Ostrya virginiana*	Eastern Hop hornbeam	11	3	Good	Codominance (V-shaped junction)
544	*Thuja occidentalis*	Eastern White Cedar	20, 20	2	Good	Codominance (V-shaped junction)
545	*Acer nigrum*	Black Maple	20	4	Good	No observable defect, strangling root, minor dieback
546	*Quercus macrocarpa*	Bur Oak	33	4	Fair	Codominance (V-shaped junction), dieback
547	*Acer nigrum*	Black Maple	25	5	Good	Uncorrected lean
548	*Ostrya virginiana*	Eastern Hop hornbeam	10	2	Good	No observable defect
549	*Acer x freemanii*	Freeman's Maple	19	3	Good	Minor dieback
550	*Thuja occidentalis*	Eastern White Cedar	27	1	Fair	Uncorrected lean, dieback
551	*Thuja occidentalis*	Eastern White Cedar	25	2	Good	Uncorrected lean
552	*Thuja occidentalis*	Eastern White Cedar	27, 10	1	Good	Crowded
553	*Acer x freemanii*	Freeman's Maple	24	4	Good	No observable defect
554	*Thuja occidentalis*	Eastern White Cedar	14	1	Good	Crowded, uncorrected lean
555	*Thuja occidentalis*	Eastern White Cedar	18	2	Fair	Crowded, dieback
556	*Thuja occidentalis*	Eastern White Cedar	28, 9	2	Good	Codominance (U-shaped junction), dieback
557	*Quercus macrocarpa*	Bur Oak	36	4	Good	Dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
558	*Rhamnus cathartica*	European Buckthorn	14, 10	4	Good	Codominance (U-shaped junction)
559	*Acer x freemanii*	Freeman's Maple	21	5	Good	Minor
560	*Populus tremuloides*	Trembling Aspen	13	4	Good	Uncorrected lean, minor dieback
561	*Acer x freemanii*	Freeman's Maple	12	4	Good	No observable defect
562	*Thuja occidentalis*	Eastern White Cedar	12	1	Good	Crowded, uncorrected lean
563	*Ulmus americana*	American Elm	12	4	Good	Codominance (U-shaped junction)
564	*Fraxinus pennsylvanica*	Green Ash	11	4	Fair	No observable defect
565	*Acer x freemanii*	Freeman's Maple	31	5	Good	Codominance (U-shaped junction), uncorrected lean
566	*Acer x freemanii*	Freeman's Maple	13	3	Good	No observable defect
567	*Acer x freemanii*	Freeman's Maple	51	4	Good	Codominance (V-shaped junction)
568	*Fraxinus pennsylvanica*	Green Ash	14	5	Fair	Uncorrected lean, insect damage
569	*Acer x freemanii*	Freeman's Maple	32	4	Good	Cavities, crack, minor dieback
570	*Acer x freemanii*	Freeman's Maple	32	4	Good	Dead branch
571	*Populus tremuloides*	Trembling Aspen	26	4	Good	Uncorrected lean
572	*Acer x freemanii*	Freeman's Maple	43, 29	5	Good	Dead limb
573	*Tilia americana*	Basswood	17, 13	3	Good	Codominance (V-shaped junction), dead branch
574	*Acer x freemanii*	Freeman's Maple	27	4	Good	Lost leader
575	*Acer x freemanii*	Freeman's Maple	33	4	Good	No observable defect
576	*Acer x freemanii*	Freeman's Maple	28, 11	4	Good	No observable defect
577	*Acer x freemanii*	Freeman's Maple	16	3	Good	Dead branch, crack
578	*Acer x freemanii*	Freeman's Maple	11, 9	3	Good	Codominance (V-shaped junction)
579	*Acer x freemanii*	Freeman's Maple	44	6	Good	Stress
580	*Acer x freemanii*	Freeman's Maple	27, 24	4	Good	Dead limb, uncorrected lean
581	*Acer x freemanii*	Freeman's Maple	29	2	Poor	Dead limb, dead leader, main stem dead. one branch vigorous. dieback
582	*Ulmus americana*	American Elm	11	4	Good	No observable defect
583	*Acer x freemanii*	Freeman's Maple	16, 8	3	Good	Cavities
584	*Fraxinus americana*	White Ash	10	3	Good	Uncorrected lean
585	*Populus tremuloides*	Trembling Aspen	24	5	Good	Crack, uncorrected lean
586	*Acer x freemanii*	Freeman's Maple	10	3	Good	Dead limb, base rot, dead leader
587	*Acer x freemanii*	Freeman's Maple	44	4	Good	Minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
588	*Acer x freemanii*	Freeman's Maple	19	2	Good	Dieback
589	*Acer x freemanii*	Freeman's Maple	21	4	Good	Dead branch
590	*Acer x freemanii*	Freeman's Maple	18	3	Good	Dead branch, dieback
591	*Acer x freemanii*	Freeman's Maple	25	4	Good	Dead limb, base rot, uncorrected lean
592	*Acer x freemanii*	Freeman's Maple	25	4	Good	Dieback
593	*Acer x freemanii*	Freeman's Maple	42, 18, 17	5	Good	Codominance (V-shaped junction)
594	*Acer x freemanii*	Freeman's Maple	32	4	Good	Codominance (U-shaped junction)
595	*Acer x freemanii*	Freeman's Maple	17, 11	2	Poor	Dead branch, dieback
596	*Acer x freemanii*	Freeman's Maple	34, 13	5	Good	Codominance (V-shaped junction), dieback
597	*Acer x freemanii*	Freeman's Maple	29	4	Good	No observable defect
598	*Acer x freemanii*	Freeman's Maple	20	4	Good	Dieback
599	*Quercus macrocarpa*	Bur Oak	28	2	Good	Dieback
600	*Acer x freemanii*	Freeman's Maple	25	3	Good	Crowded, dieback
601	*Acer x freemanii*	Freeman's Maple	20	3	Fair	Cavities, decay, dieback
602	*Acer x freemanii*	Freeman's Maple	21	3	Good	No observable defect
603	*Acer x freemanii*	Freeman's Maple	24	3	Good	Dieback
604	*Acer x freemanii*	Freeman's Maple	33	3	Good	Codominance (V-shaped junction)
605	*Acer x freemanii*	Freeman's Maple	20, 14	4	Good	Codominance (V-shaped junction), epicormic branching, dead branch, crack
606	*Acer x freemanii*	Freeman's Maple	28	5	Good	Poor form, bent over at top.
607	*Acer x freemanii*	Freeman's Maple	19	5	Good	No observable defect
608	*Tilia americana*	Basswood	16	4	Fair	Dead branch, dieback, corrected lean
609	*Acer x freemanii*	Freeman's Maple	16, 10, 7	5	Good	Poor form
610	*Acer x freemanii*	Freeman's Maple	29	4	Good	Dieback
611	*Acer x freemanii*	Freeman's Maple	16	4	Fair	Crack, lost leader
612	*Acer x freemanii*	Freeman's Maple	31, 12, 12, 11	5	Fair	Dead branch
613	*Acer x freemanii*	Freeman's Maple	44, 43, 35, 30, 28, 16, 12	7	Fair	Dead branch, decay, multiple leader, dead leader
614	*Acer x freemanii*	Freeman's Maple	16, 7	4	Good	No observable defect
615	*Acer x freemanii*	Freeman's Maple	27	5	Good	Dead branch, minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
616	*Ulmus americana*	American Elm	14	3	Good	Uncorrected lean, dieback
617	*Acer x freemanii*	Freeman's Maple	24	4	Good	Uncorrected lean, minor dieback
618	*Tilia americana*	Basswood	10	3	Good	Uncorrected lean
619	*Acer x freemanii*	Freeman's Maple	42, 31	5	Good	Stem wound, decay, cavities, dead limb, minor dieback
620	*Acer x freemanii*	Freeman's Maple	27, 6	6	Good	Codominance (U-shaped junction)
621	*Tilia americana*	Basswood	12	2	Good	No observable defect
622	*Acer x freemanii*	Freeman's Maple	51	5	Good	Cavities, codominance (V-shaped junction)
623	*Acer x freemanii*	Freeman's Maple	25, 14	4	Good	Dead branch
624	*Ulmus americana*	American Elm	26	4	Fair	Dead branch, leaf dieback
625	*Acer x freemanii*	Freeman's Maple	28	4	Good	No observable defect
626	*Quercus macrocarpa*	Bur Oak	14	3	Good	No observable defect
627	*Acer x freemanii*	Freeman's Maple	17	3	Good	Poor form
628	*Acer x freemanii*	Freeman's Maple	12, 4	4	Good	No observable defect
629	*Acer x freemanii*	Freeman's Maple	35, 30, 13	6	Good	Codominance (V-shaped junction), poor form, minor dieback
630	*Acer x freemanii*	Freeman's Maple	40, 33, 20	5	Good	Cavities, decay, stem wound, codominance (V-shaped junction)
631	*Acer x freemanii*	Freeman's Maple	36, 25, 24	6	Fair	Dead branch
632	*Acer x freemanii*	Freeman's Maple	12	4	Good	Codominance (U-shaped junction), uncorrected lean
633	*Acer x freemanii*	Freeman's Maple	52	4	Good	Codominance (V-shaped junction)
634	*Acer x freemanii*	Freeman's Maple	20, 18, 14, 10	5	Fair	Codominance (V-shaped junction), crowded, multiple leaders, lost leader, dieback
635	*Acer x freemanii*	Freeman's Maple	46, 19, 12, 12	4	Fair	Codominance (V-shaped junction), dieback
636	*Acer x freemanii*	Freeman's Maple	22	3	Fair	Dead branch, dieback
637	*Quercus macrocarpa*	Bur Oak	17	3	Good	No observable defect
638	*Acer x freemanii*	Freeman's Maple	25, 24, 22, 19	5	Fair	No observable defect, codominance (V-shaped junction), poor form, uncorrected lean, dieback
639	*Acer x freemanii*	Freeman's Maple	18	4	Good	Epicormic branching, minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
640	*Acer x freemanii*	Freeman's Maple	14	3	Fair	Crack
641	*Acer x freemanii*	Freeman's Maple	16	4	Good	Dieback
642	*Acer x freemanii*	Freeman's Maple	11	3	Good	No observable defect
643	*Acer x freemanii*	Freeman's Maple	16	5	Good	Dieback
644	*Acer x freemanii*	Freeman's Maple	42	6	Good	Codominance (V-shaped junction), dead branch, dieback
645	*Acer x freemanii*	Freeman's Maple	46	5	Good	Codominance (V-shaped junction), minor dieback
646	*Acer x freemanii*	Freeman's Maple	20	4	Good	Minor dieback
647	*Acer x freemanii*	Freeman's Maple	14	3	Good	Cavities, dieback
648	*Acer x freemanii*	Freeman's Maple	33, 18, 15, 6	6	Good	Codominance (V-shaped junction)
649	*Acer x freemanii*	Freeman's Maple	25, 11, 6	6	Good	Uncorrected lean
650	*Acer x freemanii*	Freeman's Maple	25, 12	4	Good	No observable defect
651	*Acer x freemanii*	Freeman's Maple	10	3	Good	No observable defect
652	*Acer x freemanii*	Freeman's Maple	19	4	Good	Epicormic branching, grapevine competition
653	*Ulmus americana*	American Elm	12	5	Good	Uncorrected lean
654	*Acer x freemanii*	Freeman's Maple	16	4	Good	Crowded, minor dieback
655	*Acer x freemanii*	Freeman's Maple	17	3	Good	Epicormic branching, dieback
656	*Acer x freemanii*	Freeman's Maple	12	4	Good	Crowded
657	*Acer x freemanii*	Freeman's Maple	26, 26, 20	5	Fair	Decay, poor form, dead branch, stem wound
658	*Acer x freemanii*	Freeman's Maple	30	6	Good	Dead branch
659	*Acer x freemanii*	Freeman's Maple	20	5	Good	Lost leader
660	*Acer x freemanii*	Freeman's Maple	12	3	Good	No observable defect
661	*Acer x freemanii*	Freeman's Maple	46	5	Good	Codominance (V-shaped junction)
662	*Tilia americana*	Basswood	20, 14, 9, 5, 5, 5, 3	4	Good	Insect damage
663	*Acer x freemanii*	Freeman's Maple	11	5	Good	Crowded, uncorrected lean
664	*Acer x freemanii*	Freeman's Maple	12	5	Good	Crowded, uncorrected lean
665	*Acer x freemanii*	Freeman's Maple	12	3	Good	Dieback
666	*Quercus macrocarpa*	Bur Oak	13	3	Good	No observable defect
667	*Acer x freemanii*	Freeman's Maple	26, 10, 9	6	Good	Uncorrected lean
668	*Acer x freemanii*	Freeman's Maple	23	5	Good	Crowded, uncorrected lean

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
669	*Acer x freemanii*	Freeman's Maple	10	5	Good	Crowded, uncorrected lean
670	*Acer x freemanii*	Freeman's Maple	26	4	Good	Dieback
671	*Acer x freemanii*	Freeman's Maple	13	4	Good	No observable defect, stem wound
672	*Pinus strobus*	Eastern White Pine	16	3	Good	Crowded, uncorrected lean, grapevine competition
673	*Quercus macrocarpa*	Bur Oak	13	3	Good	No observable defect
674	*Acer x freemanii*	Freeman's Maple	39	7	Good	Dead branch, codominance (U-shaped junction), dieback
675	*Tilia americana*	Basswood	18, 15, 12, 8, 7	4	Good	Poor form, insect damage
676	*Pinus strobus*	Eastern White Pine	32	3	Good	Girdling root, dead branch, uncorrected lean
677	*Acer x freemanii*	Freeman's Maple	42	6	Fair	Codominance (V-shaped junction), uncorrected lean, dieback
678	*Pinus strobus*	Eastern White Pine	18	2	Good	Uncorrected lean
679	*Acer x freemanii*	Freeman's Maple	25, 23, 23, 20	7	Fair	Poor form, uncorrected lean, multiple leaders, minor dieback
680	*Pinus strobus*	Eastern White Pine	18	4	Good	No observable defect
681	*Ulmus americana*	American Elm	17	4	Good	Codominance (U-shaped junction), uncorrected lean
682	*Acer x freemanii*	Freeman's Maple	29	4	Good	Cavities, dieback
683	*Tilia americana*	Basswood	15	3	Good	Crowded, c lean
684	*Pinus strobus*	Eastern White Pine	20	3	Good	No observable defect
685	*Acer x freemanii*	Freeman's Maple	24	3	Poor	Decay, cavities, stem wound, dead limb, lost leader
686	*Picea abies*	Norway Spruce	23	3	Good	No observable defect
687	*Quercus rubra*	Northern Red Oak	22	4	Good	No observable defect
688	*Acer x freemanii*	Freeman's Maple	17	4	Good	No observable defect
689	*Quercus macrocarpa*	Bur Oak	39	4	Good	Dieback
690	*Ulmus americana*	American Elm	20	2	Poor	Dieback
691	*Acer x freemanii*	Freeman's Maple	26	5	Good	Dead branch
692	*Acer x freemanii*	Freeman's Maple	22, 20, 19, 19, 17	7	Good	Codominance (V-shaped junction), dead branch, dieback
693	*Ulmus americana*	American Elm	24	6	Good	Minor dieback. u rubra?

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
694	*Ulmus americana*	American Elm	15	2	Good	Crowded, minor dieback
695	*Acer nigrum*	Black Maple	12	2	Poor	Stem wound, dead leader, dieback
696	*Quercus macrocarpa*	Bur Oak	62	8	Poor	Stem wound, dieback
697	*Quercus macrocarpa*	Bur Oak	14	3	Good	No observable defect
698	*Tilia americana*	Basswood	31, 26, 9, 7	6	Good	Cavities, dead leader
699	*Carya ovata*	Shagbark Hickory	16	4	Good	Crowded
700	*Pinus strobus*	Eastern White Pine	24	3	Good	Dead branch
701	*Acer x freemanii*	Freeman's Maple	25	4	Good	Crowded, dead branch
702	*Fraxinus americana*	White Ash	13	3	Good	Emerald Ash Borer minor
703	*Quercus macrocarpa*	Bur Oak	17	2	Fair	Dead branch, crowded, dead leader
704	*Acer x freemanii*	Freeman's Maple	12	3	Good	Codominance (U-shaped junction)
705	*Quercus macrocarpa*	Bur Oak	41	7	Good	Dead branch, codominance (U-shaped junction), dieback
706	*Quercus macrocarpa*	Bur Oak	19	2	Good	Dead branch, dieback
707	*Juglans nigra*	Black Walnut	12	4	Good	Uncorrected lean
708	*Acer saccharum*	Sugar Maple	12	4	Good	No observable defect
709	*Quercus macrocarpa*	Bur Oak	20	3	Good	Dead branch, crowded, uncorrected lean
710	*Acer saccharum*	Sugar Maple	14	5	Good	Uncorrected lean
711	*Pinus strobus*	Eastern White Pine	18	2	Good	Uncorrected lean
712	*Acer saccharum*	Sugar Maple	15	4	Good	No observable defect
713	*Tilia americana*	Basswood	14, 12	5	Good	Cavities, insect damage
714	*Quercus macrocarpa*	Bur Oak	18	2	Good	Dieback
715	*Quercus macrocarpa*	Bur Oak	24	3	Good	Dieback
716	*Acer saccharum*	Sugar Maple	12	3	Good	No observable defect
717	*Quercus rubra*	Northern Red Oak	29	6	Good	Dead branch, dieback
718	*Pinus resinosa*	Red Pine	37	3	Poor	Dieback
719	*Acer saccharum*	Sugar Maple	21	6	Good	Uncorrected lean
720	*Pinus strobus*	Eastern White Pine	27	5	Good	No observable defect
721	*Pinus strobus*	Eastern White Pine	12	1	Good	Crowded, suppress
722	*Carya cordiformis*	Bitternut Hickory	11	2	Good	Crowded, poor form, dieback
723	*Pinus resinosa*	Red Pine	33	3	Poor	Dieback
724	*Acer saccharum*	Sugar Maple	27	6	Good	No observable defect
725	*Pinus strobus*	Eastern White Pine	24	4	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
726	*Tilia americana*	Basswood	35, 12, 12	6	Good	Codominance (V-shaped junction), uncorrected lean
727	*Pinus resinosa*	Red Pine	28	3	Poor	Dieback
728	*Fraxinus americana*	White Ash	13	1	Poor	Epicormic branching, Emerald Ash Borer. dieback
729	*Quercus rubra*	Northern Red Oak	21	5	Good	No observable defect
730	*Pinus strobus*	Eastern White Pine	12	1	Good	Crowded
731	*Pinus resinosa*	Red Pine	31	2	Poor	Dieback
732	*Pinus resinosa*	Red Pine	32	2	Poor	Dieback
733	*Ulmus americana*	American Elm	12	4	Good	Crowded, uncorrected lean
734	*Acer saccharum*	Sugar Maple	19	7	Good	Uncorrected lean
735	*Acer saccharum*	Sugar Maple	13	4	Good	Crowded
736	*Pinus resinosa*	Red Pine	25	2	Fair	Crowded, dieback
737	*Acer saccharum*	Sugar Maple	25	5	Good	Uncorrected lean
738	*Quercus macrocarpa*	Bur Oak	23	5	Good	Minor dieback
739	*Pinus resinosa*	Red Pine	27	2	Poor	Dieback
740	*Acer saccharum*	Sugar Maple	21	5	Fair	Stem wound, uncorrected lean
741	*Pinus resinosa*	Red Pine	32	3	Poor	Dead branch, lot of dieback
742	*Pinus resinosa*	Red Pine	31	3	Poor	Codominance (V-shaped junction), dieback
743	*Pinus resinosa*	Red Pine	31	2	Fair	Dieback
744	*Pinus resinosa*	Red Pine	30	2	Fair	Dieback
745	*Acer saccharum*	Sugar Maple	17	5	Good	Codominance (U-shaped junction), dieback
746	*Fraxinus pennsylvanica*	Green Ash	11	1	Poor	Stem wound, epicormic branching, Emerald Ash Borer, dieback
747	*Pinus resinosa*	Red Pine	25	1	Fair	Dieback
748	*Acer saccharum*	Sugar Maple	14	4	Good	Crowded
749	*Tilia americana*	Basswood	13	4	Good	No observable defect
750	*Acer saccharum*	Sugar Maple	27	4	Poor	Stem wound, dieback
751	*Pinus strobus*	Eastern White Pine	12	1	Good	Crowded
752	*Picea abies*	Norway Spruce	35	3	Fair	Crowded, lost leader
753	*Acer saccharum*	Sugar Maple	42	7	Good	Decay
754	*Picea abies*	Norway Spruce	34	4	Good	No observable defect
755	*Picea abies*	Norway Spruce	42	4	Good	Strangling root, uncorrected lean

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
756	*Fraxinus americana*	White Ash	14	3	Good	Emerald Ash Borer
757	*Acer saccharum*	Sugar Maple	17	5	Good	Crowded
758	*Juglans nigra*	Black Walnut	17	4	Good	No observable defect
759	*Acer nigrum*	Black Maple	18	4	Good	Minor dieback
760	*Picea glauca*	White Spruce	17	2	Good	Crowded
761	*Acer saccharum*	Sugar Maple	18	5	Good	No observable defect
762	*Quercus macrocarpa*	Bur Oak	17	2	Fair	Dead branch, dieback
763	*Picea abies*	Norway Spruce	16	3	Poor	Dead limb, dead leader
764	*Pinus strobus*	Eastern White Pine	27	3	Good	No observable defect
765	*Picea abies*	Norway Spruce	15	2	Good	Crowded
766	*Carya cordiformis*	Bitternut Hickory	20	6	Good	Codominance (U-shaped junction)
767	*Picea abies*	Norway Spruce	32	3	Good	Girdling root
768	*Acer saccharum*	Sugar Maple	36	6	Good	Codominance (U-shaped junction)
769	*Fraxinus americana*	White Ash	17	4	Good	Stem wound, uncorrected lean, Emerald Ash Borer
770	*Picea abies*	Norway Spruce	24	2	Good	Uncorrected lean
771	*Picea abies*	Norway Spruce	27	2	Good	Codominance (V-shaped junction)
772	*Fraxinus americana*	White Ash	10	4	Fair	Stem wound, uncorrected lean, Emerald Ash Borer
773	*Acer saccharum*	Sugar Maple	15	4	Good	Codominance (U-shaped junction), c lean
774	*Picea abies*	Norway Spruce	22	2	Fair	Lost leader
775	*Pinus strobus*	Eastern White Pine	16	2	Good	Dead branch, uncorrected lean
776	*Quercus rubra*	Northern Red Oak	49	7	Good	Corrected lean. minor dieback
777	*Pinus resinosa*	Red Pine	23	3	Poor	Crowded, lot dieback
778	*Pinus strobus*	Eastern White Pine	10	2	Poor	Uncorrected lean, dead leader, poor, dieback
779	*Pinus resinosa*	Red Pine	31	3	Fair	Dieback
780	*Pinus resinosa*	Red Pine	26	3	Fair	Dieback
781	*Fraxinus pennsylvanica*	Green Ash	11	1	Poor	Epicormic branching, stem wound, crown dead. Emerald Ash Borer
782	*Pinus resinosa*	Red Pine	30	3	Fair	Dieback
783	*Acer saccharum*	Sugar Maple	27	7	Good	No observable defect
784	*Acer saccharum*	Sugar Maple	17	6	Good	No observable defect
785	*Acer saccharum*	Sugar Maple	44	7	Good	Uncorrected lean
786	*Picea abies*	Norway Spruce	25	3	Good	Crowded

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
787	*Acer saccharum*	Sugar Maple	21	5	Good	Girdling root
788	*Picea abies*	Norway Spruce	14	2	Good	Crowded
789	*Pinus resinosa*	Red Pine	29	2	Poor	Cavities, dieback
790	*Fraxinus americana*	White Ash	17	4	Fair	Cavities, stem wound, Emerald Ash Borer, dieback
791	*Picea abies*	Norway Spruce	12	2	Good	Crowded
792	*Picea abies*	Norway Spruce	29	2	Good	No observable defect
793	*Pinus resinosa*	Red Pine	36	1	Poor	Dieback
794	*Acer saccharum*	Sugar Maple	21	5	Good	No observable defect
795	*Picea abies*	Norway Spruce	21	3	Good	Crowded
796	*Acer saccharum*	Sugar Maple	15	4	Good	Uncorrected lean
797	*Acer saccharum*	Sugar Maple	30	6	Good	No observable defect
798	*Acer saccharum*	Sugar Maple	18, 9	6	Good	No observable defect
799	*Acer saccharum*	Sugar Maple	16	4	Good	Stem wound, no observable defect, dead branch
800	*Pinus strobus*	Eastern White Pine	19	3	Good	Dead branch
801	*Acer saccharum*	Sugar Maple	19	6	Good	No observable defect
802	*Tilia americana*	Basswood	11	3	Good	Poor form, uncorrected lean, insect damage
803	*Acer saccharum*	Sugar Maple	42	7	Good	Minor dieback
804	*Pinus resinosa*	Red Pine	26	2	Fair	Dieback
805	*Pinus resinosa*	Red Pine	26	1	Poor	Dieback
806	*Pinus resinosa*	Red Pine	35	3	Fair	Dieback
807	*Pinus resinosa*	Red Pine	24	1	Poor	Major dieback
808	*Acer saccharum*	Sugar Maple	30	6	Good	Inclusion with fence
809	*Pinus resinosa*	Red Pine	28	2	Poor	Dieback
810	*Tilia americana*	Basswood	11	2	Fair	Stem wound, canker, insect damage
811	*Picea abies*	Norway Spruce	17	1	Fair	Dead branch, uncorrected lean
812	*Picea abies*	Norway Spruce	36	3	Good	No observable defect
813	*Picea abies*	Norway Spruce	45	4	Good	No observable defect
814	*Picea abies*	Norway Spruce	15	2	Good	Crowded
815	*Fraxinus americana*	White Ash	10	3	Good	Uncorrected lean, Emerald Ash Borer
816	*Picea abies*	Norway Spruce	22	3	Good	No observable defect
817	*Picea abies*	Norway Spruce	38	4	Good	No observable defect
818	*Picea abies*	Norway Spruce	32	3	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
819	*Fraxinus americana*	White Ash	11	3	Fair	Crack
820	*Picea abies*	Norway Spruce	33	4	Good	No observable defect
821	*Pinus resinosa*	Red Pine	31	3	Fair	Dieback
822	*Pinus strobus*	Eastern White Pine	11	2	Good	No observable defect
823	*Pinus resinosa*	Red Pine	23	2	Good	No observable defect
824	*Acer saccharum*	Sugar Maple	53	7	Fair	Codominance (V-shaped junction), decay, multiple leaders, lost leader, broken branches
825	*Pinus resinosa*	Red Pine	32	3	Good	Dieback
826	*Picea abies*	Norway Spruce	30, 21	4	Good	No observable defect, codominance (U-shaped junction)
827	*Picea abies*	Norway Spruce	40	5	Good	No observable defect
828	*Pinus resinosa*	Red Pine	32	3	Good	No observable defect
829	*Pinus resinosa*	Red Pine	30	2	Good	No observable defect
830	*Picea abies*	Norway Spruce	35	4	Good	No observable defect
831	*Acer saccharum*	Sugar Maple	12	5	Good	Crowded, suppress
832	*Acer saccharum*	Sugar Maple	55	7	Good	Codominance (U-shaped junction), cavities
833	*Pinus resinosa*	Red Pine	28	3	Good	Bit dieback
834	*Pinus resinosa*	Red Pine	27	3	Fair	Dieback
835	*Picea abies*	Norway Spruce	27	3	Good	No observable defect
836	*Tilia americana*	Basswood	24	5	Good	Dead branch, cavities, sap sucker holes
837	*Pinus resinosa*	Red Pine	25	2	Fair	Dieback
838	*Pinus resinosa*	Red Pine	32	3	Fair	Crowded, dieback
839	*Pinus resinosa*	Red Pine	33	4	Fair	Crowded, dieback
840	*Pinus resinosa*	Red Pine	22	2	Fair	Dieback
841	*Pinus resinosa*	Red Pine	26	3	Fair	Dieback
842	*Pinus resinosa*	Red Pine	22	3	Poor	Dieback
843	*Carya cordiformis*	Bitternut Hickory	10	4	Fair	Crowded, poor form, uncorrected lean
844	*Pinus resinosa*	Red Pine	27	2	Poor	Dieback
845	*Pinus resinosa*	Red Pine	33	3	Fair	Dieback
846	*Pinus resinosa*	Red Pine	30	3	Fair	Dead branch, dieback
847	*Pinus resinosa*	Red Pine	24	3	Poor	Crowded, dieback
848	*Acer saccharum*	Sugar Maple	12	4	Good	No observable defect
849	*Pinus resinosa*	Red Pine	28	3	Fair	Dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
850	*Acer saccharum*	Sugar Maple	64	7	Good	Codominance (U-shaped junction)
851	*Picea abies*	Norway Spruce	18	1	Fair	Crowded, thin crown
852	*Acer saccharum*	Sugar Maple	11	4	Good	Crowded, uncorrected lean
853	*Picea abies*	Norway Spruce	21, 20	3	Fair	Codominance (V-shaped junction)
854	*Quercus macrocarpa*	Bur Oak	30	5	Good	Dead branch
855	*Carya cordiformis*	Bitternut Hickory	17	7	Fair	Cavities, crack
856	*Picea abies*	Norway Spruce	16	2	Good	Crowded, uncorrected lean
857	*Picea abies*	Norway Spruce	28	3	Good	Girdling root, strangling root
858	*Picea abies*	Norway Spruce	29	3	Good	Poor form, girdling root, lost leader
859	*Picea abies*	Norway Spruce	20	3	Good	Crowded, lost leader
860	*Picea abies*	Norway Spruce	12	2	Good	Insect damage
861	*Acer saccharum*	Sugar Maple	27	4	Good	No observable defect
862	*Picea abies*	Norway Spruce	23	2	Good	Dead branch
863	*Acer saccharum*	Sugar Maple	13	4	Good	Codominance (U-shaped junction), crowded, uncorrected lean
864	*Picea abies*	Norway Spruce	23	2	Good	Crowded
865	*Picea abies*	Norway Spruce	12	1	Poor	Strangling root, crowded, suppressed
866	*Picea abies*	Norway Spruce	25	3	Good	Girdling root
867	*Picea abies*	Norway Spruce	11	1	Good	Crowded
868	*Picea abies*	Norway Spruce	23	2	Good	Uncorrected lean
869	*Picea abies*	Norway Spruce	14	3	Fair	Strangling root, dead branch, codominance (V-shaped junction)
870	*Acer saccharum*	Sugar Maple	39	5	Poor	Stem wound, cavities, decay
871	*Picea abies*	Norway Spruce	13	2	Good	Crowded
872	*Acer saccharum*	Sugar Maple	16	3	Good	Strangling root
873	*Picea abies*	Norway Spruce	21	2	Good	Strangling root
874	*Picea abies*	Norway Spruce	15	2	Good	Crowded
875	*Picea abies*	Norway Spruce	11	3	Fair	Crowded, codominance (V-shaped junction), dead branch
876	*Picea abies*	Norway Spruce	10	1	Good	Suppressed
877	*Quercus macrocarpa*	Bur Oak	33	5	Good	Uncorrected lean
878	*Picea abies*	Norway Spruce	18	3	Good	Dead branch, crowded, uncorrected lean
879	*Picea abies*	Norway Spruce	25	3	Good	Crowded, crowded with maple
880	*Picea abies*	Norway Spruce	13	1	Fair	Crowded, uncorrected lean
881	*Picea abies*	Norway Spruce	27	3	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
882	*Acer saccharum*	Sugar Maple	16, 12	5	Good	Codominance (V-shaped junction)
883	*Acer saccharum*	Sugar Maple	12	3	Good	Stem wound
884	*Acer saccharum*	Sugar Maple	14	4	Good	Broken branches
885	*Acer saccharum*	Sugar Maple	21, 14	5	Good	Codominance (V-shaped junction)
886	*Acer platanoides*	Norway Maple	12	2	Fair	Crowded, uncorrected lean
887	*Pinus strobus*	Eastern White Pine	42	4	Good	No observable defect
888	*Acer saccharum*	Sugar Maple	12	3	Good	No observable defect
889	*Acer platanoides*	Norway Maple	27	2	Good	No observable defect
890	*Tilia americana*	Basswood	22	5	Good	Dead branch, uncorrected lean, insect damage
891	*Picea abies*	Norway Spruce	17	2	Good	Dead branch, crowded, girdling root
892	*Picea abies*	Norway Spruce	30	3	Good	Dead branch, leave dieback
893	*Picea abies*	Norway Spruce	18	3	Good	Crowded
894	*Acer saccharum*	Sugar Maple	20, 19	5	Good	Codominance (V-shaped junction)
895	*Populus tremuloides*	Trembling Aspen	18	4	Fair	Dead branch, poor form, lost leader
896	*Tilia americana*	Basswood	24	4	Good	Dead branch
897	*Populus tremuloides*	Trembling Aspen	22	4	Good	Dead branch, poor form, decay, crowded, dieback
898	*Pinus strobus*	Eastern White Pine	44	5	Good	No observable defect
899	*Picea abies*	Norway Spruce	22	2	Good	Crowded
900	*Picea abies*	Norway Spruce	17	2	Good	Crowded, dead branch
901	*Picea abies*	Norway Spruce	14	2	Good	Crowded
902	*Picea abies*	Norway Spruce	11	1	Fair	Strangling root
903	*Picea abies*	Norway Spruce	17	2	Good	Crowded
904	*Quercus macrocarpa*	Bur Oak	21	3	Good	Dead branch, dieback
905	*Picea abies*	Norway Spruce	25	3	Good	Crowded, crack
906	*Picea abies*	Norway Spruce	37	3	Good	Crowded, strangling root, uncorrected lean
907	*Acer saccharum*	Sugar Maple	18	5	Good	Crowded
908	*Carya cordiformis*	Bitternut Hickory	14	4	Fair	Dead branch, uncorrected lean
909	*Picea abies*	Norway Spruce	22	2	Good	Strangling root, crowded, uncorrected lean
910	*Picea abies*	Norway Spruce	19	2	Fair	Strangling root, crowded, c lean at top
911	*Picea abies*	Norway Spruce	22	3	Good	Crowded
912	*Picea abies*	Norway Spruce	24	2	Good	Crowded, dead branch

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
913	*Tilia americana*	Basswood	32	6	Fair	Epicormic branching, insect damage
914	*Picea abies*	Norway Spruce	31	4	Good	Crowded
915	*Carya cordiformis*	Bitternut Hickory	15	5	Good	Crowded, poor form, uncorrected lean
916	*Acer saccharum*	Sugar Maple	14	5	Fair	Crowded, epicormic branching, uncorrected lean, dieback
917	*Picea abies*	Norway Spruce	15	2	Fair	Crowded
918	*Acer saccharum*	Sugar Maple	25, 12	5	Good	Codominance (V-shaped junction), dead branch
919	*Picea abies*	Norway Spruce	23	3	Good	Crowded
920	*Picea abies*	Norway Spruce	17	2	Good	Crowded
921	*Acer saccharum*	Sugar Maple	12, 6	5	Good	Crowded, codominance (U-shaped junction), uncorrected lean
922	*Picea abies*	Norway Spruce	23	2	Good	Crowded
923	*Picea abies*	Norway Spruce	28	3	Good	Crowded, uncorrected lean
924	*Acer saccharum*	Sugar Maple	12, 10	4	Good	Codominance (V-shaped junction), cavities, decay, crowded, stressed
925	*Picea abies*	Norway Spruce	31	3	Good	Crowded
926	*Picea abies*	Norway Spruce	23	3	Good	Crowded
927	*Picea abies*	Norway Spruce	21	2	Good	Crowded
928	*Picea abies*	Norway Spruce	24	3	Good	Crowded
929	*Picea abies*	Norway Spruce	32	3	Good	Crowded
930	*Picea abies*	Norway Spruce	58	5	Good	No observable defect
931	*Picea abies*	Norway Spruce	34	3	Good	Crowded
932	*Picea abies*	Norway Spruce	25	3	Good	Girdling root
933	*Picea abies*	Norway Spruce	26	3	Good	Crowded, lost leader
934	*Acer saccharum*	Sugar Maple	13	4	Good	Crowded, uncorrected lean
935	*Acer saccharum*	Sugar Maple	10	3	Good	Dead branch
936	*Picea abies*	Norway Spruce	26	3	Good	Dieback
937	*Tilia americana*	Basswood	24, 20	4	Fair	Codominance (V-shaped junction), dead branch, poor form, uncorrected lean, dieback
938	*Picea abies*	Norway Spruce	19	2	Good	Crowded
939	*Picea abies*	Norway Spruce	21	3	Good	Dead branch, dieback
940	*Ostrya virginiana*	Eastern Hop hornbeam	14	5	Good	Uncorrected lean
941	*Picea glauca*	White Spruce	28	4	Good	Crowded, dead branch

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
942	*Acer saccharum*	Sugar Maple	16	3	Good	No observable defect
943	*Acer saccharum*	Sugar Maple	34, 34	6	Good	Codominance (V-shaped junction), dead branch
944	*Picea glauca*	White Spruce	24	2	Good	Crowded, dead branch
945	*Picea abies*	Norway Spruce	28	3	Good	No observable defect
946	*Tilia americana*	Basswood	13	6	Poor	Stem wound, decay, cavities, poor form, epicormic branching, uncorrected lean
947	*Picea abies*	Norway Spruce	21	3	Good	Crowded
948	*Picea glauca*	White Spruce	26	2	Good	No observable defect
949	*Carya cordiformis*	Bitternut Hickory	66	7	Fair	Dead branch, codominance (V-shaped junction), decay, inclusion with fence, lost leader, dieback
950	*Carya cordiformis*	Bitternut Hickory	19	5	Good	Dead branch, uncorrected lean
951	*Ostrya virginiana*	Eastern Hop hornbeam	12	4	Good	Girdling root, poor form
952	*Ostrya virginiana*	Eastern Hop hornbeam	18	5	Good	Dead branch
953	*Ostrya virginiana*	Eastern Hop hornbeam	17	4	Good	No observable defect
954	*Ostrya virginiana*	Eastern Hop hornbeam	17	5	Good	No observable defect
955	*Carya cordiformis*	Bitternut Hickory	18	4	Good	Poor form
956	*Ostrya virginiana*	Eastern Hop hornbeam	23	6	Good	Dead branch, codominance (U-shaped junction), uncorrected lean, u shape
957	*Tilia americana*	Basswood	30, 29	6	Good	Codominance (V-shaped junction), poor form, dead branch
958	*Tilia americana*	Basswood	36, 29	7	Good	Codominance (V-shaped junction), poor form, dead branch, crowded, dieback
959	*Tilia americana*	Basswood	28, 25, 25	6	Good	Codominance (V-shaped junction), dead branch, included bark
960	*Ostrya virginiana*	Eastern Hop hornbeam	14	4	Fair	Crowded, poor form
961	*Pinus strobus*	Eastern White Pine	29	3	Good	No observable defect
962	*Tilia americana*	Basswood	12, 7, 8, 7	4	Fair	Pruning wounds, uncorrected lean, insect damage
963	*Ulmus americana*	American Elm	14	4	Good	Uncorrected lean
964	*Pinus resinosa*	Red Pine	30	4	Fair	Dead branch, crowded, dieback
965	*Pinus resinosa*	Red Pine	24	2	Poor	Dead branch, grapevine competition, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
966	*Acer saccharum*	Sugar Maple	29, 26	6	Good	Codominance (V-shaped junction), girdling root
967	*Ostrya virginiana*	Eastern Hop hornbeam	10	4	Good	Uncorrected lean
968	*Acer saccharum*	Sugar Maple	14	3	Good	No observable defect
969	*Acer saccharum*	Sugar Maple	24	5	Good	No observable defect
970	*Tilia americana*	Basswood	18	5	Good	Dead branch, uncorrected lean, insect damage, dieback
971	*Populus tremuloides*	Trembling Aspen	15	2	Good	Dead branch, uncorrected lean
972	*Pinus resinosa*	Red Pine	23	3	Good	Dead branch
973	*Pinus strobus*	Eastern White Pine	32	5	Good	Dead branch
974	*Tilia americana*	Basswood	10	3	Good	No observable defect, dead branch, uncorrected lean
975	*Tilia americana*	Basswood	23	5	Good	Dead branch, dieback
976	*Tilia americana*	Basswood	14	3	Good	Epicormic branching
977	*Tilia americana*	Basswood	13	5	Fair	Uncorrected lean, dieback
978	*Ulmus americana*	American Elm	14	3	Good	Girdling root
979	*Pinus strobus*	Eastern White Pine	42	4	Good	Dead branch
980	*Tilia americana*	Basswood	10, 8	5	Fair	Codominance (U-shaped junction), poor form, dead branch, uncorrected lean
981	*Tilia americana*	Basswood	14	2	Good	Dead branch, poor form
982	*Tilia americana*	Basswood	19	3	Good	Dead branch
983	*Ulmus americana*	American Elm	10	3	Good	Uncorrected lean, dead tree next to it
984	*Carya cordiformis*	Bitternut Hickory	29	5	Good	Codominance (U-shaped junction), poor form, dead branch
985	*Pinus strobus*	Eastern White Pine	28	3	Good	Branch dieback
986	*Acer nigrum*	Black Maple	27	4	Good	Good, mix of black n sugar
987	*Prunus avium*	Sweet Cherry	14	3	Good	No observable defect
988	*Acer nigrum*	Black Maple	42, 39, 36	7	Fair	Codominance (V-shaped junction), stem wound, decay
989	*Carya cordiformis*	Bitternut Hickory	34	7	Good	Codominance (U-shaped junction), stem wound, decay
990	*Prunus avium*	Sweet Cherry	22	4	Good	No observable defect
991	*Pinus strobus*	Eastern White Pine	36	4	Good	Dieback
992	*Pinus strobus*	Eastern White Pine	29	4	Good	Uncorrected lean
993	*Prunus serotina*	Black Cherry	20	4	Good	Poor form

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
994	*Pinus strobus*	Eastern White Pine	38	5	Good	Dead branch
995	*Tilia americana*	Basswood	28, 16	6	Good	No observable defect
996	*Pinus strobus*	Eastern White Pine	25	3	Fair	Poor form, dieback
997	*Pinus strobus*	Eastern White Pine	31	3	Fair	Dieback
998	*Prunus avium*	Sweet Cherry	12	4	Good	Uncorrected lean
999	*Rhamnus cathartica*	European Buckthorn	10	3	Good	Stem wound, decay
1000	*Tilia americana*	Basswood	27	5	Good	Uncorrected lean
1001	*Picea glauca*	White Spruce	14	2	Good	Crowded
1002	*Tilia americana*	Basswood	11	3	Good	No observable defect
1003	*Picea glauca*	White Spruce	18	2	Good	No observable defect
1004	*Acer saccharum*	Sugar Maple	13	3	Good	No observable defect
1005	*Pinus strobus*	Eastern White Pine	37	5	Fair	Grapevine competition, dieback
1006	*Pinus strobus*	Eastern White Pine	13	1	Fair	No observable defect, dead branch, dieback
1007	*Picea glauca*	White Spruce	24	2	Good	Strangling root, dieback
1008	*Picea glauca*	White Spruce	23	2	Good	Dead branch, uncorrected lean
1009	*Picea glauca*	White Spruce	24	2	Good	Dieback
1010	*Acer nigrum*	Black Maple	12	4	Good	No observable defect
1011	*Pinus strobus*	Eastern White Pine	24	3	Good	Poor form
1012	*Picea abies*	Norway Spruce	45	5	Good	Strangling root
1013	*Picea abies*	Norway Spruce	21	4	Good	Crowded
1014	*Morus alba*	White Mulberry	44, 40, 36	4	Poor	Stem wound, decay, cavities, codominance (V-shaped junction), dieback
1015	*Picea glauca*	White Spruce	19	2	Good	Crowded, dieback
1016	*Picea abies*	Norway Spruce	46	4	Good	No observable defect
1017	*Pinus strobus*	Eastern White Pine	22	3	Fair	Crowded, dead branch, dieback
1018	*Tilia americana*	Basswood	14	5	Good	Uncorrected lean, dieback
1019	*Pinus strobus*	Eastern White Pine	29	3	Good	Dieback
1020	*Picea glauca*	White Spruce	26	3	Good	Strangling root
1021	*Picea glauca*	White Spruce	26	2	Good	No observable defect
1022	*Picea glauca*	White Spruce	20	3	Good	Strangling root
1023	*Pinus strobus*	Eastern White Pine	27	3	Good	Strangling root, grapevine competition, dieback
1024	*Picea glauca*	White Spruce	25	3	Good	Strangling root

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1025	*Pinus strobus*	Eastern White Pine	31	2	Good	Girdling root, grapevine competition, dieback
1026	*Pinus strobus*	Eastern White Pine	19	1	Good	Codominance (U-shaped junction), grapevine competition
1027	*Pinus strobus*	Eastern White Pine	17	1	Good	Dieback
1028	*Pinus strobus*	Eastern White Pine	22	2	Good	Grapevine competition
1029	*Pinus strobus*	Eastern White Pine	29, 15	4	Good	Codominance (V-shaped junction), strangling root
1030	*Picea abies*	Norway Spruce	35	5	Good	No observable defect
1031	*Prunus serotina*	Black Cherry	10	3	Good	No observable defect
1032	*Acer saccharum*	Sugar Maple	48	5	Good	Dead branch, dead leader
1033	*Pinus strobus*	Eastern White Pine	22	2	Good	Dieback
1034	*Cornus alternifolia*	Alternate leaved Dogwood	10	3	Fair	Dieback
1035	*Pinus strobus*	Eastern White Pine	18	1	Fair	Dieback
1036	*Juglans nigra*	Black Walnut	36	6	Good	Pruning wounds
1037	*Pinus strobus*	Eastern White Pine	29	4	Good	Girdling root
1038	*Acer nigrum*	Black Maple	12	3	Good	No observable defect
1039	*Ulmus americana*	American Elm	19	3	Good	No observable defect
1040	*Pinus strobus*	Eastern White Pine	13	1	Good	Crowded
1041	*Pinus strobus*	Eastern White Pine	38	5	Good	Grapevine competition, dieback
1042	*Pinus strobus*	Eastern White Pine	14	2	Good	No observable defect
1043	*Acer saccharum*	Sugar Maple	11	2	Good	No observable defect
1044	*Picea glauca*	White Spruce	27	3	Good	Dieback
1045	*Picea glauca*	White Spruce	12	2	Good	Dieback
1046	*Prunus avium*	Sweet Cherry	17	5	Good	Uncorrected lean
1047	*Prunus avium*	Sweet Cherry	21	4	Good	Uncorrected lean
1048	*Acer saccharum*	Sugar Maple	11	3	Good	Crowded
1049	*Picea glauca*	White Spruce	28	3	Good	Strangling root
1050	*Pinus strobus*	Eastern White Pine	40	3	Good	Grapevine competition
1051	*Pinus strobus*	Eastern White Pine	19	1	Fair	Crowded, strangling root, girdling root
1052	*Acer saccharum*	Sugar Maple	56	7	Good	Pruning wounds
1053	*Pinus strobus*	Eastern White Pine	25	3	Fair	Grapevine competition
1054	*Tilia americana*	Basswood	21	5	Good	Uncorrected lean, grapevine competition
1055	*Picea abies*	Norway Spruce	32	4	Good	No observable defect

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1056	*Pinus strobus*	Eastern White Pine	32	3	Good	Grapevine competition, dieback
1057	*Ulmus americana*	American Elm	10	3	Good	No observable defect
1058	*Pinus strobus*	Eastern White Pine	39	3	Good	No observable defect
1059	*Pinus strobus*	Eastern White Pine	19	2	Good	Grapevine competition
1060	*Picea glauca*	White Spruce	25	3	Good	Strangling root
1061	*Acer x freemanii*	Freeman's Maple	48, 46, 44, 43, 38, 25	8	Fair	Decay, cavities, uncorrected lean, fungus, lost leader, multiple leaders, broken branches
1062	*Pinus strobus*	Eastern White Pine	25	3	Good	Dieback
1063	*Ulmus americana*	American Elm	25	4	Good	No observable defect
1064	*Pinus strobus*	Eastern White Pine	22	3	Good	Dieback
1065	*Pinus strobus*	Eastern White Pine	11	2	Good	Crowded
1066	*Pinus strobus*	Eastern White Pine	19	2	Good	No observable defect
1067	*Pinus strobus*	Eastern White Pine	19	1	Good	Dieback
1068	*Pinus strobus*	Eastern White Pine	28	3	Good	No observable defect
1069	*Acer platanoides*	Norway Maple	17	4	Good	No observable defect
1070	*Picea glauca*	White Spruce	22	2	Good	Grapevine competition
1071	*Picea glauca*	White Spruce	14	2	Good	Crowded
1072	*Pinus strobus*	Eastern White Pine	22	2	Good	Stem wound
1073	*Pinus strobus*	Eastern White Pine	12	1	Fair	Crowded, dieback
1074	*Pinus strobus*	Eastern White Pine	18	2	Good	Poor form
1075	*Pinus strobus*	Eastern White Pine	27	2	Fair	Grapevine competition, dieback
1076	*Tilia americana*	Basswood	10	3	Good	Crowded, dieback
1077	*Picea abies*	Norway Spruce	34	3	Good	No observable defect
1078	*Ulmus americana*	American Elm	10	4	Good	No observable defect
1079	*Fraxinus americana*	White Ash	31	0	Dead	Peeling bark suitable for bats.
1080	*Tilia americana*	Basswood	19	3	Good	Dieback
1081	*Picea abies*	Norway Spruce	41	5	Good	No observable defect
1082	*Picea glauca*	White Spruce	27	3	Good	Stem wound
1083	*Pinus strobus*	Eastern White Pine	20	2	Good	Crowded, dieback
1084	*Tilia americana*	Basswood	15, 5, 5, 4, 4	3	Good	Dieback
1085	*Pinus sylvestris*	Scots Pine	30	2	Poor	Dieback
1086	*Tilia americana*	Basswood	20	5	Good	No observable defect, crowded, uncorrected lean, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1087	*Picea glauca*	White Spruce	22	3	Good	No observable defect
1088	*Pinus strobus*	Eastern White Pine	16, 10	2	Poor	Codominance (V-shaped junction), stem wound, decay
1089	*Pinus strobus*	Eastern White Pine	19	2	Good	Crowded
1090	*Pinus strobus*	Eastern White Pine	29	4	Good	No observable defect
1091	*Pinus strobus*	Eastern White Pine	12	1	Good	No observable defect
1092	*Pinus strobus*	Eastern White Pine	17	1	Good	Crowded, dieback
1093	*Juglans nigra*	Black Walnut	15	4	Good	Dieback
1094	*Pinus strobus*	Eastern White Pine	16	1	Good	Dieback
1095	*Pinus strobus*	Eastern White Pine	19	1	Good	Crowded, grapevine competition
1096	*Tilia americana*	Basswood	13	2	Good	Crowded, epicormic branching, dieback
1097	*Tilia americana*	Basswood	20	4	Good	Epicormic branching, crowded, dieback
1098	*Picea glauca*	White Spruce	22	4	Good	No observable defect
1099	*Picea glauca*	White Spruce	10	2	Good	No observable defect
1100	*Tilia americana*	Basswood	11	2	Good	Epicormic branching, dieback
1101	*Pinus sylvestris*	Scots Pine	32	0	Dead	Fungus
1102	*Tilia americana*	Basswood	13	3	Good	Epicormic branching, dieback
1103	*Picea abies*	Norway Spruce	44	4	Good	Cavities, crack
1104	*Pinus strobus*	Eastern White Pine	24	2	Good	Stem wound
1105	*Pinus strobus*	Eastern White Pine	27	3	Good	Crowded
1106	*Picea glauca*	White Spruce	19	3	Good	Crowded
1107	*Tilia americana*	Basswood	16	2	Fair	Epicormic branching, dieback
1108	*Pinus strobus*	Eastern White Pine	23	2	Poor	Crowded, decay, cavities, crack, dieback
1109	*Picea abies*	Norway Spruce	34	4	Good	No observable defect
1110	*Pinus sylvestris*	Scots Pine	27	1	Poor	Dieback
1111	*Pinus strobus*	Eastern White Pine	34	4	Fair	Stem wound, dieback
1112	*Tilia americana*	Basswood	14	2	Good	Dead branch, epicormic branching, dieback
1113	*Pinus strobus*	Eastern White Pine	36, 20	5	Good	Codominance (V-shaped junction)
1114	*Pinus strobus*	Eastern White Pine	15	2	Good	Crowded
1115	*Pinus strobus*	Eastern White Pine	45	4	Good	No observable defect
1116	*Juglans nigra*	Black Walnut	22	4	Good	No observable defect
1117	*Prunus avium*	Sweet Cherry	18, 10	4	Good	Uncorrected lean
1118	*Tilia americana*	Basswood	11	2	Good	No observable defect
1119	*Pinus sylvestris*	Scots Pine	15	2	Fair	Dieback.

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1120	*Pinus sylvestris*	Scots Pine	11	1	Poor	Dieback.
1121	*Pinus sylvestris*	Scots Pine	11	2	Fair	Dieback.
1122	*Pinus sylvestris*	Scots Pine	14	2	Fair	Dieback.
1123	*Pinus sylvestris*	Scots Pine	10	2	Fair	Dieback.
1124	*Pinus sylvestris*	Scots Pine	12	2	Good	No observable defect
1125	*Picea glauca*	White Spruce	11	2	Good	No observable defect
1126	*Pinus sylvestris*	Scots Pine	11	1	Poor	Dieback.
1127	*Pinus resinosa*	Red Pine	20	3	Fair	Dieback.
1128	*Picea glauca*	White Spruce	15	2	Good	No observable defect
1129	*Pinus sylvestris*	Scots Pine	14	1	Fair	Dieback.
1130	*Pinus sylvestris*	Scots Pine	11	1	Poor	Dieback.
1131	*Pinus sylvestris*	Scots Pine	14	1	Poor	Dieback.
1132	*Pinus sylvestris*	Scots Pine	18	2	Fair	Dieback.
1133	*Pinus sylvestris*	Scots Pine	17	1	Poor	Dieback.
1134	*Pinus sylvestris*	Scots Pine	18	2	Poor	Dieback.
1135	*Pinus sylvestris*	Scots Pine	21	3	Fair	Uncorrected lean, dieback.
1136	*Pinus sylvestris*	Scots Pine	10	1	Fair	Dieback.
1137	*Pinus sylvestris*	Scots Pine	24	3	Fair	Dieback.
1138	*Pinus sylvestris*	Scots Pine	21	2	Poor	Dieback.
1139	*Juglans nigra*	Black Walnut	23	4	Good	No observable defect
1140	*Pinus sylvestris*	Scots Pine	16	2	Good	Dieback.
1141	*Pinus sylvestris*	Scots Pine	28	4	Good	Dieback.
1142	*Pinus sylvestris*	Scots Pine	14	1	Good	Dieback.
1143	*Pinus sylvestris*	Scots Pine	19	2	Fair	Dieback.
1144	*Pinus sylvestris*	Scots Pine	22	3	Fair	Uncorrected lean, dieback.
1145	*Pinus sylvestris*	Scots Pine	24	4	Fair	Uncorrected lean, fungus, diplodia, dieback.
1146	*Pinus sylvestris*	Scots Pine	26	3	Good	Uncorrected lean, dieback.
1147	*Pinus sylvestris*	Scots Pine	35	3	Good	Dieback.
1148	*Pinus sylvestris*	Scots Pine	18	1	Poor	Dieback.
1149	*Pinus strobus*	Eastern White Pine	12	2	Good	Crowded
1150	*Pinus resinosa*	Red Pine	19	2	Good	Dieback.
1151	*Pinus sylvestris*	Scots Pine	23	3	Good	Dieback.
1152	*Pinus strobus*	Eastern White Pine	12	1	Good	Crowded
1153	*Pinus sylvestris*	Scots Pine	16	2	Poor	Dieback.

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1154	*Pinus resinosa*	Red Pine	29	4	Good	No observable defect
1155	*Pinus resinosa*	Red Pine	36	3	Good	No observable defect
1156	*Pinus strobus*	Eastern White Pine	28	4	Good	Crowded
1157	*Pinus resinosa*	Red Pine	30	3	Good	Uncorrected lean, minor dieback.
1158	*Pinus resinosa*	Red Pine	24	2	Good	Minor dieback.
1159	*Pinus sylvestris*	Scots Pine	22	4	Poor	Uncorrected lean, dieback.
1160	*Pinus resinosa*	Red Pine	20	2	Fair	Dieback.
1161	*Juglans nigra*	Black Walnut	12	3	Good	Stem wound
1162	*Pinus resinosa*	Red Pine	22	3	Fair	Grapevine competition, dieback.
1163	*Pinus resinosa*	Red Pine	28	3	Fair	Dieback.
1164	*Pinus sylvestris*	Scots Pine	13	2	Poor	Dieback.
1165	*Pinus sylvestris*	Scots Pine	18	1	Poor	Uncorrected lean, dieback.
1166	*Pinus sylvestris*	Scots Pine	16	2	Poor	Poor form, dieback.
1167	*Pinus sylvestris*	Scots Pine	11	1	Fair	Dieback.
1168	*Pinus sylvestris*	Scots Pine	18	2	Poor	Dieback.
1169	*Betula papyrifera*	Paper Birch	11	2	Good	Uncorrected lean
1170	*Pinus resinosa*	Red Pine	13	2	Fair	Dieback.
1171	*Pinus sylvestris*	Scots Pine	22	3	Poor	Dieback.
1172	*Pinus sylvestris*	Scots Pine	11	1	Fair	Dieback.
1173	*Pinus sylvestris*	Scots Pine	14	1	Poor	Crowded, dieback.
1174	*Pinus sylvestris*	Scots Pine	20	3	Fair	Dieback.
1175	*Pinus sylvestris*	Scots Pine	12	1	Poor	Dieback.
1176	*Pinus sylvestris*	Scots Pine	15	1	Poor	Dieback.
1177	*Pinus sylvestris*	Scots Pine	18	2	Good	Grapevine competition, dieback.
1178	*Pinus sylvestris*	Scots Pine	13	2	Poor	Dieback.
1179	*Pinus sylvestris*	Scots Pine	12	1	Poor	Uncorrected lean
1180	*Pinus sylvestris*	Scots Pine	23	3	Fair	Dieback.
1181	*Pinus resinosa*	Red Pine	20	2	Good	Dieback.
1182	*Pinus sylvestris*	Scots Pine	20	3	Poor	Dieback.
1183	*Pinus sylvestris*	Scots Pine	12	2	Fair	Uncorrected lean
1184	*Pinus resinosa*	Red Pine	18	2	Poor	Grapevine competition, dieback.
1185	*Pinus resinosa*	Red Pine	25	4	Good	Dieback.
1186	*Juglans nigra*	Black Walnut	16	3	Good	Codominance (U-shaped junction)
1187	*Pinus resinosa*	Red Pine	25	3	Good	Uncorrected lean, dieback.
1188	*Pinus resinosa*	Red Pine	22	2	Good	Dieback.

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1189	*Pinus sylvestris*	Scots Pine	12	1	Fair	Dieback.
1190	*Quercus macrocarpa*	Bur Oak	11	2	Good	No observable defect
1191	*Pinus sylvestris*	Scots Pine	19	1	Poor	Grapevine competition, dieback.
1192	*Juglans nigra*	Black Walnut	28	5	Good	No observable defect
1193	*Tilia americana*	Basswood	13	3	Good	No observable defect
1194	*Juglans nigra*	Black Walnut	26	5	Fair	Stem wound, crack, uncorrected lean
1195	*Picea glauca*	White Spruce	30, 12	4	Good	Poor, dieback.
1196	*Picea glauca*	White Spruce	26	3	Poor	Strangling root, dieback.
1197	*Picea glauca*	White Spruce	23	3	Poor	Codominance (U-shaped junction), dieback.
1198	*Picea glauca*	White Spruce	39	4	Good	Strangling root, dieback.
1199	*Picea glauca*	White Spruce	21	2	Good	Strangling root, dieback.
1200	*Picea glauca*	White Spruce	22	3	Good	Dieback.
1201	*Picea glauca*	White Spruce	33	3	Fair	Strangling root, dieback.
1202	*Picea glauca*	White Spruce	26	3	Good	Strangling root, dieback.
1203	*Picea glauca*	White Spruce	16	2	Fair	Strangling root, uncorrected lean
1204	*Picea glauca*	White Spruce	27	3	Good	Strangling root, dieback.
1205	*Juglans nigra*	Black Walnut	15	3	Good	Dead branch, uncorrected lean
1206	*Pinus sylvestris*	Scots Pine	24	2	Fair	Dieback.
1207	*Picea glauca*	White Spruce	21	2	Poor	Uncorrected lean, lost leader, dieback
1208	*Picea glauca*	White Spruce	29	4	Good	Strangling root
1209	*Juglans nigra*	Black Walnut	11	3	Good	Stem wound, codominance (U-shaped junction)
1210	*Picea glauca*	White Spruce	10, 8	1	Fair	Crowded, lost leader
1211	*Picea glauca*	White Spruce	14	2	Fair	Dead branch, lost leader
1212	*Picea glauca*	White Spruce	20	3	Good	Strangling root, crowded
1213	*Picea glauca*	White Spruce	13	2	Fair	Exposed roots, uncorrected lean, dieback.
1214	*Juglans nigra*	Black Walnut	26	4	Good	Stem wound
1215	*Picea glauca*	White Spruce	11	2	Good	Strangling root, exposed roots
1216	*Pinus sylvestris*	Scots Pine	18	4	Good	Dieback.
1217	*Picea glauca*	White Spruce	10	2	Good	Dieback.
1218	*Picea glauca*	White Spruce	10	1	Fair	Dieback.
1219	*Picea glauca*	White Spruce	17	2	Good	Strangling root, dieback.
1220	*Juglans nigra*	Black Walnut	31	6	Fair	Stem wound, canker, grapevine competition

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1221	*Picea glauca*	White Spruce	17	2	Good	Strangling root, dieback.
1222	*Picea glauca*	White Spruce	11, 9	2	Good	Codominance (V-shaped junction), dieback.
1223	*Picea glauca*	White Spruce	15	2	Good	No observable defect
1224	*Picea glauca*	White Spruce	18	3	Poor	Uncorrected lean, lost leader, dieback.
1225	*Picea glauca*	White Spruce	12	1	Fair	Uncorrected lean, dieback.
1226	*Picea glauca*	White Spruce	22	3	Fair	Dieback.
1227	*Picea glauca*	White Spruce	18	2	Fair	Strangling root, uncorrected lean, dieback.
1228	*Picea glauca*	White Spruce	17	2	Poor	Strangling root, grapevine competition, dieback.
1229	*Picea glauca*	White Spruce	20	2	Fair	Strangling root, dieback.
1230	*Picea glauca*	White Spruce	25	2	Good	Dieback.
1231	*Picea glauca*	White Spruce	16	2	Fair	Strangling root, dieback.
1232	*Picea glauca*	White Spruce	11	1	Poor	Dieback.
1233	*Picea glauca*	White Spruce	14	2	Fair	Poor, dieback.
1234	*Picea glauca*	White Spruce	22	1	Poor	Dieback.
1235	*Picea glauca*	White Spruce	14	2	Fair	Strangling root, exposed roots, dieback.
1236	*Acer platanoides*	Norway Maple	32	4	Good	Codominance (U-shaped junction), dieback
1237	*Juglans nigra*	Black Walnut	14	3	Fair	Crowded, stem wound, uncorrected lean
1238	*Juglans nigra*	Black Walnut	28	5	Good	No observable defect
1239	*Acer platanoides*	Norway Maple	24	3	Good	Pruning wounds, spiral crack, minor dieback
1240	*Juglans nigra*	Black Walnut	38	6	Good	Grapevine competition
1241	*Picea glauca*	White Spruce	19	2	Fair	Crowded, dead leader, dieback
1242	*Acer platanoides*	Norway Maple	25	3	Good	Pruning wounds, epicormic branching, spiral crack
1243	*Acer saccharum*	Sugar Maple	12	4	Good	No observable defect
1244	*Picea glauca*	White Spruce	30	3	Poor	Strangling root, dieback.
1245	*Acer platanoides*	Norway Maple	23	3	Good	Stem wound, decay, spiral crack
1246	*Fraxinus pennsylvanica*	Green Ash	10	2	Good	Stem wound, Emerald Ash Borer.
1247	*Cornus alternifolia*	Alternate leaved Dogwood	10	2	Poor	Epicormic branching, dieback.
1248	*Picea glauca*	White Spruce	27	2	Good	Dieback.

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1249	*Prunus avium*	Sweet Cherry	14	3	Fair	Crowded, uncorrected lean, dieback.
1250	*Juglans nigra*	Black Walnut	21	5	Good	Uncorrected lean
1251	*Picea glauca*	White Spruce	26	3	Good	Strangling root, dieback.
1252	*Fraxinus pennsylvanica*	Green Ash	14	4	Good	No observable defect
1253	*Prunus serotina*	Black Cherry	11	2	Poor	Poor form, dieback.
1254	*Fraxinus pennsylvanica*	Green Ash	10	3	Good	Stem wound, codominance (U-shaped junction), Emerald Ash Borer.
1255	*Picea glauca*	White Spruce	25	2	Good	Dieback.
1256	*Juglans nigra*	Black Walnut	24	5	Good	No observable defect
1257	*Picea glauca*	White Spruce	27	3	Good	Lost leader
1258	*Picea glauca*	White Spruce	11	1	Good	Dieback.
1259	*Acer saccharum*	Sugar Maple	15	5	Good	Uncorrected lean
1260	*Prunus avium*	Sweet Cherry	13	2	Fair	Uncorrected lean, dieback.
1261	*Picea glauca*	White Spruce	29	4	Good	Girdling root
1262	*Picea glauca*	White Spruce	25	3	Good	Girdling root, dieback.
1263	*Picea glauca*	White Spruce	19	2	Good	Dieback.
1264	*Picea glauca*	White Spruce	18	1	Poor	Dieback.
1265	*Picea glauca*	White Spruce	22	2	Fair	Girdling root, dieback.
1266	*Picea glauca*	White Spruce	27	2	Fair	Girdling root, dieback.
1267	*Picea glauca*	White Spruce	27	3	Fair	Dieback.
1268	*Juglans nigra*	Black Walnut	22	4	Good	No observable defect
1269	*Prunus serotina*	Black Cherry	11	2	Good	Uncorrected lean
1270	*Fraxinus pennsylvanica*	Green Ash	12	1	Poor	Epicormic branching, dead leader, Emerald Ash Borer.
1271	*Juglans nigra*	Black Walnut	28	6	Good	Uncorrected lean
1272	*Juglans nigra*	Black Walnut	20	4	Good	No observable defect
1273	*Fraxinus pennsylvanica*	Green Ash	11	4	Good	Stem wound, codominance (U-shaped junction), uncorrected lean
1274	*Quercus macrocarpa*	Bur Oak	14	3	Good	Crowded, codominance (U-shaped junction)
1275	*Juglans nigra*	Black Walnut	29	6	Good	No observable defect
1276	*Juglans nigra*	Black Walnut	20	4	Good	Crowded, stem wound, uncorrected lean
1277	*Juglans nigra*	Black Walnut	17	3	Good	Grapevine competition
1278	*Ulmus americana*	American Elm	16	3	Good	Dead branch, grapevine competition

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1279	*Juglans nigra*	Black Walnut	10	2	Fair	Crowded, stem wound, canker
1280	*Ulmus americana*	American Elm	11	2	Fair	Uncorrected lean, grapevine competition
1281	*Ulmus americana*	American Elm	13	3	Good	No observable defect
1282	*Juglans nigra*	Black Walnut	24	5	Fair	Stem wound
1283	*Pinus sylvestris*	Scots Pine	12	2	Fair	Dieback.
1284	*Pinus sylvestris*	Scots Pine	11	2	Fair	Poor form, dieback.
1285	*Picea glauca*	White Spruce	11	1	Good	Crowded
1286	*Juglans nigra*	Black Walnut	18	3	Good	Crowded, canker
1287	*Pinus sylvestris*	Scots Pine	12	1	Good	Codominance (U-shaped junction)
1288	*Quercus macrocarpa*	Bur Oak	50	7	Good	Codominance (U-shaped junction), dead branch, dieback.
1289	*Juglans nigra*	Black Walnut	18	4	Good	Dead branch
1290	*Fraxinus pennsylvanica*	Green Ash	11, 4	1	Poor	Epicormic branching, Emerald Ash Borer.
1291	*Pinus sylvestris*	Scots Pine	14	2	Fair	Dieback.
1292	*Fraxinus pennsylvanica*	Green Ash	14, 7, 6, 6	2	Poor	Stem wound, Emerald Ash Borer.
1293	*Tilia americana*	Basswood	16	3	Fair	Epicormic branching, dieback.
1294	*Picea glauca*	White Spruce	13	1	Fair	Stem wound, dieback.
1295	*Tilia americana*	Basswood	24, 14, 9	3	Poor	Dieback.
1296	*Juglans nigra*	Black Walnut	12	1	Poor	Dieback.
1297	*Pinus sylvestris*	Scots Pine	11	1	Poor	Dieback.
1298	*Quercus macrocarpa*	Bur Oak	24	4	Good	No observable defect
1299	*Quercus macrocarpa*	Bur Oak	12	1	Good	Codominance (U-shaped junction)
1300	*Quercus macrocarpa*	Bur Oak	16	2	Good	Grapevine competition, dieback.
1301	*Quercus macrocarpa*	Bur Oak	15	2	Good	Dead branch
1302	*Quercus macrocarpa*	Bur Oak	12	1	Fair	Dieback.
1303	*Quercus macrocarpa*	Bur Oak	16	2	Good	Grapevine competition, dieback.
1304	*Pinus sylvestris*	Scots Pine	12	1	Poor	Dieback.
1305	*Picea glauca*	White Spruce	12	1	Good	No observable defect
1306	*Picea glauca*	White Spruce	14	2	Fair	Dieback.
1307	*Pinus sylvestris*	Scots Pine	17	3	Poor	Dieback.
1308	*Pinus sylvestris*	Scots Pine	23	3	Fair	Dieback.
1309	*Picea glauca*	White Spruce	51	4	Fair	Dieback.
1310	*Picea glauca*	White Spruce	28	3	Poor	Dieback.

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1311	*Juglans nigra*	Black Walnut	24	5	Good	Stem wound, poor form
1312	*Picea glauca*	White Spruce	16	1	Poor	Dieback.
1313	*Acer nigrum*	Black Maple	14	4	Good	No observable defect
1314	*Fraxinus pennsylvanica*	Green Ash	12	3	Good	Stem wound
1315	*Ulmus americana*	American Elm	12	3	Fair	Dieback.
1316	*Fraxinus pennsylvanica*	Green Ash	11	1	Poor	Epicormic branching, stem wound, Emerald Ash Borer.
1317	*Fraxinus pennsylvanica*	Green Ash	12	1	Poor	Stem wound, Emerald Ash Borer, dieback.
1318	*Pyrus communis*	Common Pear	22, 22	2	Poor	Codominance (V-shaped junction), epicormic branching
1319	*Acer x freemanii*	Freeman's Maple	12, 10, 9	4	Good	Stem wound
1320	*Fraxinus pennsylvanica*	Green Ash	14, 5, 4	1	Poor	Stem wound, Emerald Ash Borer.
1321	*Ulmus americana*	American Elm	11	1	Fair	Dieback.
1322	*Acer x freemanii*	Freeman's Maple	20, 12	3	Poor	Dieback.
1323	*Acer x freemanii*	Freeman's Maple	30, 26, 24, 24, 23, 20	1	Poor	Epicormic branching, cavities, poor form, dead limb, crack, mostly dead.
1324	*Fraxinus americana*	White Ash	11	3	Fair	Stem wound, decay, Emerald Ash Borer
1325	*Juglans nigra*	Black Walnut	16	3	Good	Crowded, grapevine competition
1326	*Pinus sylvestris*	Scots Pine	13	1	Good	No observable defect
1327	*Pinus sylvestris*	Scots Pine	10	1	Good	No observable defect
1328	*Thuja occidentalis*	Eastern White Cedar	12	1	Good	No observable defect
1329	*Pinus sylvestris*	Scots Pine	14	1	Good	Dieback
1330	*Thuja occidentalis*	Eastern White Cedar	15	1	Good	No observable defect
1331	*Pinus strobus*	Eastern White Pine	16	2	Good	No observable defect
1332	*Pinus strobus*	Eastern White Pine	19	2	Good	Minor dieback
1333	*Juglans nigra*	Black Walnut	16, 13, 9	3	Good	Grapevine competition, multiple leader
1334	*Pinus strobus*	Eastern White Pine	24	2	Good	Dieback
1335	*Pinus strobus*	Eastern White Pine	15	1	Good	Stem wound, crowded
1336	*Pinus strobus*	Eastern White Pine	21	3	Good	Minor dieback
1337	*Pinus strobus*	Eastern White Pine	30	4	Good	Minor dieback
1338	*Pinus sylvestris*	Scots Pine	13	1	Fair	Lost leader, dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1339	*Pinus strobus*	Eastern White Pine	27	4	Good	Dieback
1340	*Pinus sylvestris*	Scots Pine	21	3	Good	Stem wound
1341	*Pinus strobus*	Eastern White Pine	24	2	Good	No observable defect
1342	*Juglans nigra*	Black Walnut	13	3	Good	Stem wound, canker
1343	*Juglans nigra*	Black Walnut	13	4	Good	Dieback
1344	*Acer saccharum*	Sugar Maple	15	2	Good	Uncorrected lean, dieback
1345	*Juglans nigra*	Black Walnut	16, 11	3	Good	Grapevine competition
1346	*Pinus strobus*	Eastern White Pine	13	1	Good	No observable defect
1347	*Pinus strobus*	Eastern White Pine	24	2	Good	Crowded
1348	*Pinus strobus*	Eastern White Pine	20	2	Good	Dead branch, grapevine competition, dieback
1349	*Pinus strobus*	Eastern White Pine	18	2	Good	Crowded
1350	*Juglans nigra*	Black Walnut	16	4	Good	Codominance (U-shaped junction), crowded, minor dieback
1351	*Crataegus punctata*	Dotted Hawthorn	11, 4, 3, 2, 2, 2, 2	3	Good	Crowded, dead branch
1352	*Pinus strobus*	Eastern White Pine	17	2	Good	Crowded
1353	*Juglans nigra*	Black Walnut	15	3	Good	Crowded, minor dieback
1354	*Juglans nigra*	Black Walnut	18	3	Good	No observable defect
1355	*Juglans nigra*	Black Walnut	12	3	Good	Minor dieback
1356	*Juglans nigra*	Black Walnut	11	2	Good	No observable defect
1357	*Tilia americana*	Basswood	18	3	Good	No observable defect
1358	*Juglans nigra*	Black Walnut	20	4	Good	Grapevine competition
1359	*Juglans nigra*	Black Walnut	16	3	Good	Grapevine competition
1360	*Juglans nigra*	Black Walnut	19	5	Good	Grapevine competition
1361	*Juglans nigra*	Black Walnut	11	2	Good	Minor dieback
1362	*Juglans nigra*	Black Walnut	13, 13, 11, 11, 9	4	Fair	Poor form, decay, crowded, canker, minor dieback
1363	*Juglans nigra*	Black Walnut	13, 6	3	Good	No observable defect
1364	*Juglans nigra*	Black Walnut	13	3	Good	Crowded, minor dieback
1365	*Quercus macrocarpa*	Bur Oak	14	2	Good	Grapevine competition
1366	*Pinus strobus*	Eastern White Pine	27	4	Fair	Stem wound, decay, Pileated Woodpecker cavities
1367	*Juglans nigra*	Black Walnut	13	2	Good	Minor dieback

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1368	*Fraxinus pennsylvanica*	Green Ash	12	1	Poor	Epicormic branching, grapevine competition, Emerald Ash Borer
1369	*Juglans nigra*	Black Walnut	29	5	Good	Codominance (U-shaped junction), grapevine competition
1370	*Pinus strobus*	Eastern White Pine	31	3	Good	Dieback
1371	*Acer saccharum*	Sugar Maple	18	3	Good	Codominance (U-shaped junction)
1372	*Quercus macrocarpa*	Bur Oak	17	4	Good	Minor dieback
1373	*Juglans nigra*	Black Walnut	10	1	Good	Grapevine competition
1374	*Quercus macrocarpa*	Bur Oak	13	3	Good	No observable defect
1375	*Pinus sylvestris*	Scots Pine	10	1	Good	Minor dieback
1376	*Juglans nigra*	Black Walnut	15, 14	3	Good	Codominance (V-shaped junction)
1377	*Juglans nigra*	Black Walnut	13	2	Good	Minor dieback
1378	*Pinus strobus*	Eastern White Pine	21	3	Good	Dieback
1379	*Juglans nigra*	Black Walnut	14	3	Good	Dieback
1380	*Juglans nigra*	Black Walnut	17	3	Good	Grapevine competition, dieback
1381	*Juglans nigra*	Black Walnut	64	7	Good	Epicormic branching, minor dieback
1382	*Fraxinus pennsylvanica*	Green Ash	10	1	Poor	Epicormic branching
1383	*Juglans nigra*	Black Walnut	30	5	Good	Dead branch, stem wound, dieback
1384	*Juglans nigra*	Black Walnut	11	1	Good	Dead branch, dieback
1385	*Juglans nigra*	Black Walnut	21	4	Good	Grapevine competition, dieback
1386	*Prunus serotina*	Black Cherry	19	3	Good	Codominance (U-shaped junction), uncorrected lean
1387	*Quercus macrocarpa*	Bur Oak	23	4	Good	Fungus, minor dieback. jelly fungus on dead branches.
1388	*Picea pungens*	Blue Spruce	35	4	Fair	Mower damage, pruning wounds, strangling root, dieback
1389	*Malus sp.*	Crabapple	17, 17, 13, 9	4	Good	Pruning wounds, cultivar.
1390	*Acer platanoides*	Norway Maple	51	5	Good	Codominance (U-shaped junction), strangling root, mower damage, pruning wounds, crack, dieback
1391	*Acer saccharum*	Sugar Maple	71	7	Good	Pruning wounds, codominance (V-shaped junction), mower damage

Tree ID	Scientific Name	Common Name	DBH of Stems	Dripline	Condition	Comments
1392	*Acer platanoides*	Norway Maple	48	6	Poor	Dead branch, pruning wounds, codominance (V-shaped junction), mower damage, stem wound, decay, dieback

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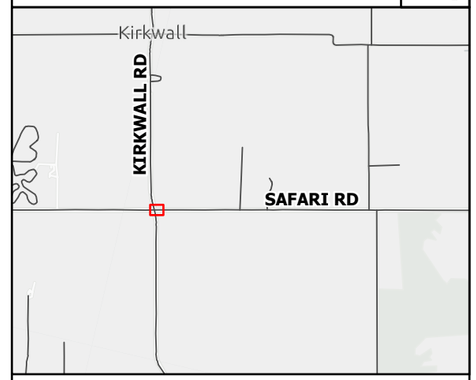
Tree Inventory and Proposed Grading Limit | Map **4**



Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

- Removal Recommended
- Retention Recommended

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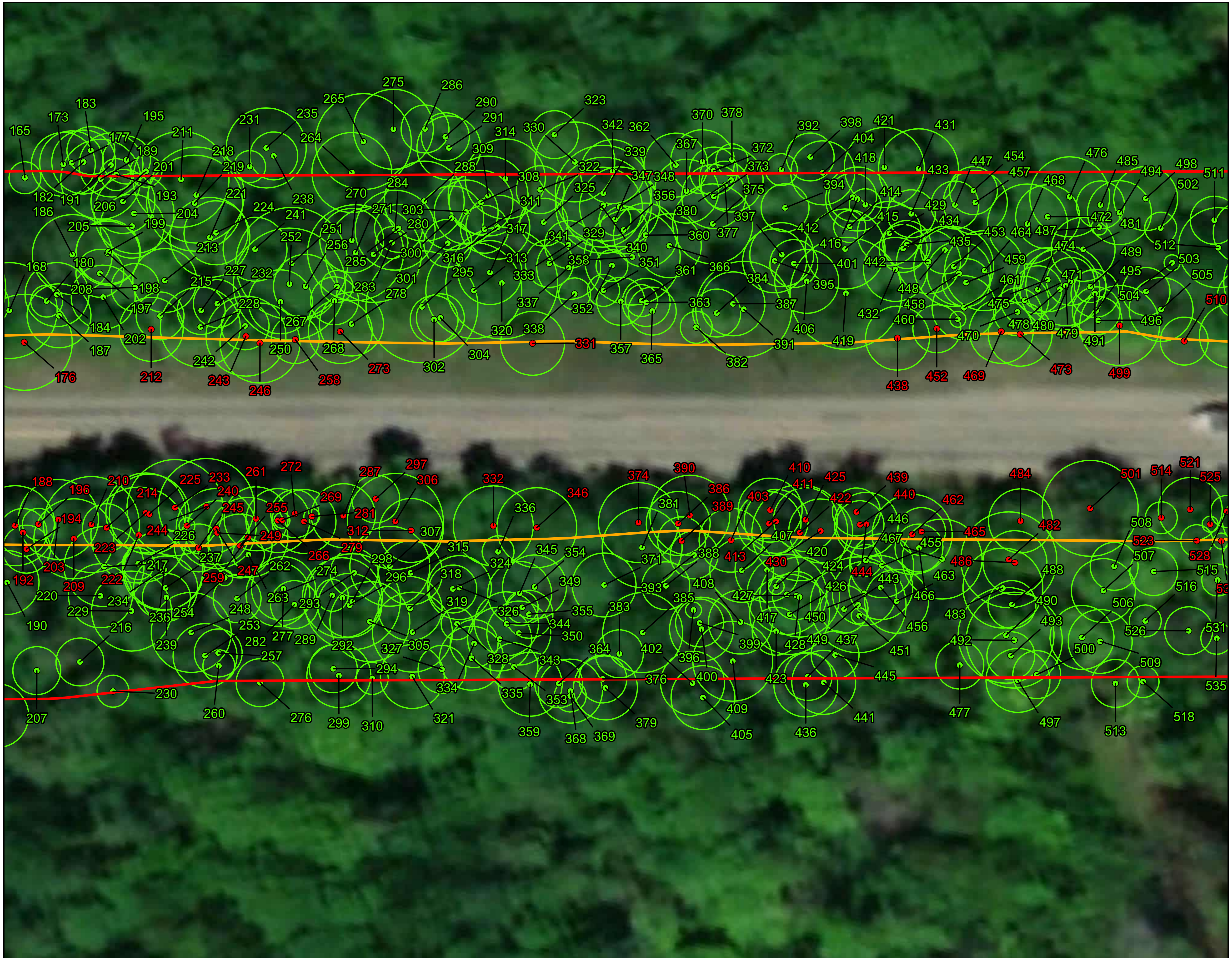
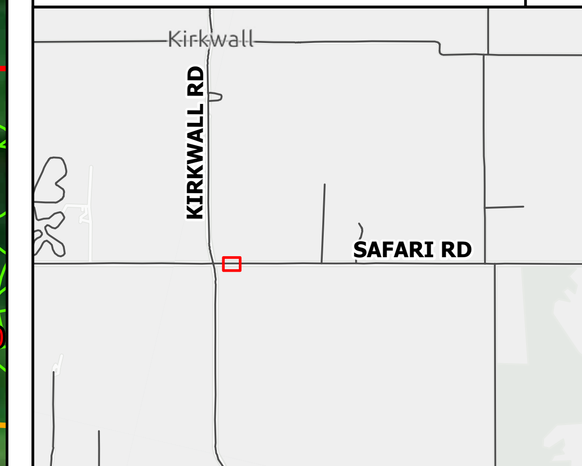
Tree Inventory and Proposed Grading Limit — Map **4**





Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

- Removal Recommended
- Retention Recommended

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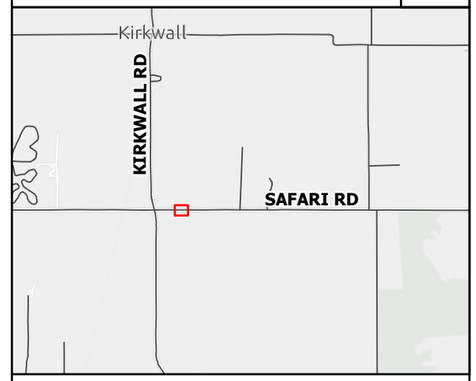

Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

- Removal Recommended
- Retention Recommended

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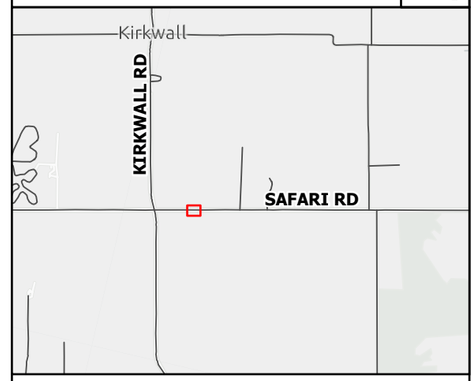

Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

- Removal Recommended
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Tree Inventory and Proposed Grading Limit | Map **4**

Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

- Removal Recommended
- Retention Recommended

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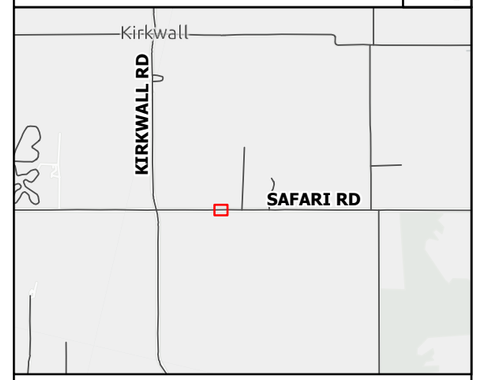
Map **4**



Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

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- Retention Recommended

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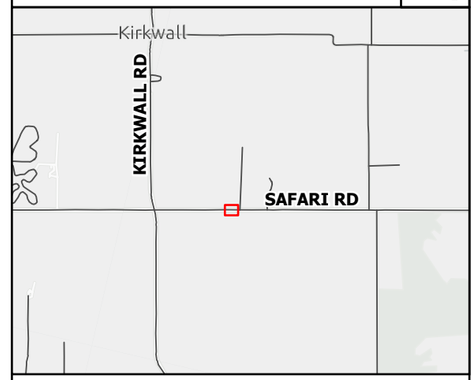
Map **4**



Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

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- Retention Recommended

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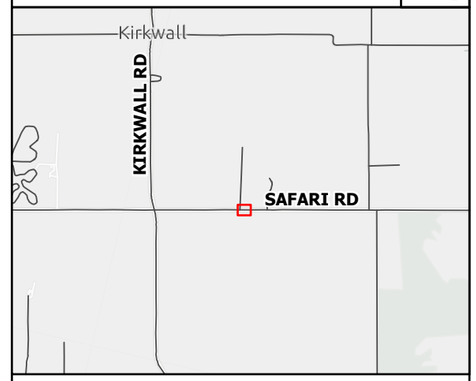

Legend

- Study Area
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- Dripline

Tree Management

- Retention Recommended

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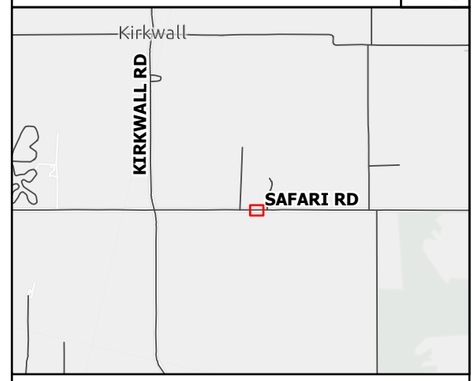
Map **4**



Legend

- Study Area
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- Dripline

Tree Management

- Retention Recommended

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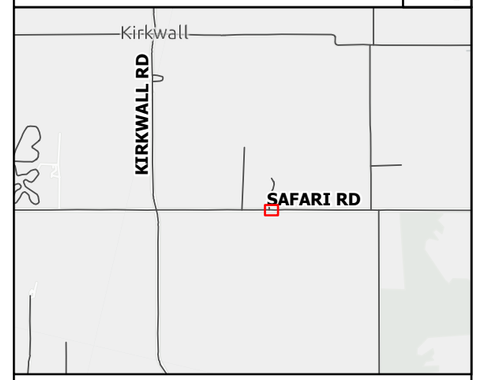

Legend

- Study Area
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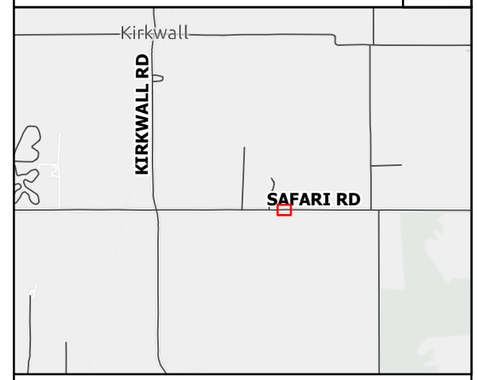

Legend

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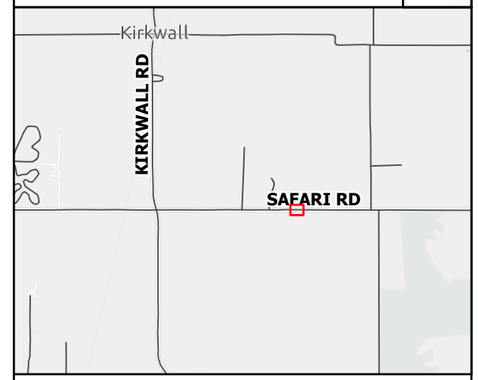
Map **4**



Legend

- Study Area
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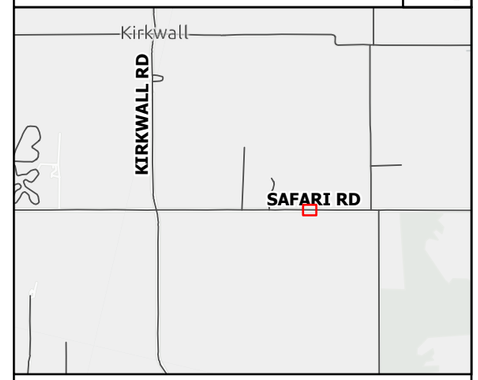
Map **4**



Legend

- Study Area
- Proposed Grading Limit
- Dripline

Tree Management

- Removal Recommended

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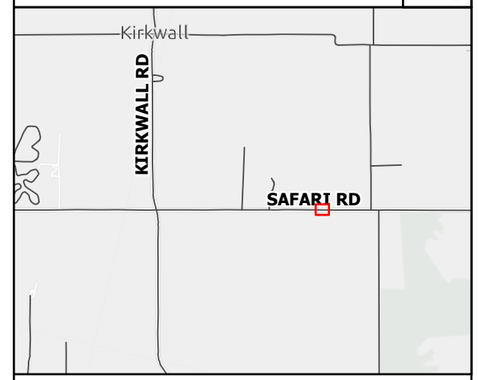
Map **4**



Legend

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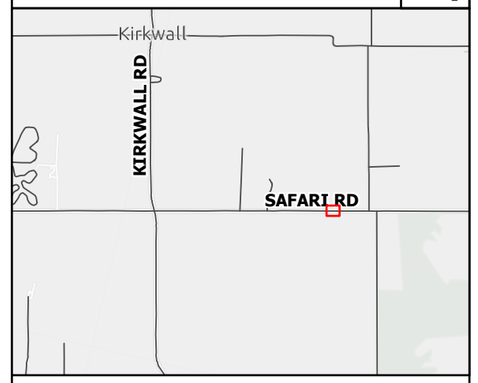
Map **4**



Legend

- Study Area
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Tree Management

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- Retention Recommended

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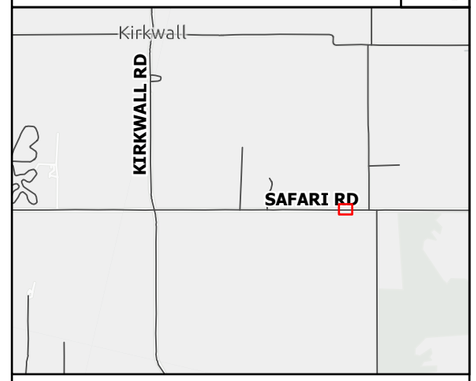
Tree Inventory and Proposed Grading Limit | Map **4**



Legend

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Tree Management

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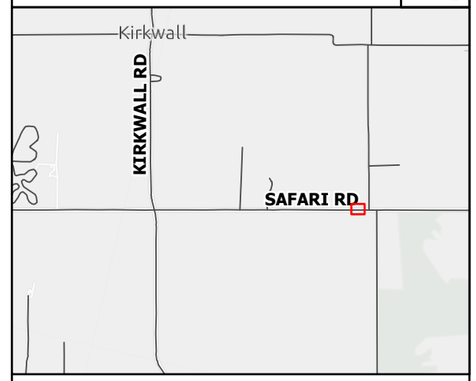
Tree Inventory and Proposed Grading Limit

Map **4**



Legend

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Tree Management

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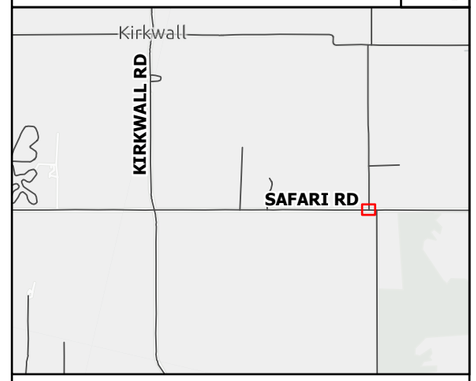
Tree Inventory and Proposed Grading Limit | Map **4**



Legend

- Study Area
- Proposed Grading Limit
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Tree Management

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APPENDIX F

Wildlife Inventory

Wildlife Inventory

Common Name	Scientific Name	SARO	SRank	Breeding Evidence Recorded (Birds only)
Birds				
American Bittern	*Botaurus lentiginosus*	-	S5B	•
American Coot	*Fulica americana*	-	S3B,S4N	
American Crow	*Corvus brachyrynchos*	-	S5	•
American Goldfinch	*Spinus tristis*	-	S5	•
American Pipit	*Anthus rubescens*	-	S4B	
American Redstart	*Setophaga ruticilla*	-	S5B	•
American Robin	*Turdus migratorius*	-	S5	•
Bald Eagle	*Haliaeetus leucocephalus*	-	S4	
Baltimore Oriole	*Icterus galbula*	-	S4B	•
Barn Swallow	*Hirundo rustica*	SC	S4B	•
Bay-breasted Warbler	*Setophaga castanea*	-	S5B	
Black-and-white Warbler	*Mniotilta varia*	-	S5B	•
Black-billed Cuckoo	*Coccyzus erythropthalmus*	-	S4S5B	•
Black-capped Chickadee	*Poecile atricapillus*	-	S5	•
Black-throated Green Warbler	*Setophaga virens*	-	S5B	•
Blackburnian Warbler	*Setophaga fusca*	-	S5B	•
Blackpoll Warbler	*Setophaga striata*	-	S5B	
Blue-gray Gnatcatcher	*Polioptila caerulea*	-	S4B	•
Blue-headed Vireo	*Vireo solitarius*	-	S5B	
Blue Jay	*Cyanocitta cristata*	-	S5	•
Blue-winged Warbler	*Vermivora cyanoptera*	-	S4B	•
Bobolink	*Dolichonyx oryzivorus*	THR	S4B	•
Broad-winged Hawk	*Buteo platypterus*	-	S5B	•
Brown Creeper	*Certhia americana*	-	S5	•
Brown-headed Cowbird	*Molothrus ater*	-	S5	•
Brown Thrasher	*Toxostoma rufum*	-	S4B	•
Canada Goose	*Branta canadensis*	-	S5	•
Cedar Waxwing	*Bombycilla cedrorum*	-	S5	•
Chestnut-sided Warbler	*Setophaga pensylvanica*	-	S5B	•
Chimney Swift	*Chaetura pelagica*	THR	S3B	
Chipping Sparrow	*Spizella passerina*	-	S5B,S3N	•
Common Gallinule	*Gallinula galeata*	-	S3B	•
Common Grackle	*Quiscalus quiscula*	-	S5	•
Common Yellowthroat	*Geothlypis trichas*	-	S5B,S3N	•
Cooper's Hawk	*Astur cooperii*	-	S4	•
Downy Woodpecker	*Dryobates pubescens*	-	S5	•
Eastern Bluebird	*Sialia sialis*	-	S5B,S4N	•
Eastern Kingbird	*Tyrannus tyrannus*	-	S4B	•
Eastern Phoebe	*Sayornis phoebe*	-	S5B	•
Eastern Towhee	*Pipilo erythrophthalmus*	-	S4B,S3N	•
Eastern Wood-Pewee	*Contopus virens*	SC	S4B	•
European Starling	*Sturnus vulgaris*	-	SNA	•
Field Sparrow	*Spizella pusilla*	-	S4B,S3N	•
Gray Catbird	*Dumetella carolinensis*	-	S5B,S3N	•
Great Blue Heron	*Ardea herodias*	-	S4	
Great Crested Flycatcher	*Myiarchus crinitus*	-	S5B	•

Common Name	Scientific Name	SARO	SRank	Breeding Evidence Recorded (Birds only)
Green Heron	*Butorides virescens*	-	S4B	
House Finch	*Haemorhous mexicanus*	-	SNA	
Indigo Bunting	*Passerina cyanea*	-	S5B	•
Killdeer	*Charadrius vociferus*	-	S4B	•
Least Bittern	*Botaurus exilis*	THR	S4B	•
Least Flycatcher	*Empidonax minimus*	-	S5B	•
Magnolia Warbler	*Setophaga magnolia*	-	S5B	
Mallard	*Anas platyrhynchos*	-	S5	•
Marsh Wren	*Cistothorus palustris*	-	S4B,S3N	•
Mourning Dove	*Zenaida macroura*	-	S5	•
Mute Swan	*Cygnus olor*	-	SNA	•
Nashville Warbler	*Leiothlypis ruficapilla*	-	S5B	
Northern Cardinal	*Cardinalis cardinalis*	-	S5	•
Northern Flicker	*Colaptes auratus*	-	S5	•
Northern House Wren	*Troglodytes aedon*	-	S5B	•
Ovenbird	*Seiurus aurocapilla*	-	S5B	•
Pied-billed Grebe	*Podilymbus podiceps*	-	S4B,S2N	•
Pileated Woodpecker	*Dryocopus pileatus*	-	S5	•
Pine Warbler	*Setophaga pinus*	-	S5B,S3N	•
Prothonotary Warbler	*Protonotaria citrea*	END	S1B	•
Purple Finch	*Haemorhous purpureus*	-	S5	
Purple Martin	*Progne subis*	-	S3B	
Red-bellied Woodpecker	*Melanerpes carolinus*	-	S5	•
Red-eyed Vireo	*Vireo olivaceus*	-	S5B	•
Red-winged Blackbird	*Agelaius phoeniceus*	-	S5	•
Rock Pigeon	*Columba livia*	-	SNA	
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	-	S5B	•
Ruby-crowned Kinglet	*Corthylio calendula*	-	S5B,S3N	
Ruby-throated Hummingbird	*Archilochus colubris*	-	S5B	•
Rusty Blackbird	*Euphagus carolinus*	SC	S4B,S3N	
Sandhill Crane	*Antigone canadensis*	-	S5B,S3N	
Savannah Sparrow	*Passerculus sandwichensis*	-	S5B,S3N	•
Song Sparrow	*Melospiza melodia*	-	S5	•
Spotted Sandpiper	*Actitis macularius*	-	S5B	•
Swamp Sparrow	*Melospiza georgiana*	-	S5B,S4N	•
Tennessee Warbler	*Leiothlypis peregrina*	-	S5B	
Tree Swallow	*Tachycineta bicolor*	-	S4S5B	•
Turkey Vulture	*Cathartes aura*	-	S5B,S3N	
Vesper Sparrow	*Pooecetes gramineus*	-	S4B	
Virginia Rail	*Rallus limicola*	-	S4S5B	•
Warbling Vireo	*Vireo gilvus*	-	S5B	•
White-breasted Nuthatch	*Sitta carolinensis*	-	S5	•
White-throated Sparrow	*Zonotrichia albicollis*	-	S5	
Wild Turkey	*Meleagris gallopavo*	-	S5	•
Willow Flycatcher	*Empidonax traillii*	-	S4B	•
Wood Duck	*Aix sponsa*	-	S5B,S3N	•
Wood Thrush	*Hylocichla mustelina*	SC	S4B	•
Yellow-rumped Warbler	*Setophaga coronata*	-	S5B,S4N	
Yellow Warbler	*Setophaga petechia*	-	S5B	•

Common Name	Scientific Name	SARO	SRank	Breeding Evidence Recorded (Birds only)
Mammals				
Coyote	*Canus latrans*	-	S5	
Eastern Gray Squirrel	*Sciurus carolinensis*	-	S5	
Eastern Chipmunk	*Tamias striatus*	-	S5	
Muskrat	*Ondatra zibethicus*	-	S5	
Red Squirrel	*Tamiasciurus hudsonicus*	-	S5	
Striped Skunk	*Mephitis mephitis*	-	S5	
White-tailed Deer	*Odocoileus virginianus*	-	S5	
Amphibians				
American Toad	*Anaxyrus americanus*	-	S5	
Gray Treefrog	*Dryophytes versicolor*	-	S5	
Green Frog	*Lithobates clamitans*	-	S5	
Northern Leopard Frog	*Lithobates pipiens*	-	S5	
Spring Peeper	*Pseudacris crucifer*	-	S5	
Reptiles				
Eastern Gartersnake	*Thamnophis sirtalis* ssp. *sirtalis*	-	S5	
Midland Painted Turtle	*Chrysemys picta* ssp. *marginata*	-	S4	
Northern Watersnake	*Nerodia sipedon* ssp. *sipedon*	-	S5	
Invertebrates				
Autumn Meadowhawk	*Sympetrum vicinum*	-	S5	
Belted Whiteface	*Leucorrhinia proxima*	-	S5	
Black Saddlebags	*Tramea lacerata*	-	S4	
Cabbage White	*Pieris rapae*	-	SNA	
Canada Darner	*Aeshna canadensis*	-	S5	
Clouded Sulphur	*Colias philodice*	-	S5	
Common Baskettail	*Epitheca cynosura*	-	S5	
Common Green Darner	*Anax junius*	-	S5	
Common Ringlet	*Coenonympha california*	-	S5	
Common Wood-Nymph	*Cercyonis pegala*	-	S5	
Dot-tailed Whiteface	*Leucorrhinia intacta*	-	S5	
Eastern Tailed Blue	*Cupido comyntas*	-	S5	
European Skipper	*Thymelicus lineola*	-	SNA	
Four-spotted Skimmer	*Libellula quadrimaculata*	-	S5	
Giant Swallowtail	*Heraclides cresphontes*	-	S4	
Halloween Pennant	*Celithemis eponina*	-	S4	
Little Wood-Satyr	*Megisto cymela*	-	S5	
Mourning Cloak	*Nymphalis antiopa*	-	S5	
Northern Crescent	*Phyciodes cocyta*	-	S5	
Northern Spreadwing	*Lestes disjunctus*	-	S5	
Prince Baskettail	*Epitheca princeps*	-	S5	
Red-spotted Purple	*Limentis arthemis* ssp. *astyanax*	-	S5	
Twelve-spotted Skimmer	*Libellula pulchella*	-	S5	

APPENDIX G

Significant Wildlife Habitat Tables

Significant Wildlife Habitat (SWH) – Ecoregion 6E Criterion Schedule

Table 1.1 Seasonal Concentration Areas of Animals

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these Ecosites. -	Fields with sheet water during Spring (mid- March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. Information Sources • Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. • Reports and other information available from Conservation Authorities (CAs). • Sites documented through waterfowl planning processes (eg. EHJV implementation plan). • Field Naturalist Clubs. • Ducks Unlimited Canada. • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • Any mixed species aggregations of 100 or more individuals required. • The area of the flooded field ecosite habitat plus a 100-300m radius buffer dependent on local site conditions and adjacent land use is the significant wildlife habitat. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • SWH MIST Index #7 provides development effects and mitigation measures.	**No** Habitats within and adjacent to the Study Area are unlikely to experience suitable flooding conditions.	**No** Candidate habitat was not identified.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) Information Sources • Environment Canada. • Naturalist clubs often are aware of	Studies carried out and verified presence of” • Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the ELC ecosites and a 100m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K	**No** Candidate ecosites are present within the Study Area. However, based on citizen science records, this area is not deemed to be significant for waterfowl staging.	**No** Candidate habitat was not confirmed. The Study Area is not known to support defining numbers of wildlife (eBird 2025).

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
	Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback		staging/stopover areas. • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (eg. EHJV implementation plan). • Ducks Unlimited projects. • Element occurrence. specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • SWHMIST Index #7 provides development effects and mitigation measures.		
Shorebird Migratory Stopover Area **Rationale:** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. Information Sources • Western hemisphere shorebird reserve network. • Canadian Wildlife Service (CWS) Ontario Shorebird Survey. • Bird Studies Canada. • Ontario Nature. • Local birders and naturalist clubs. • NHIC Shorebird Migratory Concentration Area	Studies confirming: • Presence of 3 or more of listed species and > 1000[f] shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100[f] Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #8 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.
Raptor Wintering Area **Rationale:** Sites used by multiple species, a high number of	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **Special Concern:**	**Hawks/Owls** Combination of ELC Community Series; need to have present one Community Series from each land	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering(hawk/owl) sites need to be > 20 ha	Studies confirm the use of these habitats by: • One or more Short-eared Owls or; One of more Bald Eagles or; At least 10 individuals	**Yes** Candidate ecosites are present within the Study Area.	**No** Candidate habitat was not confirmed. The Study Area is not known to support defining numbers of wildlife (eBird 2025).

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
individuals and used annually are most significant.	Short-eared Owl Bald Eagle	class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. **Bald Eagle:** Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or lakes with open water (hunting areas).	with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent Woodlands. • Field area of the habitat is to be wind swept with limited snow depth or accumulation. • Eagle sites have open water and large trees and snags available for roosting. Information Sources: • OMNR Ecologist or Biologist. • Naturalist club. • Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area. • Data from Bird Studies Canada, most notably for Short-eared Owls. • Results of Christmas Bird Counts. • Reports and other information available from Conservation Authorities.	and two of listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #10 and #11 provides development effects and mitigation measures.		
Bat Hibernacula **Rationale:** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-colored Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH. • The locations of bat hibernacula are relatively poorly known. Information Sources • OMNR for possible locations and contact for local experts. • Natural Heritage Information Center (NHIC) Bat Hibernaculum. • Ministry of Northern Development and Mines for location of mine shafts. • Clubs that explore caves (eg. Sierra Club).	• All sites with confirmed hibernating bats are SWH. • The area includes 200m radius around the entrance of the hibernaculum for most development types. and 1000m for wind farms. • Studies are to be conducted during the peak swarming period (Aug. – Sept.). • Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". • SWH MIST Index #1 provides development effect and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			• University Biology Departments with bat experts.			
Bat Maternity Colonies **<u>Rationale</u>:** Known locations of forested bat maternity colonies is extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. <u>Information Sources:</u> • OMNR for possible locations and contact for local experts. • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; – >10 Big Brown Bats – >5 Adult Female Silver-haired Bats • The area of the habitat includes the entire woodland or the forest stand ELC Ecosite containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”. • SWH MIST Index #12 provides development effects and mitigation measures.	**Yes** Candidate habitat is present in the wooded habitats of the Study Area (FOD, SWD).	**No** Habitat has not been confirmed but should be assumed to be present.
Turtle Wintering Areas **<u>Rationale</u>:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle **<u>Special Concern</u>:** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA. ELC Community Series; FEO and BOO Northern Map Turtle: Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources:</u> • EIS studies carried out by Conservation Authorities.	• Presence of 5 over-wintering Midland Painted Turtles is significant • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over-wintering is the SWH. • Over wintering areas may be identified by searching for	**Yes** Candidate habitat is present within the pond at the east end of the Study Area. Polygons 12a-c and 13b-e (MAS2-1) are a permanent waterbody >2m in depth with soft substrates. A number of Midland Painted Turtles were observed basking in this wetland during spring and summer field investigations.	**Yes** Presence of 10+ basking Midland Painted Turtles across Polygon 12a – 12c during spring field investigations (May 2) confirms this habitat.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			• Field Naturalists Clubs. • OMNRF Ecologist or Biologist. • Natural Heritage Information Centre (NHIC).	congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May). Congregation of turtles is more common where wintering areas are limited and therefore significant. • SWH MIST Index #28 provides development effects and mitigation measures for turtle wintering habitat.		
Reptile Hibernaculum **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Milksnake **Special Concern:** Eastern Ribbonsnake Lizard: Special Concern (Southern Shield population): Five-lined Skink	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice and Cave, and Alvar sites may be directly related to these habitats. Observations of congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 and FOC3	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. • Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures Information Sources • In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g.old dug wells). • Reports and other information	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)[I]. • Note: If there are Special Concern Species present, then site is SWH. • Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population [i.e. strong hibernation site fidelity.]. Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m buffer is the SWH • SWH MIST Index #13 provides development	**Yes** The presence of snakes and quality natural habitat (forested communities) suggests that reptile hibernaculum sites exist within the Study Area, however, specific sites were not located during field investigations. Further studies are needed to confirm locations of these habitat features.	**No** Candidate habitat was not confirmed, though it is expected to be present within and/or adjacent to the Study Area.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			available from Conservation Authorities. • Field Naturalist Clubs. • University herpetologists. • Natural Heritage Information Center (NHIC). • OMNRF ecologist or biologist may be aware of locations of wintering skinks	effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat		
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) **<u>Rationale</u>:** Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies).	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles, cliff faces, bridge abutments, silos, barns (Cliff Swallows). Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; NatureCounts http://www.birdscanada.org/bir dmon/ • Field Naturalist Clubs.	Studies confirming: • Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season (May-June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • SWH MIST Index #4 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) **<u>Rationale</u>:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Center (NHIC) Mixed Wader	Studies confirming: • Presence of 5 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300 m radius or extend of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the	**No** Candidate ecosites were identified within the Study Area. However, no breeding evidence from any of the listed species was detected.	**No** Candidate habitat was not identified.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			Nesting Colony. • Aerial photographs can help identify large heronries. • Reports and other information available from Conservation Authorities. • MNRF District Offices. • Local naturalist clubs.	presence of fresh guano, dead young and/or eggshells. • SWH MIST Index #5 provides development effects and mitigation measures.		
Colonially - Nesting Bird Breeding Habitat (Ground) **<u>Rationale</u>:** Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird). MAM1 – 6; MAS1 – 3; CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> • Brewers Blackbird colonies • Ontario Breeding Bird Atlas, rare/colonial species records. • Canadian Wildlife Service. • Reports and other information available from Conservation Authorities. • Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area. • MNRF District Offices. • Field Naturalist Clubs.	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #6 provides development effects and mitigation measures.	**No** Candidate habitat was not identified within the Study Areas.	**No** No candidate habitat was identified within the Study Areas.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Migratory Butterfly Stopover Areas **<u>Rationale</u>:** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate sight for butterfly stopover will have a history of butterflies being observed.	• A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. <u>Information Sources</u> • MNRF district Offices. • Natural Heritage Information Center (NHIC). • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs. • Toronto Entomologists Association. • Conservation Authorities	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • SWH MIST Index #16 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Landbird Migratory Stopover Areas **Rationale:** Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds.	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km Lake Ontario. • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes. • The largest sites are more significant. • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH.	Studies confirm: • Use of the woodlot by >200 birds/day and with >35 spp. with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (April/May) and fall (Aug to Oct) migration using standardized assessment techniques. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWH MIST Index #9 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.
Deer Yarding Areas **Rationale:** Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	• Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%cxciv. • OMNRF	No Studies Required: • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed	**Yes** Candidate ecosites are present within the Study Area.	**No** Candidate habitat was not identified within the Study Area by MNR (Government of Ontario (2025a)).

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat Present Within the Study Area	Confirmed Habitat Present within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual" • Woodlots with high densities of deer due to artificial feeding are not significant	development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures		
Deer Winter Congregation Areas **<u>Rationale</u>:** Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots>50ha. • Deer movement during winter in the southern areas Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. • Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> • MNRF District Offices. • LIO/NRVIS.	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys, or a pellet count deer density survey. • SWH MIST Index #2 provides development effects and mitigation measures.	**Yes** Candidate ecosites of sufficient size are present within the Study Area..	**No** Candidate habitat was not identified within the Study Area by MNR (Government of Ontario (2025)) or in correspondence.

Table 1.2.1 Rare Vegetation Communities

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
	ELC Ecosite Codes	Habitat Criteria and Information Sources	Detailed Information and Sources	Defining Criteria		
Cliffs and Talus Slopes **<u>Rationale</u>:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. <u>Information Sources</u> • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF Districts. • Natural Heritage Information Centre (NHIC) has location information available on their website. • Field Naturalist Clubs. • Conservation Authorities.	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. • SWH MIST Index #21 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.
Sand Barren **<u>Rationale</u>;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.	A sand barren area >0.5ha in size. <u>Information Sources</u> • OMNRF Districts. • Natural Heritage Information Center (NHIC) has location information available on their website. • Field Naturalist Clubs. • Conservation Authorities.	• Confirm any ELC Vegetation Type for Sand Barrens. • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • SWH MIST Index #20 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
	ELC Ecosite Codes	Habitat Criteria and Information Sources	Detailed Information and Sources	Defining Criteria		
Alvar **<u>Rationale</u>:** Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** 1)*Carex crawei* 2)*Panicum philadelphicum* 3)*Elocharis compressa* 4)*Scutellaria parvula* 5)*Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E.	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	An Alvar site > 0.5 ha in size Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie. <u>Information Sources</u> • Alvars of Ontario (2000), Federation of Ontario Naturalists. • Ontario Nature – Conserving Great Lakes Alvars. • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Staff. • Field Naturalist Clubs. • Conservation Authorities.	Field studies identify four of the five **Alvar Indicator Species** at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • SWH MIST Index #17 provides development effects and mitigation measures.	**No** Alvar is known from the lands north of the study (>120m), as indicated on Schedule B3. None of the indicator species were observed within the study area, but *Trichostema bractiatum* is known from within 1 km of the study area based on records from iNaturalist. Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.
Old Growth Forest **<u>Rationale</u>:** Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old-growth forests are characterized by heavy mortality or turnover of over-torey trees resulting in mosaic of gaps that encourage development of multi- layered canopy and an abundance of snags and downed woody debris.	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest <u>Information Sources</u> • OMNRF Forest Resource Inventory mapping. • OMNRF Districts. • Field Naturalist Clubs. • Conservation Authorities. • Sustainable Forestry Licence (SFL) companies. will possibly know locations through field operations. • Municipal forestry departments.	Field Studies will determine: • If dominant trees species of the ecosite are >140 years old, then area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH. • Determine ELC vegetation types For the forest area containing the old growth characteristics. • SWH MIST Index #23 provides development effects and mitigation measures.	**No** Candidate ecosites are present within the Study area, however The most mature woodland within the study area is polygon 1. This woodland appears to have a relatively open canopy on 1954 orthoimagery and is only~16ha in size. Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Rare Vegetation Community	CANDIDATE SWH			CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
	ELC Ecosite Codes	Habitat Criteria and Information Sources	Detailed Information and Sources	Defining Criteria		
Savannah **<u>Rationale</u>:** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> • Natural Heritage Information Center (NHIC) has location data available on their website. • OMNRF Districts. • Field Naturalists Clubs. • Conservation Authorities.	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • SWH MISTcxlix Index #18 provides development effects and mitigation measures.	**No** None of the applicable ELC Ecosites were identified within the Study Area.	**No** Candidate habitat was not identified.
Tallgrass Prairie **<u>Rationale</u>:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> • OMNRF Districts. • Natural Heritage Information Center (NHIC) has location data available on their website. • Field Naturalists Clubs. • Conservation Authorities.	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used. • Area of the ELC Ecosite is the SWH • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • SWH MIST Index #19 provides development effects and mitigation measures.	**No** None of the applicable ELC Ecosites were identified within the Study Area.	**No** Candidate habitat was not identified.

Table 1.2.2 Specialized Habitats For Wildlife considered SWH

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Waterfowl Nesting Area **<u>Rationale</u>:** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	A waterfowl nesting area extends 120 m [cxlix] from a wetland (> 0.5 ha) or a wetland (>0.5 ha) with small wetlands (<0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <u>Information Sources</u> • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from Conservation Authorities.	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWH MIST Index #25 provides development effects and mitigation measures.	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **<u>Rationale</u>:** Nest sites are fairly uncommon in Ecoregion 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline	Osprey **Special Concern** Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands,	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the	**No** No nests of either species nor any observations of either species during the nesting season were noted by RVA staff.	**No** Candidate habitat was not identified.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
development pressures and scarcity of habitat.			<u>Information Sources</u> • Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list know nesting locations, Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF Districts. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Reports and other information available from Conservation Authorities. • Field naturalist Clubs.	contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for ≥ 3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” • SWH MIST Index #26 provides development effects and mitigation measures.		

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Woodland Raptor Nesting Habitat **<u>Rationale</u>:** Nests sites for these species are rarely identified; these area sensitive habitats are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	All natural or conifer plantation woodland/forest stands combined >30ha or with >10 ha of interior habitat. Interior habitat determined with a 200m buffer. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> • OMNRF Districts. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk, – A 100m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWH MIST Index #27 provides development effects and mitigation measures.	**Yes** The southwestern forest (polygons 2b, 4, 6 and 7 combined) has a size >30 ha. Cooper's Hawk and Broad-winged Hawk were both recorded within this polygon displaying evidence of breeding during field investigations. No nests were found.	**No** Candidate habitat was not confirmed. No nests were found.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Turtle Nesting Areas **Rationale:** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle Special Concern Species Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) cxlviii or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. Information Sources • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Atlas records (or other similar atlases) for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Center (NHIC). • Field Naturalist Clubs.	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as a part of the 30-100m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	**Yes** The presence of turtles and quality natural habitat suggests that turtle nesting areas exist within the Study Area. However, specific sites were not located during field investigations. Further studies are needed to confirm locations of these habitat features.	**No** Candidate habitat was not confirmed but is likely to be present. Further studies are needed to confirm.
Seeps and Springs **Rationale:** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. Information Sources • Topographical Map. • Thermography. • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists Clubs and	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	the habitat. • SWH MIST Index #30 provides development effects and mitigation measures.		
Amphibian Breeding Habitat (Woodland). **<u>Rationale</u>:** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Presence of a wetland, pond woodland pool (including vernal pools) >500m^2 (about 25, diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF Districts and wetland Evaluations. • Field Naturalist Clubs • Canadian Wildlife Service Amphibian Road Call Survey. • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observation study and call count survey will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230m radius of area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWH MIST Index #14 provides development effects and mitigation measures.	**Yes** Polygon 3 and 4 (SWD3-3) meet the criteria for Candidate Habitat.	**No** Candidate habitat was not confirmed but is presumed to be present. Further studies are needed to confirm.
Amphibian Breeding Habitat (Wetlands) **<u>Rationale</u>:** Wetlands supporting breeding for these amphibian species are	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland	• Wetlands>500m^2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses)	**Yes** Candidate habitat is present within polygon 12a,12b and 12c (MAS2-1).	**No** Candidate habitat was not confirmed but is presumed to be present. Further studies are needed to confirm..

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
extremely important and fairly rare within Central Ontario landscapes.	Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases). • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations. • Reports and other information available from Conservation Authorities.	or 2 or more of the listed frog/toad species with Call Level Codes of 3 **or**; Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWH MIST Index #15 provides development effects and mitigation measures.		
Woodland Area-Sensitive Bird Breeding Habitat **<u>Rationale</u>:** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren <u>Special Concern:</u>	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat. <u>Information Sources</u> • Local birder clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring . • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding Cerulean Warblers or Canada Warbler is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • SWH MIST Index #34 provides development effects and mitigation measures.	**Yes** Ovenbird, Black-throated Green Warbler and Blackburnian Warbler were found to be displaying breeding evidence within the Study Area (polygon 1 and 2b). Safari Road is currently closed to through traffic in this section, greatly reducing vehicle use. Because of this, the road is not acting as a barrier for forest nesting birds.	**Yes** Breeding pairs of 3 of the listed wildlife species were detected within the forests at the west end of the Study Area. Therefore, this habitat is confirmed.

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
	Cerulean Warbler Canada Warbler		available from Conservation Authorities.			

Table 1.3 Habitats of Species of Conservation Concern considered SWH

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Marsh Breeding Bird Habitat **<u>Rationale</u>:** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <u>Information Sources</u> • OMNRF District and wetland evaluations. • Field Naturalist clubs. • Natural Heritage Information Centre (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas.	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 5 or more of the listed species. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWH MIST Index #35 Provides development effects and mitigation measures.	**Yes** Polygon 12a,12b, and 12c are the correct ELC communities with the breeding evidence from a number of the wildlife species listed.	**Yes** Breeding evidence noted from American Bittern, Virginia Rail, Common Moorhen (Gallinule), Pied-billed Grebe and Marsh Wren within polygon 12a, 12b and 12c (MAS2-1).
Open Country Bird Breeding Habitat **<u>Rationale</u>:** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	CUM1 CUM2	• Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or Class 2 agricultural lands and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <u>Information Sources</u> • Agricultural land classification maps, Ministry of Agriculture.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWH MIST Index #32 provides	**No** Candidate habitat is not present within the Study Areas.	**No** Candidate habitat was not identified.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
			• Local bird clubs. • Ontario Breeding Bird Atlas • EIS Reports and other information available from Conservation Authorities.	development effects and mitigation measures.		
Shrub/Early Successional Bird Breeding Habitat **Rationale** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species.	Large field areas succeeding to shrub and thicket habitats >10ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWH MIST Index #33 provides development effects and mitigation measures.	**No** Despite the presence of Brown Thrasher (indicator species) and all the listed common species, the size of the habitat within the Study Area does not meet the criteria. Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Terrestrial Crayfish; **Rationale:** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crawfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadows and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be found far from water. • Both species are semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually, the soil is not too moist so that the tunnel is well formed. Information Sources • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an Habitat ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • SWH MIST Index #36 provides development effects and mitigation measures.	**Yes** Wet areas within the Study Area meet the criteria needed for Candidate SWH.	**No** No terrestrial crayfish burrows were found during field investigations within the Study Area.
Special Concern and Rare Wildlife Species **Rationale:** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	• When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites. Information Sources • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas• • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • SWH MIST Index #37 provides development effects and mitigation measures.	**Yes** Natural heritage background information review identified several special concern and rare wildlife species as potentially occurring within the vicinity of the Study Area. In addition, some Special of Special Concern and Species of Conservation Concern were noted to occur within the Study Area.	**Yes** Eastern Wood-Pewee (SC), Wood Thrush (SC) and Common Gallinule (S3B) were identified as displaying evidence of probable breeding within the Study Area (polygons 1, 2b, 9, 12a, 12b and 12c).

Table 1.4.1 Animal Movement Corridors

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Amphibian Movement Corridors **<u>Rationale;</u>** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat Movement corridors must determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (**Amphibian Breeding Habitat – Wetland**) of this Schedule. <u>Information Sources</u> • MNRF District Office. • Natural Heritage Information Centre (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15m of vegetation on both sides of waterway [cxlix] or be up to 200m wide cxlix of woodland habitat and with gaps <20m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • SWH MIST Index #40 provides development effects and mitigation measures.	**No** Amphibian breeding was not confirmed but is presumed to be present within the Study Area.	**No** Based on the extent of suitable movement habitat surrounding the presumed amphibian breeding habitats, amphibians are expected to move freely throughout most of the Study Area, As a result, if amphibian breeding habitat is confirmed, amphibian movement habitat would be present.

Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria		
Deer Movement Corridors Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. • A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion clxxxii, clxxxiii, cxlix, cxciv. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines or ridges) Information Sources • MNRF District Office. • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs.	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200m wide with gaps. Shorter corridors are more significant than longer corridors. • SWHMiST cxlix Index #39 provides development effects and mitigation measures	**No** Candidate habitat is not present within the Study Area.	**No** Candidate habitat was not identified.

Table 1.5.1 Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	CANDIDATE SWH			CONFIRMED SWH	Candidate Habitat within the Study Area	Confirmed Habitat within the Study Area
		ELC Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria		
6E-14 **Rationale:** The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast producing tree species is important for bears.	**Mast Producing Areas** Black Bear	All Forested habitat represented by ELC Community Series: FOM, FOD	• Black bears require forested habitat that provides cover, winter hibernation sites, and mastproducing tree species. clxxxv, clxxxvii, clxxxviii, clxxxix, cxc, cxci, cxcii, cxciii, ccxvii • Forested habitats need to be large enough to provide cover and protection for black bears	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Information Sources Important forest habitat for black bears may be identified by OMNRF.	• All woodlands > 30 ha with a 50% composition of these ELC Vegetation© Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST cxlix Index #3 provides development effects and mitigation measures.	**No** Study Area is not within EcoDistrict 6E-14. Candidate habitat is not present within the Study Area.	**No** Study Area is not within EcoDistrict 6E-14. Candidate habitat is not present within the Study Area.
6E- 17 **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Ecoregion 6E, Leks are an important habitat to maintain their population	**Lek** Sharp-tailed Grouse	CUM CUS CUT	• The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography • Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting Information Sources • OMNRF district office • Bird watching clubs • Local landowners • Ontario Breeding Bird Atlas	Studies confirming lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant© • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat© • SWHMiST cxlix Index #32 provides development effects and mitigation measure	**No** Study Area is not within EcoDistrict 6E-17. Candidate habitat is not present within the Study Area.	**No** Study Area is not within EcoDistrict 6E-17. Candidate habitat is not present within the Study Area.