Dougan Ecology

# ENVIRONMENTAL IMPACT STUDY

## St. David St. N – North Lands

## Fergus, ON

**PREPARED FOR: Polocorp Inc.**

**DATE: March 2025**

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# LIMITATIONS OF USE

This document, St. David's St. Environmental Impact Study (EIS), was prepared by Dougan Ecology for Polocorp Inc. on March 17, 2025. The purpose of this document is to provide an ecological impact study (EIS) in support of a proposed residential development, at St. David's St. Fergus, ON.

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# 1. INTRODUCTION

## 1.1. Study Purpose & Objectives

Dougan Ecology (Dougan) was retained by Polocorp Inc. to complete a scoped Environmental Impact Study (EIS) in support of a Settlement Area Boundary Expansion and residential/mixed use development proposal at 6581 Highway 6, Fergus, Centre Wellington, Ontario (Figure 1).

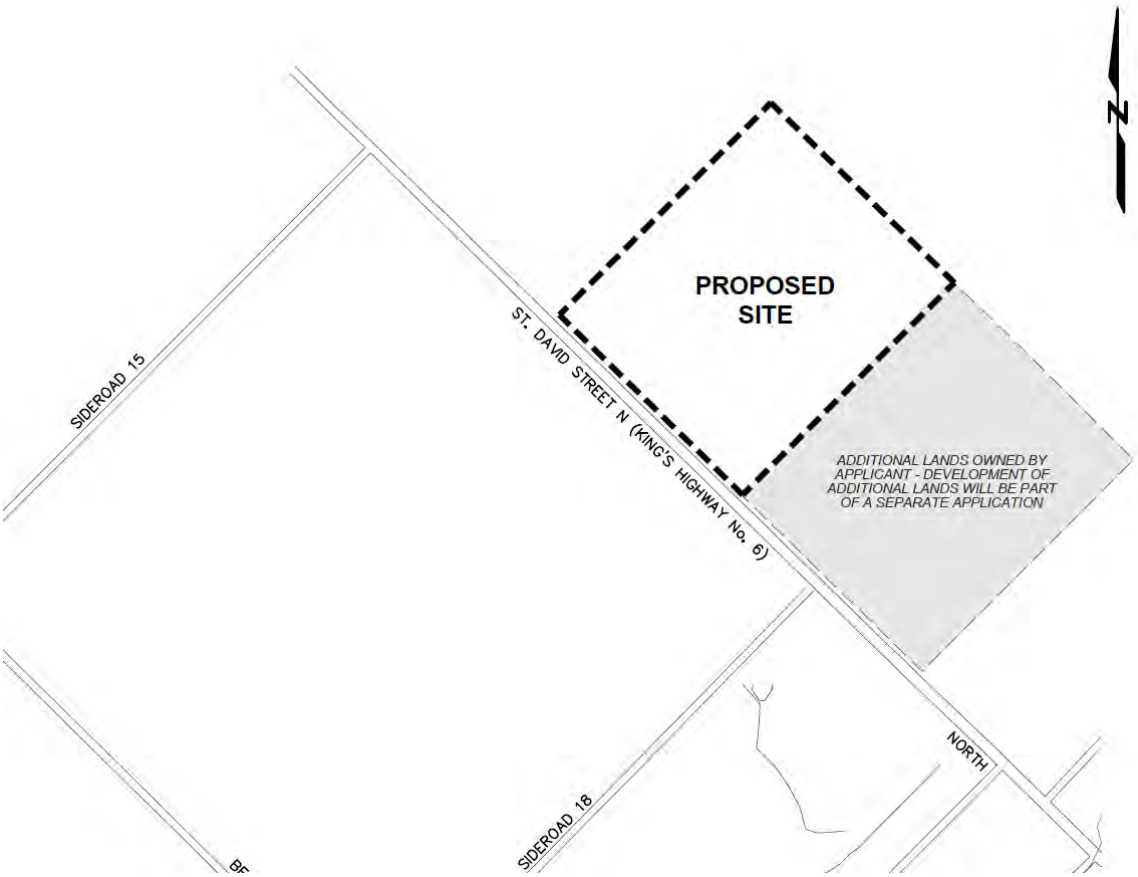


**Figure 1: Site Location**

The 20.03 ha development site lies within the Grand River Conservation Authority (GRCA) watershed and is located north of St. David Street N (Highway No. 6), east of existing commercial development, and south of existing agricultural lands in Fergus. The subject lands are largely agricultural and contain one (1) dwelling which is to remain post-development. The natural heritage feature in the southeast corner of the south lands property containing the small MNRF woodland that extends offsite and an unevaluated GRCA wetland zoned as Core Greenlands are within 120 meters of the

subject property and therefore, trigger the need for an EIS under the Township of Centre Wellington Official Plan (2024).

## 1.2. Proposed Development

The  20.03 ha proposed development consists of 87-129 single detached residential units, 179-266 street townhouse residential units, 93-125 medium density residential units, 8-14 mixed use units, internal roadways, pedestrian walkways and a parkland block (Appendix F). Connection to the site will be via the Street G connection to St. David Street N (Highway No. 6).

## 1.3. Terms of Reference

Dougan prepared a Terms of Reference (TOR) for the EIS, which was submitted to the client and agencies in May 2024.

The County of Wellington states that Environmental Impact Assessments (equivalent of an EIS by County of Wellington standards) prepared by a qualified person may be required to evaluate the impacts a proposed development may have on the natural environment and how negative impacts may be reduced or eliminated should the proposed development be major in nature with the potential for significant potential impacts. Specifically, development or site alteration adjacent to significant habitat of endangered or threatened species shall require a satisfactory Environmental Impact Assessment that demonstrates there will be no negative impact on the significant habitat of endangered or threatened species or its ecological function. Generally, development is discouraged within Environmental Constraint Areas that would detract from the functions performed by the natural environment such as groundwater recharge, erosion control, wildlife habitat, or where environmental constraints exist. However, such development may be permitted where it can be demonstrated that the proposal will not adversely affect the Environmental Constraint Areas (County of Wellington, 2024).

This EIS serves as a due diligence exercise to screen for ancillary impacts of the proposed development on the adjacent natural feature and any additional natural heritage constraints within the study area. The final EIS will meet the criteria outlined in Section E.1.3 of the Centre Wellington OP as well as the GRCA EIS guideline document including the following components:

- description of the proposal;
- description of the existing land use and surrounding environment, including adjacent lands;

- identification and assessment of the potential impacts of the proposal on the environment and the significant features and functions of the natural heritage features;
- assessment of the potential effects of the proposal such as enhancement and/or restoration of significant features;
- delineation of any environmental constraint area on a site plan;
- assessment of the feasibility of alternative mitigation measures or techniques and the ability of such measures to prevent or minimize impacts;
- recommendations on the advisability of proceeding with the proposal, appropriate mitigation measures, changes to the proposal;
- a statement of the relative environmental and ecological significance of the nature features and functions affected by the proposal;
- a statement that there are no negative impacts on provincially significant natural heritage features and functions; and,
- if necessary, recommendations relating to a monitoring plan and contingency plans and funds should the proposal result in any unexpected impacts to the natural features.

The study area for the EIS includes the properties and 120 m adjacent lands (Map 2). Based on the TOR, the scope of this EIS includes:

- Background and Policy Review
- Significant Wildlife Habitat (SWH) Screening
- Species at Risk (SAR) Screening
- Ecological Land Classification (ELC)
- Botanical Inventory (3 surveys: spring, summer, fall)
- Tree Inventory and Arborist Assessment
- Breeding Bird Surveys (2 surveys: May 24-July 10)
- Nocturnal Amphibian Call Surveys (3 surveys: April, May, June)
- Bat Visual Exit Surveys (VES) (2 surveys in June)
- Incidental Wildlife Observations

Table 1 summarizes the field surveys completed in accordance with the Terms of Reference.

**Table 1: Summary of Field Surveys Completed to Date vs. Outstanding Data**

| Field Surveys Required | Completed and Included Within this Report |
|---|---|
| Ecological Land Classification (ELC) | 3 visits: Fall 2023, Spring 2024, Summer 2024 |
| Botanical Inventory (3 surveys: spring, summer, fall) | 3 visits: Fall 2023, Spring 2024, Summer 2024 |
| Tree Inventory and Arborist Assessment | Fall 2023 |
| Breeding Bird Surveys (2 surveys: May 24-July 10) | 2 visits: May 2024, June 2024 |
| Nocturnal Amphibian Call Surveys (3 surveys: April, May, June) | 2 visits: May 2024, June 2024* |
| Bat Visual Exit Surveys (VES) (2 surveys in June) | 2 visits: June 2024 |
| Incidental Wildlife Observations | Observations submitted alongside completed surveys listed above |

*First window (April) of Nocturnal Amphibian Call Surveys was missed due to the timing of initiation of this report, therefore, will be surveyed in April of 2025. However, for the purpose of this EIS, a safe assumption has been made by Dougan ecologists depicting what species are expected to have been observed during the April survey window.

For further details on the scope of this EIS, please see Appendix G: Approved Terms of Reference (TOR).

## 1.4. Background Review

### 1.4.1. Natural Heritage Information Centre (NHIC) Biodiversity Atlas

The NHIC maintains a database of information on natural heritage features and rare species occurrences in Ontario using a 1km x 1km data grid. The NHIC database was reviewed to identify any known natural heritage features or species at risk records within the subject and adjacent lands (data squares 17NJ4841, 17NJ4840, 17NJ4940, and 17NJ4941). The results of the NHIC query can be found in Appendix A.

### 1.4.2. GRCA Mapping

Subject to the Conservation Authorities Act, the Grand River Conservation Authority (GRCA) regulates development and activities in or adjacent to natural hazard features (i.e. watercourses, wetlands, steep slopes, shorelines). GRCA regulation mapping was reviewed to identify the approximate regulation boundaries within and adjacent to the study area to inform future permitting requirements. Upon review, it was found that portions of the site are within the GRCA regulated area (Ontario Regulation 41/24) and

they will need to be consulted in order to proceed with the proposed development. See Map 4 for a depiction of the GRCA regulated area relative to the site.

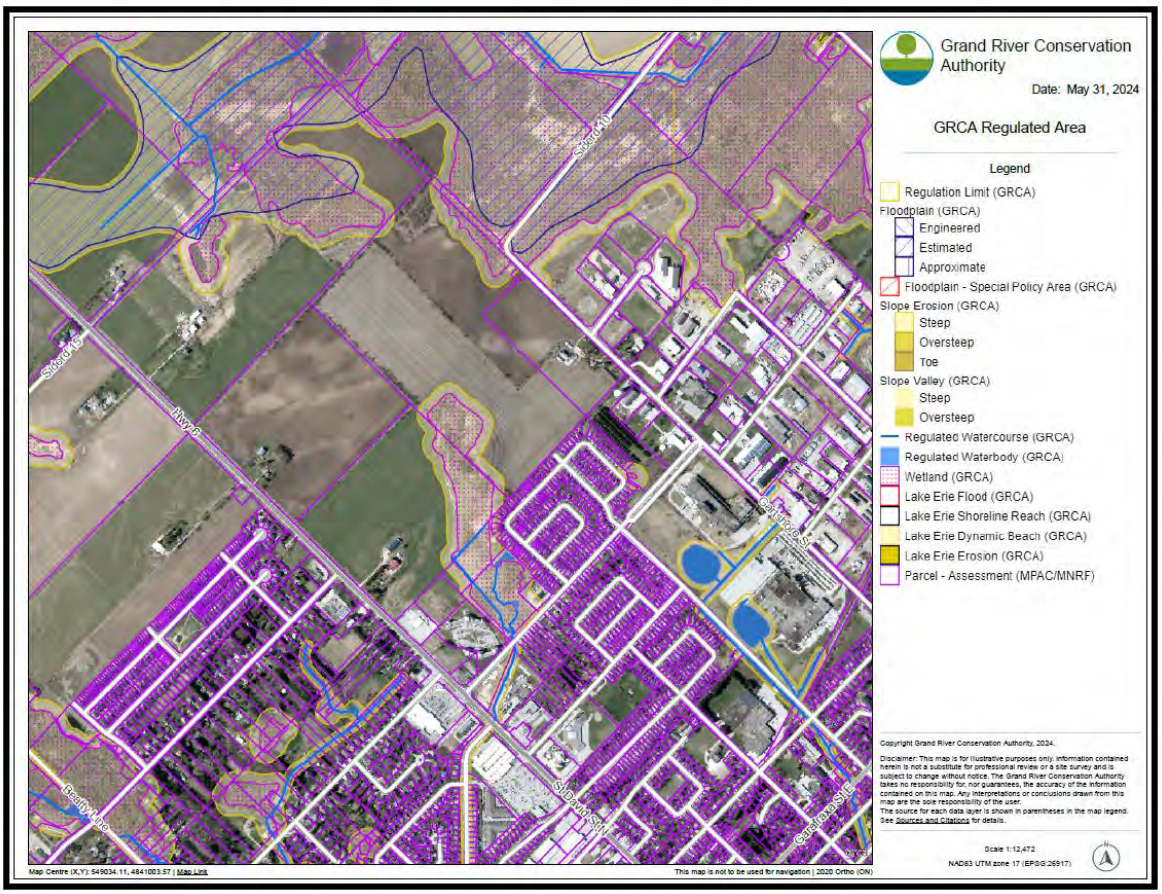


**Figure 2: GRCA Regulated Areas for the Subject and Adjacent Lands**

## 1.4.3. Global Biodiversity Information Facility

The Global Biodiversity Information Facility (GBIF) is a platform that compiles and provides access to a vast global database of biodiversity information, including records of various species and their occurrences from around the world. To assess the presence of natural heritage features and records of species at risk within the study area, a query was conducted in the GBIF database, encompassing not only the specific study area but also its adjacent lands and the surrounding regions. The results of this GBIF query can be found in Appendix A.

## 1.4.4. Online Citizen Science Databases

### iNaturalist

iNaturalist is an online platform and mobile app that encourages individuals to observe, document, and share their observations of the natural world, including plants, animals, and fungi. iNaturalist serves as a valuable tool for biodiversity research and

citizen science, enabling people to contribute to a global database of species observations and supporting conservation efforts. iNaturalist records were queried and results can be found in Appendix A.

### Nature Counts

Nature Counts is an online platform that allows users to collect, archive, interpret and access wildlife data to advance the understanding of bird populations across the Western Hemisphere. It is a program of Birds Canada and is partnered with the Avian Knowledge Network. Nature Counts records were queried and examined data from the Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas and the Ontario Butterfly Atlas. Results of this query can be found in Appendix A.

# 2. METHODS

## 2.1. Vegetation

### 2.1.1. Ecological Land Classification (ELC)

This EIS report contains vegetation data collected from fall, spring and summer vegetation surveys that were completed on September 20, 2023, June 6, 2024, and July 23, 2024, respectively.

Vegetation communities within the study area were characterized according to the Ecological Land Classification (ELC) System protocol for Southern Ontario, 1st approximation (Lee et al., 1998). ELC classification and mapping was produced via high quality aerial photo interpretation and confirmation through field surveys.

All vascular plant species encountered within the canopy, sub-canopy, understory, or ground layer were recorded along with relative abundance. Soil texture and moisture regime were also characterized within one of the polygons to confirm the wetland boundary. ELC field data was linked to mapped ELC units in an ArcGIS feature class where it was managed, reviewed, and exported for analysis and reporting.

### 2.1.2. Vascular Plant Inventory

Vascular plant inventories were carried out simultaneously with the ELC surveys that occurred on the above dates in September 2023 and June and July 2024.

Vascular plant surveys involved taking an inventory of vascular plant species growing within each ELC polygon. A plant list was collected and digitally uploaded to an ArcGIS database to facilitate data management, QA/QC, analysis, and mapping. The taxonomy, nomenclature and provincial ranks for each of the species are consistent with the Natural Heritage Information Centre. Plant rarity status was assessed using

COSEWIC rankings for federal status (COSEWIC, 2023), SARO ranks for Species at Risk in Ontario (NHIC, 2021), and Srank for rarity in Ontario (NHIC, 2021). Local status will be based on the information provided within The Flora of Wellington County (Frank and Anderson, 2009).

### 2.1.3. Tree Inventory & Arborist Assessment

An inventory and arborist assessment of all trees within the anticipated limit of development (LOD) was completed as part of the Arborist Report and Tree Preservation Plan (TPP) for St David St, submitted under separate cover (Dougan, 2024). The arborist assessment was completed by an International Society of Arboriculture (ISA) Certified Arborist on October 3 and 12, 2023. All trees 10 cm DBH (diameter at breast height) and over were tagged and documented using a custom Survey 123 ArcGIS application and geolocated using the Trimble Catalyst GNSS receiver.

The following data was collected on each tree:

- Unique tree tag number;
- Species (common name, botanical name);
- DBH recorded at 1.4m (in cm);
- Crown reserve i.e. canopy diameter (in m);
- Tree height (in m);
- Structure condition (high, medium, low);
- Biological health (high, medium, low);
- Preservation priority (high, medium low);
- Any additional comments.

For further details, please refer to the Arborist Report and Tree Preservation Plan (TPP) for St. David St. (Dougan, 2024).

## 2.2. Wildlife

### 2.2.1. Nocturnal Amphibian Call Surveys

Nocturnal amphibian call surveys (NACS) were conducted in accordance with the Marsh Monitoring Program (BSC, 2009), intended to record amphibians in the wetland located on the property immediately to the south and were only conducted on these south lands. Three (3) visits are required in late April, May and June to ensure that all frog species' calling windows are covered during surveys. Surveys commenced 30

minutes after sunset and were concluded by midnight under appropriate weather conditions stipulated in the Marsh Monitoring Program (i.e. low winds, no rain, minimum temperature thresholds met). At the time of submission, NACS were conducted to account for species present in the wetland feature on the property immediately to the south in May and June. Fieldwork commenced after the April window had passed, and so the final round of surveys will be completed in April 2025.

### 2.2.2. Breeding Bird Surveys

Two (2) breeding bird surveys were completed for this site by a qualified avian ecologist, as per the Ontario Breeding Bird Atlas (2021) protocol, with surveys taking place between May 24 and July 10. Surveys were carried out at least seven days apart between sunrise and approximately 10:00 am, under suitable weather conditions (i.e. light winds, good visibility, and no heavy rain). Breeding bird surveys were conducted using an area search methodology, to ensure full coverage of the site and its varying habitats. In addition to species and numbers of individuals, breeding evidence was also documented.

### 2.2.3. Bat Habitat & Visual Exit Surveys

An assessment of candidate bat roosting trees within the anticipated limit of development was undertaken during the arborist assessment in September 2023. Trees 25cm DBH or greater that were in various levels of decline exhibiting snag characteristics such as cracks, crevices, loose bark etc. were identified as candidate roosting trees.

Following an assessment of the structures on site, visual exit surveys of the barns (Barn 1 and Barn 2; Map 2) were undertaken on June 18, 24 and 26, 2024. Surveys were undertaken in accordance with MECP's *Use of Buildings by Species at Risk Bats Survey Methodology* whereby surveys occurred under appropriate weather conditions; surveyors were in place by sunset with a clear view of suitable exit holes Surveys occurred for 1 hour after the first bat emerged or for 1.5 hours after sunset, if no bats were seen emerging. Wildlife Acoustics Echo Meter Touch 2 Pro units were used during surveys to capture species occurrences. Manual vetting of auto-identified bat species was completed following surveys using Kaleidoscope Pro software.

### 2.2.4. Incidental Wildlife

All wildlife encountered incidentally during the completion of other surveys on site were recorded and assessed for significance. This includes direct observations and detection of evidence, including tracks and other sign, particularly of mammals. Incidental observations will be captured concurrently with all field investigations.

## 2.3. Special Features & Ecological Functions

### 2.3.1. Species at Risk (SAR)

A Species at Risk (SAR) screening was undertaken based on background records gleaned from available sources (ref. section 1.3) and species records confirmed during fieldwork.

### 2.3.2. Significant Wildlife Habitat (SWH)

An SWH desktop screening was conducted based on the MNRF's (2015) Significant Wildlife Habitat Criteria for Ecoregion 6E. On-site habitat and results of targeted fieldwork completed thus far in 2023 and 2024 informed the overall SWH status as absent, candidate, or confirmed.

## 2.4. Preliminary Geotechnical Investigation (CVDE, 2024)

A Preliminary Geotechnical Investigation was completed by Chung & Vander Doelen Engineering's (CVDE) (2024) to determine the subsurface conditions and relevant soil properties on site. Preliminary geotechnical recommendations were provided for the design and construction of site grading operations, municipal site servicing, internal roadways, and residential foundations.

Eight (8) of the originally seventeen (17) proposed boreholes were completed to depths between 5.20 and 8.25 m below existing grade between January 15 to 17, 2024. The remaining nine (9) boreholes are anticipated to be completed as part of the final geotechnical investigation.

## 2.5. Hydrogeology (CVDE, 2024)

A Preliminary Hydrogeological Investigation was completed by Chung & Vander Doelen Engineering Ltd. in 2024. A total of five (5) monitoring wells and four (4) shallow piezometers were installed between December 2023 and March 2024, as well as three (3) additional monitoring wells on the adjacent property owned by the applicant.

## 2.6. Stormwater Management/Water Balance (GEI, 2025)

GEI Consultants Canada Ltd. prepared a Functional Servicing Report (FSR) to address the site servicing and stormwater management requirements for the proposed development in support of the Draft Plan approval, dated February 2025.

This report includes an assessment of the following items related to the proposed development:

- Site grading;
- Streets;
- Water supply;
- Sanitary and storm sewers;
- Stormwater management;
- Preliminary infiltration assessment;
- Sediment and erosion control plan; and
- Maintenance plan.

Details on the proposed servicing and stormwater management (SWM) for the site are provided in the St. David St. EIS for the South Lands (Dougan Ecology, 2025) which will contain the SWM pond to servicing both properties.

# 3. EXISTING CONDITIONS

## 3.1. Physiography & Topography

The site is positioned within the Lake Simcoe Rideau ecoregion of Ontario, with the property resting within the Guelph Drumlin Field, an area of drumlinized till plain and glacial spillways (Chapman & Putnam, 2007). The soils in this area are primarily *stone-poor, sandy silt to silty sand-textured till* and rest atop glacial till parent material derived from underlying limestone (Ontario Geological Survey, 2010).

## 3.2. Vegetation

### 3.2.1. Ecological Land Classification

A total of 7 ELC polygons on subject lands and 6 on adjacent lands comprised of 4 unique vegetation communities were detected (Table 2). Note that Agricultural (AGR), Anthropogenic (ANTH) and Hedgerow (HR) communities do not constitute vegetation communities and were therefore excluded from the unique vegetation community count. A full discussion of these communities can be found below. See Map 1 for locations of ELC polygons on subject and adjacent lands.

**Table 2: Summary Community Series**

| COMMUNITY SERIES | POLYGON NO. | INCLUSION | On Subject Lands | Total Area[1] (ha) |
|---|---|---|---|---|
| SWM3-1 – Birch Conifer Mineral Mixed Swamp | 2 | FOD8-1 – Fresh-Moist Poplar Deciduous Forest | No* | 0.01 |
| AGR – Agricultural | 6 | --- | Yes | 1.04 |
| HR - Hedgerow | 8 | --- | Yes | 0.24 |
| CUW – Cultural Woodland | 9 | --- | Yes | 5.43 |
| ANTH – Anthropogenic | 10 | --- | Yes | 6.79 |
| HR – Hedgerow | 11 | --- | Yes | 3.33 |
| HR - Hedgerow | 12 | --- | Yes | 3.28 |
| AGR – Agricultural | 13 | --- | No* | 0.20 |
| AGR – Agricultural | 14 | --- | Yes | 0.44 |
| AGR – Agricultural | 15 | --- | No* | 0.01 |
| ANTH – Anthropogenic | 16 | --- | No* | 24.71 |
| MAM – Meadow Marsh | 21 | --- | No* | 0.24 |
| FOD8-1 – Fresh-Moist Polar Deciduous Forest | 22 | --- | No* | 5.43 |

*1 within subject lands or 120 m adjacent*

**Polygon is present within 120m adjacent lands. Surveyors did not have access to these lands; vegetation communities were assessed based on visual inspection from the subject lands.*

### Polygon 2: Birch Conifer Mineral Mixed Swamp (SWM3-1) / Inclusion: Fresh-Moist Poplar Deciduous Forest (FOD8-1)

This polygon is comprised of a birch conifer organic mixed swamp, located on adjacent lands within 120 m of the study area. The canopy and subcanopy are primarily Eastern White Cedar (*Thuja occidentalis*) and some very old Yellow Birch (*Betula alleghaniensis*). This polygon is also where a potential Butternut later found to be a hybrid Butternut x Japanese Walnut (*J. cinerea x J. ailantifolia*) through genetic testing, was found.

Additional details on this polygon and the genetic testing for Butternut can be found in the St. David St. South Lands EIS.

### Polygon 6: Agricultural (AGR)

Polygon 6 is an agricultural field spanning both farm properties of the St. David's St. N site. The primary species is alfalfa and occurs in the ground layer, likely to provide the soil with nitrogen for future farming endeavors. During the spring of 2024, the property was revisited and the farm property containing the environmental feature at the east corner appears to contain hay grasses (i.e. alfalfa and tall grasses) but is very long and possibly been left to fallow for this year. The neighbouring field on the other farm property has been planted with barley.

### Polygon 8: Hedgerow (HR)

This hedgerow polygon stretches from the edge of the feature along the back of the property to the far corner of the second farm field. The hedgerow mainly consists of Black Cherry (*Prunus serotina*) and Sugar Maple (*Acer saccharum*) with some scattered White Ash (*Fraxinus americana*) snags. Beneath the trees are dense stands of European Buckthorn (*Rhamnus cathartica*).

### Polygon 9: Cultural Woodland (CUW)

Polygon 9 is cultural woodland located at the back of Polygon 10 (anthropogenic polygon making up the second farm property). Cultural Woodland communities are treed areas that are highly influenced by anthropogenic disturbance and are characterized by 35-60% tree cover that often has a large proportion of non-native species. The canopy mainly consists of Black Cherry (*Prunus serotina*) and Little-leaved Linden (*Tilia cordata*) being the most abundant, followed by White Spruce (*Picea glauca*) and White Ash snags (*Fraxinus americana*). There was no defined subcanopy layer for this polygon, but the understory layer consisted mostly of Currant species (*Ribes sp.*) followed by European Buckthorn (*Rhamnus cathartica*) and Red Elderberry (*Sambucus racemosa*). The ground layer was primarily Garlic Mustard (*Alliaria petiolata*) and Herb-Robert (*Geranium robertianum*).

### Polygon 10: Anthropogenic (ANTH)

Similar to Polygon 7, Polygon 10 is an anthropogenic polygon dominated by open lawn and mowed grass. Some mature trees are present in the canopy with little to no natural understory or ground layer present. The main house is central to the polygon, accompanied by landscaped gardens, a driveway, a garage and a barn. The most abundant planted trees are White Spruce (*Picea glauca*) and Sugar Maple (*Acer saccharum*).

### Polygon 11: Hedgerow (HR)

Embedded within Polygon 10 is Polygon 11, a hedgerow polygon that exists directly in front of the barn. This hedgerow consists only of Manitoba Maple (*Acer negundo*) and Eastern White Cedar (*Thuja occidentalis*) in the canopy. The subcanopy is mostly made up of Little-leaved Linden (*Tilia cordata*) and Red Ash (*Fraxinus pennsylvanica*). The understory consists mainly of European Buckthorn (*Rhamnus cathartica*) and Red Elderberry (*Sambucus racemosa*). The abundant species in the ground layer include Garlic Mustard (*Alliaria petiolata*), Bittersweet Nightshade (*Solanum dulcamara*), Greater Celandine (*Chelidonium majus*) and a Forget-Me-Not species (*Myosotis sp.*).

### Polygon 12: Hedgerow (HR)

This hedgerow polygon stretches from the farthest tip of Polygon 8 to partway through the edge of the farthest farm field. The hedgerow mainly consists of Black Cherry (*Prunus serotina*) and Sugar Maple (*Acer saccharum*) trees with some White Ash (*Fraxinus americana*) snags and Common Apple (*Malus pumila*) trees dotted in making up the canopy. Around the base of each of the hedgerow canopy trees are dense stands of European Buckthorn (*Rhamnus cathartica*), making it difficult to access these trees for the arborist assessment.

### Polygon 13, 14, 15: Agricultural (AGR)

No access, determined visually from subject lands.

### Polygon 16: Anthropogenic (ANTH)

No access, determined visually from subject lands.

### Polygon 21: Meadow Marsh (MAM)

No access, determined visually from subject lands.

### Polygon 22: Fresh-Moist Poplar Deciduous Forest (FOD8-1)

No access, determined visually from subject lands.

## 3.2.2. Vascular Plant Inventory

Of the 49 vascular plants observed on site within the subject lands, 45 were identified to species level with 4 identified to genus level only. Of the species identified to

species level, 24 (53%) are native and 21 (47%) are considered introduced. All species observed in the botanical survey on site are federally and provincially secure.

An assessment of vegetation quality was undertaken using the Coefficient of Conservatism (CC). This is a value (0 to 10) assigned to native species in Ontario based on their degree of fidelity to a specific vegetation community type (Oldham et al., 1999). The lower this value, the more likely the plant is to be found in a wide variety of plant community types including disturbed sites. The average CC for the St. David's St. property is 3.82, indicating a relatively low quality and highly disturbed site compared to more natural areas.

The Flora of Wellington County rarity rank (Frank and Anderson, 2009) indicated one (1) regionally very rare (R1) species was observed: swamp gooseberry (*Ribes hirtellum*) which was documented in polygon 9.

For a comprehensive list of all plants found on the property see Appendix B.

### 3.2.3. Tree Inventory & Arborist Assessment

A total of 246 living trees of 10 cm DBH or larger were tagged and assessed within the anticipated disturbance limit and overlapping natural heritage features, comprised of 16 species. Of the 16 species observed, the most frequently encountered species were Black Cherry (96), Sugar Maple (56), Little-leaf Linden (49).

In general, the surveyed area consisted of primarily native species (**Error! Reference source not found.**) with 181 trees comprised of native species, and 65 trees comprised of non-native species, with one tree only being identified to genus level.

The majority of the trees were assessed as having medium structural condition and high biological health (Table 3). High ranking is defined by trees with no structural defects, no disease symptoms and/or high vigor as summarized in Table 3.

**Table 3: Summary of Structural Condition, Biological Health, and Preservation Priority of Inventoried Trees**

| Arborist's Ranking | Number of Trees | | |
|---|---|---|---|
| | **Structural Condition** | **Biological Health** | **Preservation Priority** |
| High | 86 | 140 | 132 |
| Medium | 121 | 83 | 86 |
| Low | 40 | 24 | 29 |
| **Total** | **247** | **247** | **247** |

For further details, please refer to the Arborist Report and Tree Preservation Plan for the St. David St. North Lands property (Dougan, 2024).

## 3.3. Wildlife

### 3.3.1. Nocturnal Amphibian Call Surveys

A total of four (4) species of amphibians were heard calling during targeted nocturnal call surveys at station 1 (Map 2), intended to record amphibians in the wetland located on the property immediately to the south. This survey station is not part of this EIS for the North Lands, but nevertheless the results are presented here for reference. American Toad (*Anaxyrus americanus*), Gray Treefrog (*Dryophytes versicolor*), Green Frog (*Lithobates clamitans*) and Spring Peeper (*Pseudacris crucifer*) are all native amphibians that are commonly found within the region. All four species were assigned an Srank of S5 by the Natural Heritage Information Center (NHIC 2025), indicating the stability of populations at the provincial level.

American Toad (2 individuals), Gray Treefrog (2 individuals), and Spring Peeper (1 individual) were detected at station 1 during the first May NACS survey, never exceeding call code 1 (individuals can be counted; calls not simultaneous). Gray Treefrog (1 individual) was also detected during the June visit, along with a full chorus of Green Frog (calls continuous and overlapping, reliable counts are unrealistic).

A final visit will be completed in April 2025.

### 3.3.2. Breeding Bird Surveys

A total of twenty-eight(28) bird species were recorded during two rounds of breeding bird surveys (BBS). Of these, twenty-four (24) were exhibiting breeding evidence, either within the study area, or on adjacent and nearby lands. Northern Harrier (*Circus hudsonius*), Turkey Vulture (*Cathartes aura*), Mallard (*Anas platyrhynchos*) and Wood Duck (*Aix sponsa*) did not exhibit any breeding evidence, due to an absence of suitable habitat and/or because individuals were observed only flying over the study area. Three (3) of the species observed, European Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), and Rock Pigeon (*Columba livia*) are considered introduced (non-native) in the province.

Three (3) Species at Risk (SAR) were detected during the two BBS visits: Eastern Meadowlark (*Sturnella magna*), Bobolink (*Dolichonyx oryzivorus*), and Barn Swallow (*Hirundo rustica*). These 3 species are all designated as Threatened at the federal level (SARA, 2002). At the provincial level (ESA, 2007), Eastern Meadowlark and Bobolink are considered Threatened, whereas the Barn Swallow is designated as Special Concern. Endangered and Threatened species receive protection under the Provincial Endangered Species Act (2007), whereas Special Concern species receive habitat protection under the Province's SWH provisions under the PPS, 2020, for Special Concern and Rare Wildlife Species. These three SAR bird species are all species found

in and around agricultural land in southern Ontario. Refer to sections 4.2.1 and 3.4 for more information.

A total of one (1) occurrence of Eastern Meadowlark was documented of an adult male singing on the property adjacent immediately to the northwest, during the first BBS visit. The bird was observed singing from a tree on the property boundary and again from trees close to the house further north, indicating Possible breeding in a territory occupying a portion of the adjacent property. No further observations of this species were made during the second BBS. The individual was determined to not be nesting on the subject property, but may be breeding on the property adjacent to the northwest.

A total of three (3) individual male Bobolink were detected during the first bird survey. All three males were observed singing and perching on trees behind the barn at 6581 Highway 6, and later, from trees on the boundary with the property to the north. No females were detected. During the second visit, several males (up to 3) and one (1) female were observed in the agricultural field on the southern neighbouring property (alfalfa and other tall grasses, planted for hay), indicating Probable breeding on adjacent lands to the south.

A conservative estimate of up to five (5) individual Barn Swallows were observed foraging over the agricultural fields during the first breeding bird survey. During the second breeding bird survey (June 12th), several adult birds were observed entering the barn on the subject property in a manner suggesting nest occupancy, indicating Confirmed breeding.. The barn provides suitable nesting habitat for Barn Swallow, and the agricultural fields within the study area provide suitable foraging habitat.

Of the twenty-one (21) native breeding species detected, all have been assigned provincial conservation status (S-rank) of either S4 or S5 by the Natural Heritage Information Center (NHIC, 2021), which indicates that their provincial populations are “apparently secure” or “secure”, respectively.

The Ontario Ministry of Natural Resources (OMNR, 2000) considers the following species to be Area Sensitive (AS): Bobolink, Eastern Meadowlark, Northern Harrier, and Savannah Sparrow (*Passerculus sandwichensis*). Area Sensitive species are defined are requiring relatively large areas of suitable habitat for their long-term survival and therefore can be sensitive to development. No breeding evidence was detected for Northern Harrier.

Based on the 2009 Guelph Natural Heritage Study (2009) report, Turkey Vulture is a species known to be a locally rare breeder within the Wellington County. One (1) individual was observed perching momentarily on the barn on the western property, but otherwise showed no breeding evidence. None of the other breeding species recorded are considered to have a locally rare breeding status at present.

A full list of all birds recorded within and adjacent to the study area can be found in Appendix C.

### 3.3.3. Bat Habitat & Visual Exit Surveys

The bat roosting tree assessment identified a total of 32 trees as candidate bat roosting trees due to size (≥25cm DBH) and presence of bat roosting habitat attributes such as loose/peeling bark, cavities, cracks, crevices, and/or knot holes. These trees may provide roosting habitat for endangered bat species. Of the 32 candidate bat roosting trees identified, 30 trees are anticipated to require removal to facilitate the proposed development. Legislative compliance under the Endangered Species Act (2007) and mitigation strategies related to potential Species at Risk bat habitat are discussed in sections 4 and 7.

Results from the bat visual exit surveys conducted at the two barn structures identified five bat species recorded during surveys (Table 4). A total of 205 bat call sequences were recorded at Barn 2. One individual Silver-haired Bat was seen emerging from Barn 2 at 10:48 pm on June 26, indicating potential roosting activity, though not in significant numbers as only one individual was observed. All other recordings were incidental occurrences of bats flying within range of the EchoMeter Touch Pro during surveys and do not represent bats roosting/emergence from the barns. No Species at Risk bats were detected during visual exit surveys.

**Table 4: Results of Bat Visual Exit Surveys**

| Survey Location (Map 2) | Number of Call Sequence Recordings | | | | | |
|---|---|---|---|---|---|---|
| | Big Brown Bat | Eastern Red Bat | Northern Hoary Bat | Silver-haired Bat | Little Brown Myotis | Total |
| Barn 2 | 137 | 1 | 42 | 28* | 0 | 208 |

*1 individual seen emerging from Barn 2 on June 26, 2024.

### 3.3.4. Incidental Wildlife

A total of two (2) species were detected as incidental wildlife observations in 2024. White-tailed Deer (*Odocoileus virginianus*) and Coyote (*Canis latrans*) tracks were observed within the site. Both species have been assigned provincial conservation status (S-rank) of either S5 by the Natural Heritage Information Center (NHIC, 2021), which indicates that their provincial population is "secure", respectively. White-tailed Deer are consider an Area Sensitive species, according to Ontario Ministry of Natural Resources (OMNR, 2000).

Several bird species were also detected incidentally, but did not exhibit breeding evidence, including Blue Jay (*Cyanocitta cristata*), Eastern Kingbird (*Tyrannus tyrannus*)

and House Finch (*Haemorhous mexicanus*). A full list of all wildlife recorded within and adjacent to the study area can be found in Appendix C.

# 3.4. Special Features & Ecological Functions

## 3.4.5. Species at Risk (SAR) Assessment

A detailed SAR screening table was completed based on the background review, features present, and species recorded, and is presented in Appendix D.

A desktop screening of background sources (including Global Biodiversity Information Facility (GBIF), Natural Heritage Information Centre (NHIC) iNaturalist, eBird and known SAR from the Guelph area (MNRF)) was completed prior to fieldwork and identified nine (9) SAR summarized in Table 5.

**Table 5: SAR Records from Background Sources**

| Common Name | Scientific Name | SARA Status | SARO Status | S Rank | Wellington County Rarity (Dougan, 2009) |
|---|---|---|---|---|---|
| **BIRDS** | | | | | |
| Barn Swallow | *Hirundo rustica* | THR | SC | S4B | -- |
| Bobolink | *Dolichonyx oryzivorus* | THR | THR | S4B | -- |
| Eastern Meadowlark | *Stiurnella magna* | THR | THR | S4B | -- |
| Wood thrush | *Hylocichla mustelina* | SC | SC | S4B | -- |
| **MAMMALS** | | | | | |
| Eastern Small-footed Myotis | *Myotis leibii* | -- | END | S2S3 | X |
| Little Brown Myotis | *Myotis lucifugus* | END | END | S3 | -- |
| Northern Myotis | *Myotis septentrionalis* | END | END | S3 | X |
| **REPTILES** | | | | | |
| Midland Painted Turtle | *Chrysemys picta marginata* | SC | -- | S4 | -- |
| **INVERTEBRATES** | | | | | |
| Monarch | *Danaus plexippus* | END | SC | S2N, S4B | X |

### Barn Swallow

Barn Swallow is designated Threatened federally (SARA) and Special Concern provincially (SARO). Barn Swallows historically nested in crevices, holes, and ledges within cliff faces. However, with the rise of industrialization throughout the last century,

they have shifted to nest primarily in human-made structures like barns, sheds, garages, bridges, and culverts.

This species was recorded during the first Breeding Bird Area Search on May 29th, 2024. Multiple observations were made during this first survey, including sightings of individuals foraging over the agricultural fields within the study area (up to 5 birds) and near the existing barn, indicating active use of these habitats. During the second breeding bird survey (June 12th) several adult birds were observed entering the barn on the property, in a manner suggesting nest occupancy and therefore Confirming breeding status.

### Bobolink

Bobolink is designated Threatened federally (SARA) and provincially (SARO). Provincially threatened species, including Bobolink, and their habitat, are protected under the Endangered Species Act (2007). Bobolink nest in open country habitats consisting of natural and semi-natural grassland (including but not limited to tallgrass prairie, alvar grasslands, beaver meadows, and grassy peatlands), hayfields, pastures, grassland habitat restoration sites, and abandoned fields.

This species was observed during the first Breeding Bird Area Search on May 29th, and subsequently on the second visit on Jun 12th, 2024. On the first visit, multiple observations were made, including sightings of singing males (3) and territorial displays, indicating active breeding territories, mostly in the agricultural field located on the subject property. No females were observed and it was uncertain if the territories were established.

During the second visit, several males (up to 3) and one (1) female were observed in the agricultural field (alfalfa and other tall grasses, planted for hay) on the property immediately adjacent to the south. This species is considered 'Probably' breeding on this neighbouring property, due to the presence of a presumed pair (one male and one female) and of presumed territories (males observed singing in the same general area, at least 7 days apart). The agricultural field (wheat or barley) located on the subject property should not be considered suitable habitat, as Bobolink were only observed here early in the season, when territories were likely not established.

### Eastern Meadowlark

Eastern Meadowlark is designated Threatened federally (SARA) and provincially (SARO). Eastern Meadowlarks primarily nest in tall grasslands like pastures and hayfields, as well as in varied open areas such as weedy cropland borders, roadsides, overgrown fields, open areas, and orchards.

This species was recorded during the first Breeding Bird Area Search on May 29th, 2024. One bird was observed singing from the adjacent property to the northwest, and from the property boundary between 6581 Highway 6 and the adjacent property. This

suggests that the adjacent agricultural and meadow lands may provide suitable habitat for Eastern Meadowlark. None were detected during the second breeding bird survey (Jun 12), however it was noted that the suitable habitat on the adjacent property had been recently mowed. This species was therefore determined to be Possibly breeding on adjacent lands to northwest of the subject properties.

### Wood Thrush

Wood Thrush is designated Special Concern federally and provincially. This species tends to inhabit large patches of mature, moist forest which are absent from the study area. This species was not detected during the either breeding bird survey visit.

### Monarch

Monarch is designated Endangered federally (SARA), Special Concern provincially (SARO), and is regionally rare in Wellington County (Dougan, 2009). A single NHIS record for this species exists for the nearby park (Gibbons Drive Park), further to the south. Suitable habitat for this species is present both on the subject property within the agricultural fields, the meadow marsh on the neighbouring lands to the south, as well as on the adjacent agricultural, forested and riparian lands. It's main host species, Common Milkweed, is found in disturbed areas of the subject property and adjacent lands.

### Midland Painted Turtle

Midland Painted Turtle inhabits waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. While wetland communities are present on adjacent lands, there is not sufficient water depth to provide suitable overwintering habitat for turtles.

### Eastern Small-footed Myotis

Eastern Small-footed Myotis is the smallest, rarest and least known bat in Ontario (Humphrey, 2017). This species is provincially Endangered (SARO) and is not listed as a federal SAR. As with other Myotis species, this bat is nocturnal and roosts in trees and occasionally in buildings during the day. This species tends to switch roosting sites often, even daily, and preferred sites may include crevices and cracks associated with rocky sites, as well as barns and older buildings. As aerial insectivores, foraging habitat can include forests, water bodies and riparian forests (Johnson et al., 2009). This species was not recorded during bat targeted visual exit/acoustic surveys in June 2024.

### Little Brown Myotis

Little Brown Myotis is Endangered provincially and federally, despite being one of the most common bat species in Canada. Little Brown Myotis inhabit maternity roost spaces during the summer months where they rear their pups. Maternity roosts are often selected within tree cavities or in abandoned / less disturbed buildings such as

barns and attics. (Syme et al., 2001). The Little Brown Myotis prefer warm, dark areas close to water with entrances typically 4 metres or higher from the ground (CWF, 2018). Foraging habitat includes over water and in open areas when insects are abundant. In agricultural areas, Little Brown Myotis tend to follow linear wooded features (such as hedgerows) for commuting and foraging (Humphrey & Fotherby, 2019). This species was not recorded on the property during targeted bat visual exit/acoustic surveys in June 2024.

### Northern Myotis

Northern Myotis is Endangered provincially and federally. Northern Myotis inhabit maternity roost spaces during the summer months where they rear their pups. This species favours tree cavities for roosting but have also been found in anthropogenic structures (e.g. under shingles) particularly when habitat is fragmented and roost trees are minimal (Foster & Kurta 1999, Caceres & Barclay 2000). These bats prefer roosting sites that are associated with forest cover and streams (Caceres & Barclay 2000). Unlike other Myotis species, Northern Myotis switch roosting sites very often (i.e. every 1-5 days). Northern Myotis are more adapted to hunting in cluttered environments, such as along forest edges and are relatively slower flyers than other bat species. Foraging habitat includes over water and in open areas when insects are abundant. This species was not recorded during targeted bat visual exit/acoustic surveys in June 2024.

## 3.4.1. Significant Wildlife Habitat (SWH) Assessment

Potential Significant Wildlife Habitat (SWH) categories identified through a desktop screening were reviewed on-site during field investigations to confirm habitat (ELC) and/or indicator species presence, in accordance with the MNRF's SWH Criteria for Ecoregion 6E (2015). This assessment confirmed the presence one (1) confirmed SWH category, based on desktop and field data collected:

### Confirmed SWH:

- Special Concern and Rare Wildlife Species:
    - Barn Swallow

In accordance with the PPS (2020) development and site alteration are not permitted within or adjacent to SWH unless it has been demonstrated that there will be no negative impacts on the habitat or its ecological functions (policy 2.1.5).

Please refer to Appendix E for the complete SWH screening and Map 3 for specific location of Barn Swallow observation locations.

### 3.4.2. Woodlands

Woodlands are defined by the County of Wellington (2024) as *"treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrologic and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels."*

Regionally significant woodlands are included in the County's Greenlands system; the criteria for which are outlined in policy 5.5.4 of the County of Wellington Official Plan (2024):

***"In the Urban System, woodlands over 1 hectare are considered to be significant by the County and are included in the Greenlands System.*** *Woodlands of this size are important due to their economic, visual and environmental contributions to the urban landscape. Detailed studies such as environmental impact assessments may be used to identify, delineate and evaluate the significance of woodlands based on other criteria such as:* ***proximity to watercourses, wetlands, or other woodlands; linkage functions; age of the stand or individual trees; presence of endangered or threatened species; or overall species composition.*** *Significant woodlands will be protected from development or site alterations which would negatively impact the woodlands or their ecological functions. Good forestry practices will be encouraged and tree removal shall be subject to the Wellington County Forest Conservation Bylaw.*

***Smaller woodlands may also have local significance*** *and, where practical, these smaller woodlands should be protected."*

Woodlands on the subject lands are limited to the following shown on Map 1:

- **Cultural Woodland** (Polygon 9) – 0.17 ha

Polygon 9 is a relatively disturbed Cultural Woodland surrounded by anthropogenic and agricultural land use. This woodland is not considered to be significant under the County's designation criteria.

Woodlands on adjacent lands (i.e. the South Lands) include two (2) polygons that collectively comprise a significant woodland complex based on the County's designation criteria:

- **Birch – Conifer Mineral Mixed Swamp** (Polygon 2) – 0.01 ha within adjacent lands
- **Fresh-Moist Poplar Deciduous Forest** (Polygon 22) – 0.52 ha within adjacent lands

These significant woodlands will be preserved in-situ and are addressed in the South Lands submission.

### 3.4.3. Wetlands

There are no wetlands on the North Lands property, however there are unevaluated wetlands (Core Greenlands) within the 120 m adjacent lands, located on the South Lands property. These wetland communities include:

- **Birch – Conifer Mineral Mixed Swamp** (Polygon 2) – 0.01 ha within adjacent lands
- **Meadow Marsh** (Polygon 22) - 0.13 ha within adjacent lands

The wetlands will be preserved in-situ and are addressed in the South Lands submission.

## 3.5. Preliminary Geotechnical Investigation (CVDE, 2024)

Within Chung & Vander Doelen, 2024, Preliminary Geotechnical Investigation, it was determined that native soil conditions at all borehole locations are capable of supporting future residential development. However, very loose to loose and/or firm soil conditions were encountered in the near-surface soils at four of the eight boreholes. These soils are not suitable to support future house foundations in their current condition. Removing these zones and replacing them with engineered fill, where necessary, is considered a suitable and practical remedy.

## 3.6. Hydrogeology (CVDE, 2024)

Although not as shallow as the Boreholes within the southern portion of the site revealed, relatively shallow groundwater conditions exist within the northern portion of the site (North Lands) as well with Boreholes 1, 2, 3, 4 and 5 revealed depths ranging from 2.1± to 5.4± meters below the existing ground surface, corresponding to elevations between 423.5± and 424.0± meters. Chung & Vander Doelen, 2024, recommended that a permanent groundwater management system be implemented for the development of the subdivision lands to control future groundwater levels and prevent wet basement problems, specifically for houses located in the southern portion of the site.

Furthermore, it is recommended that any existing below-grade drains, drainage tiles, or drainage tile networks be fully investigated to understand how their presence (or removal) would impact the shallow groundwater system and the proposed development.

## 3.7. Functional Servicing and Stormwater Management (GEI, 2025)

According to GEI's FSR (2025), there is an existing sanitary sewer and watermain (in addition to a wastewater treatment plan (WWTP)) that would each be extended to service the lands. The Street B right-of-way connection would be located off of St. David Street N (Highway No. 6) and an additional connection of the north property to Highway No. 6 would be present at Street G. Grading has been designed to match the Street B entrance elevation and property boundaries along the north, south, east and west portions of the site (GEI, 2025).

In terms of stormwater management, existing conditions on the north lands modelled by GEI (2025) include eight (8) drainage catchments (100, 200, 300, 400, 500, 600, 700 and 800):

- ***Catchment 100 (13.09 hectares, 80% impervious**) represents the majority of the adjacent lands owned by the same applicant. Runoff generated from Catchment 100 is captured and conveyed to the proposed stormwater management facility via on-site storm sewers.*
- ***Catchment 200 (2.02 hectares, 15% impervious)** represents the stormwater management facility on the adjacent lands owned by the same applicant. The stormwater management facility is designed to provide the required Enhanced level of protection prior to discharging to the wetland along the northeast limits of the site.*
- ***Catchment 300 (1.35 hectares, 50% impervious)** represents a portion of the adjacent lands owned by the same applicant near the northeast wetland. Runoff generated from Catchment 300 will sheetflow overland, uncontrolled, to the northeast wetland.*
- ***Catchment 400 (3.33 hectares, 0% impervious)** represents the northeast portion of the adjacent lands owned by the same applicant consisting of an existing wetland. Runoff generated from Catchment 400 contributes to the wetland extending north and east past the limits of the site.*
- ***Catchment 500 (14.80, 1% impervious)** represents the majority of the proposed development. Runoff generated from Catchment 500 will sheetflow overland east to the adjacent property owned by the same applicant, ultimately discharging to the stormwater management facility.*
- ***Catchment 600 (0.12 hectares, 5% impervious)** represents a portion of the adjacent lands owned by the same applicant, adjacent to the Highway 6 right-of-way. Runoff generated from Catchment 600 will sheetflow overland to the*

*roadside ditch on Highway 6 right-of-way, ultimately discharging to a regulated watercourse.*

- ***Catchment 700 (2.98, 0% impervious)*** *represents a westerly portion of the site. Runoff generated from Catchment 700 sheetflows overland in the westerly direction to the adjacent farm field and an offsite wetland.*
- ***Catchment 800*** *(**1.73, 5% impervious)** represents a southwesterly portion of the site. Runoff generated from Catchment 800 sheetflows overland to the roadside ditch in the Highway 6 right-of-way which then continues to sheetflow to and offsite regulated watercourse.*

# 4. LEGISLATION & POLICY REVIEW

The following is an assessment of federal, provincial, and local legislation and policies that have implications for development activities of the property.

## 4.1. Federal

### 4.1.1. Species at Risk Act, 2002

The federal *Species at Risk Act (SARA), 2002*, is a key piece of legislation which aims to protect at risk plant and animal species and their critical habitat. This legislation provides the federal mandate for the protection of species identified as Endangered, Threatened or Special Concern on federal lands.

**Site Implications:**

*The SARA (2002)* legislation is not relevant to this site, as this parcel of land is not federally owned. Species at Risk protection on non-federal lands are protected through the *Endangered Species Act (2007)* and the Province's Significant Wildlife Habitat provisions contained in the *Provincial Planning Statement (2024)*. These pieces of legislation are discussed below.

### 4.1.2. Migratory Bird Convention Act, 1994, and Migratory Bird Regulations, 2022

The *Migratory Birds Convention Act (MBCA), 1994,* policies and regulations ensure legal protection of listed migratory bird species, their nests, eggs and offspring. In its application, it requires best management practices to detect and avoid disturbance to active nests during development activities.

The MBCA protects migratory birds and their nests (S.4). Section 6 of the Migratory Bird Regulations (Consolidated Regulations of Canada (CRC), c. 1035) prohibits the disturbance, destruction or taking of a nest, egg, or nest shelter of a migratory bird.

The MBCA is the enabling statute for the Migratory Birds Regulations, which were updated in May 2022 (MBR, 2022). Under the 2022 MBR, nests for 18 bird species (7 of which occur in Ontario) receive year-round protection for a prescribed length of time ranging from 24-36 months (Schedule 1), and all other nests of migratory birds are protected when they contain a live bird or viable egg (S. 5(2)(b)). Birds that are listed on Schedule 1 (those that receive year-round protection) were not identified for the Subject Project during breeding bird surveys.

Disturbance to nests of other MBCA protected species during the course of vegetation clearing is a contravention of the MBCA. The primary nesting period (i.e., the period when the percent of total nesting species is greater than 10%) identified for southern Ontario is April 9 - August 15, although nesting also infrequently occurs outside of this period (Environment Canada 2014). To significantly reduce the risk of damaging or disturbing bird nests and contravening the MBCA, vegetation clearing will occur between August 16 and March 31.

**Site Implications:**

Disturbance to nests of other MBCA protected species during the course of vegetation clearing is a contravention of the MBCA. Incidental take of migratory birds, nests or eggs must be avoided by limiting activities during sensitive periods, and migration measures should be implemented to ensure appropriate nesting areas are re-established on the site. Tree and vegetation clearing should not take place within the active nesting season between approximately **April 9 and August 15**. If the areas proposed for removal are thoroughly checked during the active breeding season for bird nests by a qualified biologist during the construction phase, and no nests are found, then construction may be permitted. Although nesting activity outside of this timing window is unlikely, to ensure compliance with the MBCA and the MBR, construction activities should be halted if an active nest or eggs of protected birds are found until the period of occupancy concludes.

## 4.2. Provincial

### 4.2.1. Provincial Planning Statement, 2024

The Provincial Planning Statement (PPS), 2024 is issued under the authority of Section 3 of the Planning Act. Section 4.1 of the PPS contains natural heritage policies and establishes clear direction on the adoption of an ecosystem approach and the protection of significant natural heritage resources including: significant woodlands, wetlands, and valleylands in Ecoregions 6E and 7E; significant wildlife habitat; significant areas of natural and scientific interest; and habitat of Endangered and Threatened species.

Policies 4.1.4, 4.1.5, and 4.1.6 of the PPS prohibits development and site alteration within and adjacent to significant wildlife habitat and significant woodlands unless there has been an evaluation of the ecological function of the adjacent lands and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. MNRF (2015) identifies the categories and criteria for evaluation of SWH in Ecoregion 7E (Appendix E).

Policies 4.1.4, 4.1.5, and 4.1.6 of the PPS state that development and site alterations within or adjacent to habitat of Endangered and Threatened species is not permitted, except in accordance with provincial and federal requirements.

**Site Implications:**

The subject property contains significant natural heritage features, including *Significant Wildlife Habitat (SWH),* and *habitat of Endangered and Threatened species.* In accordance with PPS (2024) development within or adjacent to significant natural heritage features is not permitted unless it can be demonstrated that there will be no negative impacts to natural heritage features or on their ecological functions.

### 4.2.2. Endangered Species Act, 2007

The *Endangered Species Act (ESA), 2007* and associated regulation (O.Reg. 230/08) provide the provincial mandate for protection of species identified as Endangered or Threatened and their habitats.

**Site Implications:**

A desktop review of available species records from background sources was conducted and field studies were conducted in accordance with the approved Terms of Reference to identify SAR and/or SAR habitat within the study area (Appendix G). A total of **5 species were identified through background review and field studies, which are protected under the ESA.** These species include Bobolink, Eastern Meadowlark, Eastern Small-footed Myotis, Little Brown Myotis, and Northern Myotis.

Of the potential SAR listed above, two (2) species were confirmed confirmed during field investigations:

- Bobolink
- Eastern Meadowlark

In addition, suitable roost trees for SAR bats (Eastern Small-footed Myotis, Little Brown Myotis, and Northern Myotis) were recorded, despite not recording SAR during targeted surveys focused on the on-site barn.

### Bobolink and Eastern Meadowlark

Under the ESA, 2007 and O. Reg. 242/08, a permit is required from MECP (Ministry of Environment, Conservation and Parks) to develop land over 30 ha that will damage or destroy the habitat of these species. An ESA permit is not required if impacting up to 30 ha of land. In either case, requirements under the ESA and O. Reg. 242/08 with respect to damaging or destroying habitat for Bobolink and Eastern Meadowlark include:

- register the work and the affected species with the Ministry of the Environment, Conservation and Parks (before work begins)
- prepare and follow a habitat management plan
- create or enhance habitat, and manage that habitat
- provide a written commitment (also called an undertaking) to the Ministry of the Environment, Conservation and Parks that says you will manage the habitat over time
- minimize effects to the protected species (e.g. put access roads outside the habitat)
- avoid activities that are likely to affect habitat or the birds between May 1 – July 31 (e.g. do not excavate land or plough fields during this time)
- prepare and maintain records that relate to the work and the habitat
- report sightings of rare species (and update registration documents, if needed).

Alternatively, developers might have the option to pay into a Species at Risk Conservation Fund, as a condition of a permit, agreement or conditional exemption. Eligibility and the subsequent amount would be determined by MECP.

### Eastern Small-footed Myotis, Little Brown Myotis, and Northern Myotis

Targeted visual exit surveys targeting the on-site barns did not record SAR bats, confirming the structures are not currently SAR habitat or an ESA, 2007 trigger.

A total of 30 suitable SAR bat maternity roost trees were recorded on site. Tree removals should avoid the maternity roosting season from **April 1 to September 30**. Under the ESA, 2007 and O. Reg. 242/08, an Overall Benefit permit may be required from MECP if impacts to SAR bat roosting habitat is expected (including structures or trees). Regarding treed habitat, if a "small number" of trees are being removed or stubbed, and critical timing windows for the species are avoided (i.e. April 1 – September 30), the ESA, 2007 is not triggered (MECP, 2021). It is unknown whether MECP will consider 30 trees to be a "small number". Further, it is noted that additional trees may be retained through detailed design.

Once the number of potential roost trees confirmed to be impacted during detailed design, it is recommended that **consultation with MECP should be undertaken to confirm further requirements under the *ESA, 2007* such as acoustic surveys for treed habitat and/or permitting.**

If a permit under the ESA, 2007 is required, the standard permitting process is as follows:

- Submit an Information Gathering Form (IGF) to MECP for comment.
- MECP will issue permission to proceed or may require submission of an Avoidance Alternative Form (AAF) to MECP for comment.
- MECP will issue permission to proceed, or request submission of an Overall Benefit (OB) Permit application.

### 4.2.3. O. Reg. 41/24: Prohibited Activities, Exemptions and Permits

Under the Conservation Authorities Act and Ontario Regulation 41/24, Conservation Authorities in Ontario are empowered to regulate development activities to protect wetlands, watercourses, and hazard lands. The regulation outlines that development activities within 30 meters of a wetland are generally prohibited unless specific conditions are met. These conditions include ensuring that the activity will not exacerbate flooding risks, adversely affect the stability of the wetland or watercourse, or negatively impact the ecological functions of the area. Development must also conform to applicable undergo pre-submission consultation and permit application processes as required by the Conservation Authorities. Exceptions to these prohibitions include minor activities that do not significantly impact wetlands or watercourses. These include small docks, certain types of fencing, minor agricultural structures, non-habitable accessory buildings under 15 square meters, and specific maintenance or repair activities for infrastructure like drains and roads. This high-level framework is designed to safeguard Ontario's vital natural resources by preventing detrimental alterations and ensuring sustainable land use practices.

**Site Implications:**

A preliminary review using GRCA's Regulated Area Search tool indicates that a portion of the property on the southeast side is regulated by the GRCA, including an isolated wetland and a regulated watercourse and their associated buffers. Development within GRCA regulated areas is subject to the policies outlined in O.Reg 41/24.

## 4.3. Local

### 4.3.1. Wellington Country Official Plan, 2024

The 2024 Wellington County Official Plan (WCOP) delineates a strategic framework for land use planning and development across the county, focusing significantly on the Greenland's system. This system is categorized into Core Greenlands and Greenlands, each with specific roles and regulatory guidelines.

**Core Greenlands** are designated areas within Wellington County recognized for their high ecological sensitivity or significance, warranting the utmost level of protection. These areas are essential due to their ecological roles or potential public safety hazards. Core Greenlands encompass:

- Provincially significant wetlands;
- All other wetlands;
- Habitats for endangered or threatened species and fish habitats;
- Hazardous lands.

According to Section 5.6.1 of the WCOP, development or site alteration is prohibited within all Core Greenlands, including Provincially Significant Wetlands or significant habitats of threatened or endangered species, except as allowed by provincial and federal regulations. Approvals for development are contingent upon demonstrating no adverse impacts on significant features and functions, and minimal negative effects on other Greenland features.

**Greenlands** are recognized as vital natural heritage features and areas in Wellington County, crucial for supporting biodiversity, ecological functions, and overall environmental health. Although significant, they are not subject to the stringent protections of Core Greenlands. This category includes:

- Fish and wildlife habitats;
- Areas of Natural and Scientific Interest;
- Streams and valley lands;
- Woodlands;
- Environmentally Sensitive Areas (ESAs);
- Ponds, lakes, and reservoirs.

Section 5.6.2 of the Official Plan stipulates that for proposed developments within the Greenland system or on adjacent lands, the County or local municipality must require the developer to:

a) Identify the nature of the features potentially impacted by the development;

b) Prepare, where necessary, an environmental impact assessment to confirm compliance with the Plan's requirements and consider potential enhancements to the natural area where feasible and reasonable;

c) Fulfill any other relevant criteria outlined in Section 4.6.3 concerning Environmental Impact Assessments.

Additionally, development or site alteration on adjacent lands to Core Greenlands or Greenlands must comply with specific requirements to ensure no negative impacts on the natural features or their ecological functions. Adjacent lands are defined as areas of land that are in proximity to significant natural heritage features and ecological systems. Specifically, for the purposes of the Wellington County Official Plan, adjacent lands include:

- Lands within 120 metres of provincially significant wetlands, provincially significant Life Science Areas of Natural and Scientific Interest (ANSIs), significant habitat of endangered and threatened species, fish habitat, significant wildlife habitat, significant valleylands, and significant woodlands.
- Lands within 50 metres of provincially significant Earth Science Areas of Natural and Scientific Interest.
- Lands within 30 metres of all other Core Greenlands and Greenlands areas.

Permitted uses within the Core Greenlands outlined in Section 5.6 of the OP include agriculture, existing uses, conservation, forestry, aggregate extraction within Mineral Aggregate Areas, open space, and passive recreation. Additionally, other uses permitted in the adjacent or underlying designations may also be allowed, provided that there are no negative impacts on significant features and functions and no significant negative impacts on the ecological features and functions. This provision ensures flexibility, allowing for a range of compatible activities that support the area's primary ecological and conservation objectives while accommodating existing land use practices and needs.

Development or site alteration within or adjacent to Core Greenlands or Greenlands will only be approved if the County is satisfied that the Greenland and Environmental Impact Assessment policies are met.

**Site Implications:**

The subject property does not contain Greenlands or Core Greenlands; however, the **adjacent 120m lands** contain **Core Greenlands** as mapped in the Wellington County Official Plan (Map 4), triggered by the presence of an unevaluated wetland and woodland.

With respect to wetlands, section 5.4.1 of the WCOP states:

*"All wetlands in the County are included as Core Greenlands. Development and site alteration will not be permitted in wetlands which are considered provincially significant[…] All other wetlands will be protected in large measure and development that would seriously impair their future ecological functions will not be permitted."*

Streams are discussed under the Greenlands designation; WCOP section 5.5.3 states:

*"Streams and valleylands are included in the Greenlands system. All streams and valleylands will be protected from development or site alterations which would negatively impact on the stream or valley- land or their ecological functions."*

In accordance with the WCOP, an Environmental Impact Statement (EIS) must confirm that the development will not adversely affect the Core Greenland features and their ecological functions. Approval of the EIS by the County is therefore required prior to development or site alteration on the subject lands.

### 4.3.2. Township of Centre Wellington Official Plan, 2005

As a lower-tier municipality, the Township relies heavily on the Wellington County Official Plan (2024). The Township of Centre Wellington's Official Plan (TCWOP, 2005) is formulated exclusively for Urban Centers which are comprised of: Fergus, Elora-Salem, and Belwood. For non-urban centres, the Township relies on the County's OP.

Within Urban Centres, the Township acknowledges that Natural Heritage Systems must be protected and enhanced and that consideration will be given to the protection, preservation and enhancement of these significant natural features which include: rivers, streams and their valley lands, wetlands, flood plains, headwaters and water catchment areas, ground water supplies, environmentally significant features, wildlife and fish habitats and lands with ecological functions (TWCOP, 2005).

The Township's Landscape Design provisions (policy C.15.4 of the Official Plan) describe the requirements for tree preservation within the Township. Under this policy, the Township requires the submission of a tree inventory and saving plan for all applications, with priority being given to trees and other vegetation most suited to adoption of post-construction conditions. The policy notes that where retention of significant treed areas, individual trees or naturalized areas has been determined by the Township not to be feasible, in accordance with its policies and guidelines, the loss

of such features shall be offset by requiring their replacement with an appropriate quantity and quality of vegetation on the site or elsewhere in the Township.

### Site Implications:

The subject lands fall within the Fergus Primary Urban Centre (TWCOP, 2005: Schedule 1A and 1B). Relevant policy excerpts are below, based on the features present within the study area:

Relevant excepts from section C.3.2 wetlands:

*"All provincially and locally significant wetlands are included in the Core Greenlands designation[…] All other wetlands will be protected in large measure and development that would seriously impair their future ecological functions will not be permitted.*

1. *Development on or adjacent to locally significant wetlands will also be subject to the preparation of an Environmental Impact Assessment in accordance with Section E.1.3 of this Plan.*
2. *The interpretation and definition of the limits of locally significant wetlands and lands adjacent to those wetlands will be the responsibility of the Township, the Conservation Authority and any other agency or person(s) so requested by the Township.*
3. *Private landowners with property in or adjacent to wetlands are encouraged to maintain their holdings in a manner that preserves the natural attributes of the wetland feature."*

7. *Wetland policies may be implemented through the Zoning By-law by placing wetlands and associated buffers in a restrictive zoning category that permits only wetlands and uses that are compatible with the maintenance of wetland values such as conservation activities, forestry and wildlife management, as well as passive recreational pursuits.*

Relevant excerpts from section **C.3.3 Habitat of Endangered of Threatened Species:**

*"Development and site alteration will not be allowed in significant portions of the habitat of endangered or threatened species."*

Relevant excerpts from section **C.3.6 Plant and Wildlife Habitat:**

*"Development and site alteration will not be allowed in significant wildlife or plant habitat unless it has been demonstrated that there will be no negative impacts on the habitat or its ecological functions."*

Relevant excerpts from section **C.3.9. woodlands:**

*"The Core Greenlands designation may include wooded areas, particularly where these are also associated with other Natural Heritage features such as wetlands. Otherwise,*

*the Core Greenlands designation includes only upland woodlands over 10 hectares in area. These woodlands will be protected from development or site alterations that would negatively impact the woodlands or their ecological functions. Good forestry practices will be encouraged The Township also recognizes that smaller wooded areas also have local significance. Wooded areas contribute to erosion control, groundwater storage and wildlife habitat. Where practical, these smaller woodlots should be protected, even if they are not included in the Core Greenlands designation. The Township adopts the following policies with respect to its wooded areas:*

1. *The Township encourages the protection and preservation of existing trees and woodlots."*

Relevant excerpts from section **C.3.12. natural heritage corridors:**

*"The boundaries of many natural heritage features overlap and inter-relationships frequently exist between these areas. The Township encourages the connection of Natural Heritage features. This may be achieved through the following means:*

1. *The protection and maintenance of all rivers and streams as environmental corridors, including provisions for minimum setbacks and vegetate riparian buffers;*
2. *Incorporating environmental corridors to be incorporated into the design of new developments or redevelopments, where practical.*
3. *Naturalization or vegetation of parks, open space and storm water management areas."*

Regarding, OP section C.14.4, the proposed removal of individual trees require replacement with an appropriate quantity and quality of vegetation on site or elsewhere in the Township. Approval of an appropriate tree replacement plan is required prior to impacting trees.

### 4.3.3. County of Wellington Conservation and Sustainable Use of Woodlands By-Law (5115-09)

By-law 5115-09, established by the Corporation of the County of Wellington, aims to safeguard trees within woodlands to preserve the health of natural environments and promote good forestry practices. To be subject to this by-law, a woodland must cover at least one hectare and meet the following tree density criteria:

- A minimum of 1,000 trees per hectare of any size.
- At least 750 trees per hectare with a diameter over five centimeters.
- A minimum of 500 trees per hectare with a diameter over 12 centimeters.

- At least 250 trees per hectare with a diameter over 20 centimeters.

These density requirements set the scope for the by-law's protection, ensuring that significant tree populations are regulated to maintain the integrity of woodland ecosystems

**Site Implications:**

There are no woodlands on site that are 1 ha or greater. Therefore, this By-Law does not apply to the site.

### 4.3.4. Township of Centre Wellington Public Tree By-Law (2002-57)

The Township's bylaw 2022-57 authorizes and regulates the planting, care, maintenance, and removal of trees on Township property. This bylaw stipulates that no person shall injure, destroy, or plant a tree on Township property without a permit.

A permit may be issued up on submission of an application including the following:

*a) a complete application in the form provided by the **Township;***

*b) when applicable, the Business Name Registration and/or Articles of Incorporation obtained from the applicable provincial or federal Ministry;*

*c) a landscape plan;*

*d) when applicable, an **Arborist Report** and **Tree Preservation and Enhancement Plan** that identifies the **tree protection zone;***

*e) a certificate of insurance in a .form satisfactory to the **Township** naming the **Township** as an additional insured with a coverage limit not less than two (2) million dollars in Commercial General Liability;*

*f) payment of **compensation value** for each **tree** to be removed in the form of a money order, certified cheque or any other method of payment approved by the **Township,** or submission of compensation planting plan to the satisfaction of the **Township;***

*g) securities in the form of a Letter of Credit or in any alternate form of financial security as approved by the **Township** in the amount of the **compensation value** of **the tree(s),** removal and replacement costs;*

*h) any other documents as may be required by the **Township** to the satisfaction of the **Township;***

*i) the required application fee, administrative, approval and inspection fees as provided for in the **Township's** Fees and Charges By-law.*

Compensation for tree removals is defined *as **"**the ratio of compensation trees identified in **Public Forest Policy** multiplied by the tree compensation rate identified in the **Township's** Fees and Charges By-law, or the amenity value of the tree calculated in accordance with the Guide for Plant Appraisal, 10th Edition as published by the International Society of Arboriculture, as amended or replaced, and as approved by the **Director"***.

It should be noted that the Township does not have a **Private Tree Bylaw** in effect.

### Site Implications:

Publicly owned trees are protected from damage or destruction under By-Law 2022-57. If it is determined through detailed design that publicly owned trees may be impacted by the proposed work, a permit under this by-law is required prior to impacting the tree(s). As part of the permitting process, compensation value for trees anticipated to be removed will need to be calculated and confirmed with the Township.

# 5. KEY FINDINGS

Based on a review of the available background information, existing site conditions including species and vegetation communities, and relevant policy applicable to the subject lands, the following natural heritage features & functions (Table 6) are present and may serve as constraints to the proposed activities.

**Table 6: List of Sensitive Natural Heritage Features and Functions**

| NATURAL HERITAGE FEATURES | PRESENCE WITHIN STUDY AREA (ref. Map 4) | CONSTRAINT IMPLICATIONS | POLICY REFERENCE |
|---|---|---|---|
| Core Greenlands (woodlands and wetlands) | The primary natural feature associated with the site is an offsite complex of woodland and wetland to the south east. | The wetland-woodland complex is located on the adjacent property being developed in tandem with this property. Refer to the EIS for 968 St. David Street North (South Lands) for detailed information of ecological characterization, constraint implications, impact assessment, and mitigation recommendations related to this feature. | PPS, 2024<br>Wellington County Official Plan (2024) |
| Habitat for Endangered and Threatened Species | Habitat for six (6) Endangered and Threatened species is present including:<br>1) *Bobolink*: Observed as a Probable breeder on **adjacent lands** (Hayfield polygon 6)<br>2) *Eastern Meadowlark*: Observed as a Possible breeder on **adjacent lands** (Hayfield polygon 6)<br>3-6) SAR Bats - Eastern Small-footed Myotis, Little Brown Myotis, and | The ESA protects species identified as Endangered or Threatened and their associated habitats. Habitats of provincial Special Concern species are not protected by the ESA, but recognized under the Province's Significant Wildlife Habitat (SWH) categories.<br>1) *Bobolink:* is designated Threatened (THR) in Canada and Ontario. Significant habitats of provincially Endangered and Threatened species are protected from development under the PPS and the ESA. If impacts cannot be avoided MECP should be contacted for guidance; there may be opportunity for a compensation approach.<br>2) *Eastern Meadowlark*: is designated Threatened (THR) in Canada and Ontario. Significant habitats of provincially Endangered and Threatened species are protected from development under the PPS and the ESA. If impacts cannot be avoided MECP should be contacted for | PPS, 2020<br>ESA, 2007 |

| NATURAL HERITAGE FEATURES | PRESENCE WITHIN STUDY AREA (ref. Map 4) | CONSTRAINT IMPLICATIONS | POLICY REFERENCE |
|---|---|---|---|
| | Northern Myotis: species not recorded in study area, however suitable roosting treed habitat is present. | guidance; there may be opportunity for a compensation approach.<br><br>*3*-6) *SAR Bats* - Eastern Small-footed Myotis, Little Brown Myotis, and Northern Myotis: 32 suitable roosting trees for SAR bats are were recorded in the study area. Due diligence to ensure compliance with the ESA requires tree and vegetation clearing and barn demolition be conducted outside of the bat active season (April 1 – September 30). It is recommended the barn demolition occur prior to the start of the next bat roosting season (April 1, 2025) to avoid the need for repeated surveys. | |
| Confirmed Significant Wildlife Habitat (SWH) | Confirmed Species of Conservation Concern: Swallow | No development is permitted within or adjacent to Significant Wildlife Habitat unless it can be demonstrated that the proposal will result in no negative impacts to SWH.<br><br>*Special Concern and Rare Wildlife* (Barn Swallow): The Provincial Recovery Strategy for Barn Swallow (Heagy et. al., 2014) describes the habitat needs of this species; foraging habitat, nest sites and nests, and nocturnal roost sites. Nesting and roosting habitats for this species are currently unconfirmed, however foraging habitat is present. Conversion of the agricultural fields to developed land would likely result in an impact to Barn Swallow and its associated SWH. Barn structures providing nesting habitat on both properties would be lost, and suitable foraging habitat in the surrounding landscape dramatically reduced. Mitigation strategies include installation of replacement nesting structures. | PPS, 2024 |

| NATURAL HERITAGE FEATURES | PRESENCE WITHIN STUDY AREA (ref. Map 4) | CONSTRAINT IMPLICATIONS | POLICY REFERENCE |
|---|---|---|---|
| Migratory Birds | Present within vegetated areas of the study area. | Breeding birds that are protected under the MBCA are present within the study area. Due diligence to ensure compliance with the MBCA will require that vegetation clearing does not occur within the active nesting season (approx. **April 9 – August 15**). If this cannot be accommodated, a qualified Wildlife Biologist will be retained to thoroughly check the areas to be disturbed to ensure there are no active nests present. | MBCA, 1994 |
| Natural Heritage Corridor | The hedgerow along the north property edge (ELC polygon 8) has the potential to function as an ecological linkage between the natural feature on the property and the Irvine Creek Provincially Significant Wetland Complex to the north, which is part of the larger provincial Natural Heritage System. | As per Section c.3.12 of the Township OP, the connection of Natural Heritage features through corridor systems is encouraged. Care should be taken to preserve trees along the northeastern boundary, and match grade lines should attempt to preserve root zones. | Township of Centre Wellington OP, 2005 |
| Potential Groundwater Recharge Function | The entirety of the property is mapped as "Potential Recharge Area" on the | Maintenance of groundwater quantity and quality should be adequately considered with respect to the proposed development. See CVDE's (2024) Hydrogeological Report for details. | Township of Centre Wellington OP, 2005<br>Wellington County OP, 2024 |

| NATURAL HERITAGE FEATURES | PRESENCE WITHIN STUDY AREA (ref. Map 4) | CONSTRAINT IMPLICATIONS | POLICY REFERENCE |
|---|---|---|---|
| | Groundwater Management Plan in the Township of Centre Wellington Official Plan (Schedule C). | | |
| Trees on Private Property | See the Arborist Report & Tree Preservation Plan (Dougan, 2025) for detailed tree data. | The Township OP specifies that proposed removal of individual trees require replacement with an appropriate quantity and quality of vegetation on site or elsewhere in the Township. Approval of an appropriate tree replacement plan is required prior to impacting trees. | Township of Centre Wellington OP, 2005 |

# 6. DESCRIPTION OF PROPOSED DEVELOPMENT

Polocorp Inc. proposes to transition this property from largely rural/agricultural use to residential. The concept plan (Appendix F) includes 87-129 single detached residential units (4.86 ha), 179-266 street townhouse residential units (5.51 ha), 93-125 medium density residential units (2.07 ha), 8-14 mixed use units (0.34 ha) and 0-1 existing house units (0.17 ha). The proposed development also includes a 0.89ha parkland,0.11ha 6m-wide walkway and 5.28ha of roads.

Development activities are anticipated to include the following:

- Temporary fencing;
- Clearing and grading;
- Servicing;
- Stormwater management; and
- Construction of homes, associated paved surfaces (driveways), and parks.

Table 7 provides a summary of the proposed conceptual development blocks (ref. Appendix F – Concept Plan).

**Table 7: Summary of Proposed Development Block Areas/Units**

| Development Block (ref. Appendix F – Concept Plan) | Area (ha) | Number of Units |
|---|---|---|
| Residential Mixed-Use | 0.34 | 8-14 |
| Residential Single Detached | 4.86 | 87-129 |
| Residential Street Townhouse | 5.51 | 179-266 |
| Residential Medium Density | 2.07 | 93-125 |
| Existing House | 0.17 | 0-1 |
| Parkland | 0.89 | --- |
| 6m Walkway | 0.12 | --- |
| Roads | 5.28 | --- |
| **TOTAL** | **20.03** | **367-535** |

The following sections provide a conservative assessment of impacts and general mitigation and enhancement recommendations that should be carried through and refined at the detailed design/site plan application phase.

## 6.1. Grading

The grading plan for the proposed residential lots, internal roads, and stormwater management facility aligns with the elevations of Street B entrance at Highway 6 and the site boundaries. Internal road slopes range from 0.6% to 1.5%, while lot slopes range from 2% to 4%. The grading pattern consists of split-drainage and back-to-front draining lots, with 3:1 transition slopes in select rear yard areas for grade relief.

## 6.2. Roads

The internal roads will be constructed with urban cross-sections (18-23 meters wide) and include concrete curb and gutter, following Township standards. The Street G connection at St. David Street N (Highway 6) will be 20 meters wide.

## 6.3. Water supply

The development will be serviced by an extended watermain along St. David Street N (Highway 6) to the site entrance, with a local watermain extending throughout the site along internal roads. Watermain sizing will be finalized during the detailed design phase after Draft Plan approval.

Each dwelling will receive a 25mm diameter water service lateral, with fire hydrants installed within a 150m radius as per Township standards. The watermain layout is shown on the Servicing Plans.

An existing 300mm diameter watermain runs along the east side of St. David Street North/Highway 6, extending across part of the site frontage and terminating at Sideroad 18. The Township is also conducting a Municipal Class Environmental Assessment (EA) to ensure adequate water supply for the additional demand from this development as part of the Municipal Comprehensive Review process.

## 6.4. Sanitary Sewers

Each dwelling will be serviced by a 100mm diameter sanitary service lateral, in accordance with Township standards. The sanitary sewer layout is shown in the Servicing Plans (GEI, 2025).

The storm sewer system will handle a 5-year storm and direct water to an existing stormwater management facility. Major storms will drain overland through municipal rights-of-way to the applicant's adjacent property before reaching the facility. The facility will then discharge into a wetland to maintain natural drainage patterns

## 6.5. Storm Sewers

The storm sewer system for the internal roads will be designed to handle a 5-year design storm, directing the flow to the stormwater management facility as per Township standards. For major storm events, water will flow overland through municipal rights-of-way to the facility. Storm sewer design calculations are included in Appendix B of the Stormwater Management Design Report (GEI, 2025). The stormwater facility will discharge into the wetland along the northeast boundary of the site to maintain existing drainage patterns.

Each lot will have a 100mm diameter storm service lateral connected to the municipal storm sewer system. Foundation drainage will be managed through sump pump discharge to the storm service lateral.

## 6.6. Stormwater Management

GEI (2025) proposes a "treatment train" approach for the Subdivision to remove sediments and any absorbed contaminants prior to the discharge of runoff from the development to the receiving outlets. This approach will include a combination of lot level, conveyance and end-of-pipe best management practices including:

- Rooftop infiltration
- Rear yard swales
- Foundation drainage
- Municipal maintenance of the storm sewer system
- Stormwater management facility (SWMF)

The proposed SWMF is located near the southeast edge of the property and has been designed as wetland type facility complete with a forebay and a 0.3 m deep permanent pool to provide the required water quality controls (GEI, 2025). The facility will have two (2) outlets – both discharging to the wetland.

# 7. IMPACT ASSESSMENT

This section presents a detailed discussion of the potential impacts that could occur based on consideration of the key findings (Section 5) and the proposed development (Section 6). Direct, indirect, and cumulative impacts have been considered and are discussed in the following subsections.

## 7.1. Cumulative Impacts

### 7.1.1. Land Use Transition

This proposed development will contribute to land-use changes as this landscape transitions from agricultural towards increased residential/mixed land use to accommodate provincial and regional growth targets.

## 7.2. Direct Impacts

Direct impacts associated with the proposal include the removal of privately-owned trees and vegetation within cultural vegetation communities, disturbance of potential Species at Risk habitat in buildings on site, and biodiversity enhancements as described below.

### 7.2.1. Tree and Vegetation Removal

Tree and vegetation removal to accommodate grading will be limited to agricultural fields, hedgerows, cultural meadow, cultural woodland and anthropogenic communities. Table 8 summarizes the impacted areas anticipated based on the current concept plan (Map 5) and may be further refined through detailed design.

**Table 8: Impacted Area by ELC Community Based on Preliminary Developable Lands**

| Polygon ID | ELC Code | Impacted Area (ha) |
|---|---|---|
| 2 | Birch – Conifer Mineral Mixed Swamp (SWM3-1) | 0.00 |
| 6 | Agricultural (AGR) | 18.56 |
| 8 | Hedgerow (HR) | 0.20 |
| 9 | Cultural Woodland (CUW) | 0.17 |
| 10 | Anthropogenic (ANTH) | 0.96 |
| 11 | Hedgerow (HR) | 0.06 |
| 12 | Hedgerow (HR) | 0.02 |
| 13 | Agricultural (AGR) | 0.00 |
| 14 | Agricultural (AGR) | 0.07 |
| 15 | Agricultural (AGR) | 0.00 |
| 16 | Anthropogenic (ANTH) | 0.00 |
| 21 | Meadow Marsh (MAM) | 0.00 |
| 22 | Fresh – Moist Poplar Deciduous Forest (FOD8-1_ | 0.00 |

| | | |
|---|---|---|
| TOTAL | | **20.03** |

The Arborist Report and Tree Preservation Plan submitted under separate cover (Dougan, June 2024), indicates a total of 247 trees are proposed to be impacted, **including 239 trees proposed for removal and 8 proposed to be injured with protective measures (i.e. Tree Protection Hoarding)** based on the assumed limit of disturbance and existing tree locations, illustrated in Table 9 below. Impacts to trees and required compensation will be confirmed through detailed design. Tree compensation is addressed in section 8.3.1. Details can be found in the Arborist Report and Tree Preservation Plan submitted under separate cover (Dougan, June 2024).

**Table 9: Tree Action Summary Based on Anticipated Limit of Development Shown on Concept Plan**

| Tree Action | Tree Count |
|---|---|
| Preserve | 0 |
| Injure | 8 |
| Remove | 239 |
| Total | **247** |

It should be noted that Polocorp intends to work with the Project Engineer (GEI) through detailed design to minimize impacts to boundary trees currently marked as remove or injure, along the north and west property limits. Opportunities will be explored to retain as many trees as possible as the site and grading plans is refined. The impacts outlined above are based on a conservative assessment of impacts.

Mitigation and enhancement strategies to address impacts to trees and other vegetation on site is provided in section 8.

### 7.2.1. Removal of Bobolink & Eastern Meadowlark Habitat

The hay field (Polygon 6 – AGR: 14.77 ha) has been assessed as suitable habitat for Bobolink, a provincially Threatened SAR, with occupancy observed during the second breeding bird survey by at least one pair.

Under the ESA, 2007 and O. Reg. 242/08, a permit is only required if over 30 ha of habitat is being impacted (ref. section 4.2.2). Standard requirements under the ESA, 2007 and O. Reg. 242/08 are to be followed with respect to damaging or destroying <30 ha of habitat for Bobolink (ref. section 4.2.2).

Alternatively, developers might have the option to pay into a Species at Risk Conservation Fund, as a condition of a permit, agreement or conditional exemption. Eligibility and the subsequent amount would be determined by MECP.

### 7.2.2. Disturbance of Migratory Birds

In the absence of mitigative actions, clearing operations and construction activities (noise, light, and removal of vegetation) may temporarily disturb wildlife and interfere with nesting birds protected under the MBCA, 1994, if conducted during the breeding bird season.

### 7.2.3. Disturbance of SAR Bats

A total of 32 trees are candidate bat maternity roost trees, containing large cavities, cracks, and loose bark. Under the precautionary principle, these trees should be considered potential habitat for Endangered bats under the ESA, 2007. Of these, 30 are proposed to be removed based on the current plan.

Avoidance strategies to address impacts to migratory breeding birds and Endangered bats are provided in section 8.1.2.

## 7.3. Indirect Impacts

### 7.3.4. Hedgerow Linkage/ Corridor

ELC polygon 8 is a treed hedgerow that extends along the north-eastern property edge. In combination with the ELC polygon 12 hedgerow, these trees form an ecological connection between the Irvine Creek Provincially Significant Wetland Complex to the north and a wetland/woodland feature & Gibbons Drive Park to the south. The site plan proposes development blocks that extend right up to this hedgerow and there is potential for indirect impacts to the trees. Future refinement of the site design should include consideration for preservation of this hedgerow corridor, such as buffers, tree protection fencing, and/or root sensitive excavation if grading must occur in close proximity to trees.

### 7.3.5. Alterations to Water Balance and Drainage

Site grading and increases in impermeable surface post-development could result in altered drainage patterns with potential to impact the adjacent wetland/woodland feature if no mitigation is put in place. Impacts may include altered hydroperiod of the wetland, and/ changes to water quality or quantity inputs. Such changes have the potential to alter the ecological form and function of the natural feature.

Mitigation strategies to address impacts associated with water balance and drainage pattern alterations are provided in section 8.2.3.

### 7.3.6. Sedimentation and Erosion

Decreased soil stability is caused by clearing of vegetation and grading activities as it breaks up soil layers, reduces compaction, and increases bare soil which is then more

susceptible to erosion and/or sedimentation which can lead to loss of soil, sedimentation of adjacent natural areas, disturbance to natural vegetation and decreased water quality.

Mitigation strategies to address sedimentation and erosion related impacts are provided in section 8.2.4.

### 7.3.7. Future Human Encroachment

The conversion of agricultural land to residential will inevitably result in land use changes that may affect the adjacent natural area. Normal use of dwellings, yards, roads, parks, and trails introduce a large and uncertain number of practices, but they are generally associated with recreation, residential landscaping and other passive activities.

Impacts to mapped natural heritage features that may result from the land use change from agriculture to residential include:

- Increased dumping/trampling within natural areas:
- Noise and light pollution;
- Extension of mowed, planted or cleared property;
- Private laneways, buildings, fences, sheds constructed;
- Pool construction and associated drainage;
- Introduction of exotic (garden) species and/or predators (off-leash pets) into natural areas.

In the absence of mitigation and enhancement strategies, each of these activities outlined would be likely to impact the natural heritage features present on the subject lands. However, these impacts can be addressed through mitigation strategies outlined in section 8.

# 8. AVOIDANCE, MITIGATION & ENHANCEMENT MEASURES

Section 7 has provided an assessment of the potential impacts that could occur as a result of the proposed development. This section follows by providing a plan of action to address any impacts perceived as negative or detrimental to natural heritage features or functions. This plan was created based on a hierarchy of decision making, as illustrated in Figure 3.

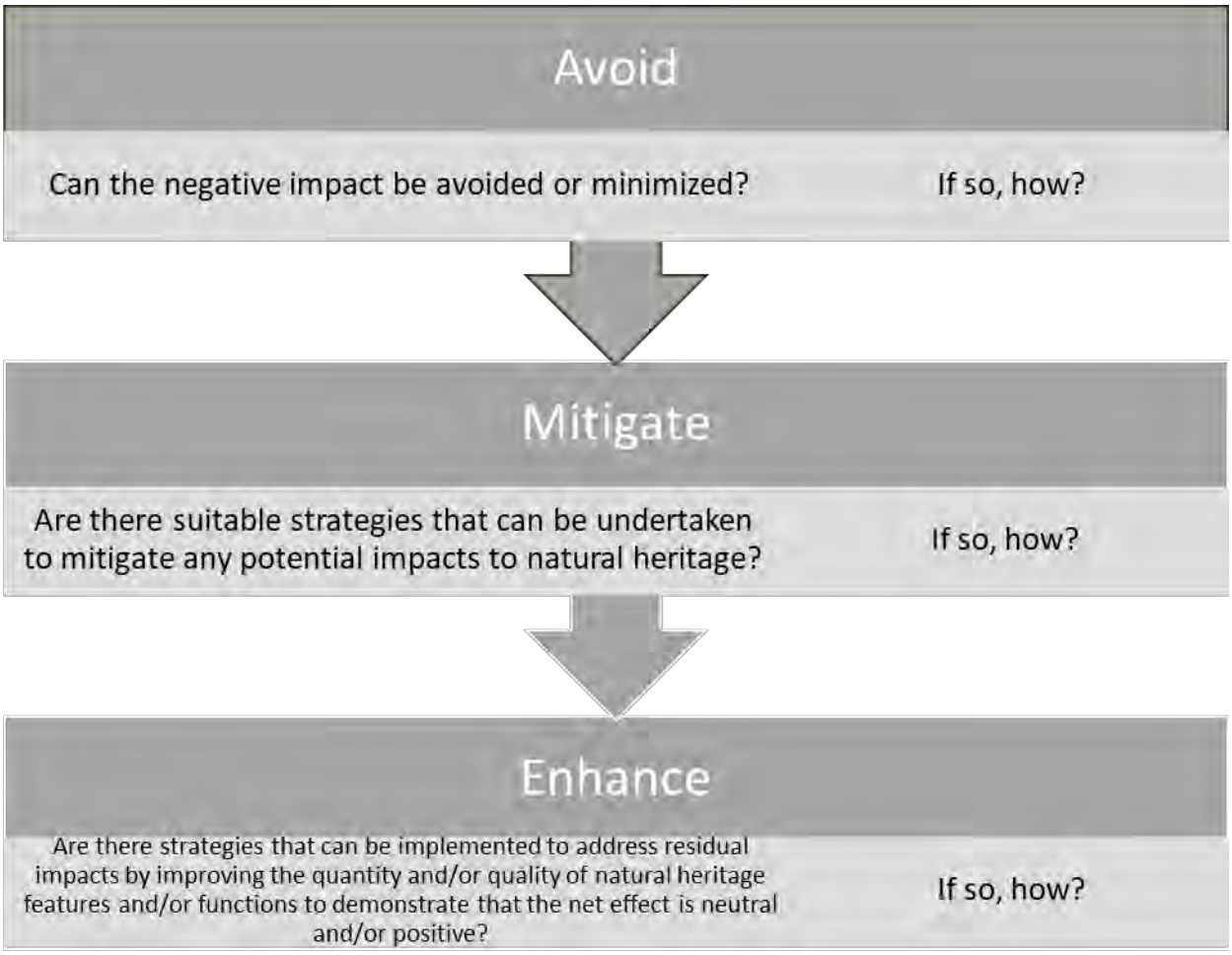


**Figure 3: Impact Assessment Hierarchy Approach**

## 8.1. Avoidance Strategies

### 8.1.1. Site Plan Design

Prior to development of the concept plan (Appendix F), Dougan conducted a preliminary constraint assessment for Polocorp based on background material and

existing policy. Through this assessment, Dougan advised that the Core Greenlands feature on adjacent lands is a valued ecological feature that receives protection under regional policy.

The proposed Draft Plan and associated development activities are setback more than 30 m from Core Greenlands features on adjacent lands. Vegetation communities that are anticipated to be impacted are of low ecological value, including primarily active agriculture, anythropogenic, hedgerow, and a small (0.17 ha) disturbed cultural woodland.

Therefore, the plan avoids directly impacting high quality policy-protected natural heritage features on the site, including the adjacent Core Greenlands designated wetland/woodland complex (Appendix F, Map 5).

### 8.1.2. Timing Windows for Construction

**Tree and vegetation removal should be avoided between April 1 and September 30** in order to avoid impacting species protected under the *Endangered Species Act, 2007* and the *Migratory Birds Convention Act, 1994,* as discussed below.

#### Endangered Species Act, 2007

Given the potential presence of potential SAR bat roosting trees proposed for removal, tree removals should not be conducted during the maternity roosting season which occurs from **April 1 to September 30.** Tree removals should not occur within this critical roosting period**.**

**Bobolink and Eastern Meadowlark** habitat is regulated under the ESA, 2007. Vegetation removal should avoid activities that are likely to affect habitat or the birds between **May 1 – July 31** (e.g. do not excavate land or plough fields during this time).

#### Migratory Bird Convention Act, 1994

To ensure compliance with the Migratory Bird Convention Act (MBCA, 1994), any vegetation removal on the site should be done outside of the breeding bird window which occurs from **April 9 to August 15**. If any vegetation removal is to occur within this window, a qualified avian ecologist should first check the vegetation to be removed to ensure that there are no migratory birds covered by the Act nesting within it.

If construction occurs during the breeding bird window that may impact vegetation and/or trees, nest sweeps of the site should be conducted prior to construction to ensure that unusually early or late nesting is not taking place, or that dependent young, even though fully fledged, are not in the area and unable to disperse

If any birds are found nesting, the avian biologist will recommend a suitable buffer be established around the nest, in which no constructions activities will be permitted until the birds have left nesting sites.

## 8.2. Mitigation Strategies

### 8.2.1. Tree Preservation

An Arborist Report and Tree Protection Plan (TPP) has been developed under separate cover, based on the proposed limit of grading/disturbance (Dougan, June 2025). A summary of the mitigation strategies recommended include:

- Tree Protection Fencing (TPF) should be installed pre-construction to mitigate impacts to trees marked as "Injure" or "Preserve" (refer to Arborist Report Map 2, Dougan, June 2024) in accordance with the detail provided in Appendix B. TPF should be installed no less than 1m from tree dripline where possible, or at the outer limit of development (Appendix B). Areas within the fenced Tree Protection Zones should remain undisturbed and not be used for material or debris storage, access routes, or excavation.
- General best management practices to mitigate pre-construction and construction impacts to trees marked as "preserve" and "injure" should be followed and carried through to detailed design, as recommended in the Arborist Report (Dougan, June 2024).

It should be noted that as the project moves toward detailed design, Polocorp intends to work with the Project Engineer (GEI) to minimize impacts to boundary trees currently marked as remove or injure, along the north and west property limits. Opportunities will be explored to retain as many trees as possible as the site and grading plans is refined.

Please refer to the Arborist Report (Dougan, 2025) for further details.

### 8.2.2. Fencing

Under the proposed Draft Plan, the Core Greenlands feature comprised of unevaluated wetlands and woodlands will be preserved in-situ with all development activities sited more than 30 m from the Core Greenlands features (as delineated by Dougan in 2023, see Map 5). It is recommended that permanent fencing and/or deterrent plantings be installed along the northern edge of the development parcel to prevent human encroachment within the adjacent natural feature.

### 8.2.3. Water Balance

Based on review of the FSR (GEI, 2025) and the Hydrogeological Report (CVDE, 2024), under current conditions the adjacent wetland receives some surface water inputs from precipitation and through overland sheet flow from the surrounding agricultural fields, but that the high groundwater table is the primary hydrologic influence sustaining the wetland. The boreholes dug by CVDE as part of their preliminary geotechnical investigation report, revealed seasonally high groundwater levels with boreholes reaching the water table at depths of 0.25 m. The proposed development is not expected to significantly alter groundwater levels. Minor changes to controlled surface

water inputs are expected post-development. Specifically, some surface water inputs will be directed to the stormwater management facility and piped to the wetland feature; these will be decreased post-development but to such a minor degree that ecological impacts are expected to be negligible. Uncontrolled flows (ie. direct precipitation to the wetland, precipitation to be infiltrated via lot-level controls etc) will also help to offset changes to drainage patterns. Therefore, the minor alterations to water balance will not significantly impact the wetland feature.

The pre-to-post changes to the wetland water balance will be within reasonable variance such that no substantial negative impacts are expected if the recommendations of the FSR (GEI, 2025) and the Hydrogeologic Study (CVDE, 2024) (ie. lot-level infiltration, vegetation plantings within the SWM facility etc) are implemented. This EIS poses no additional mitigation related to water balance or wetland hydrology.

### 8.2.4. Erosion & Sediment Control

An Erosion and Sediment Control Plan was prepared by GEI (2025). The following recommendations should be carried through detailed design:

- *Primary sediment control will be achieved with the installation of heavy duty sediment fencing around the property boundary. The silt fence will eliminate the opportunity for water borne sediments to be transported from the site.*
- *Temporary rock check dams will be installed in rear and side yard swales after the initial grading has been completed to slow the flow rates and promote the settlement of waterborne sediments before they reach the silt fences and the stormwater management facility.*
- *Upon completion of the grading, any area not subject to active construction within 30 days will be topsoiled and seeded as per OPSS 572.*
- *Once catch basins have been installed, the grates will be wrapped in filter cloth. This will be maintained until all building and landscaping has been completed.*
- *Inspection and maintenance of all silt fencing and the stormwater management facility will start after installation is complete. These features will be inspected on a weekly basis or after a rainfall event of 13 mm or greater. Maintenance will be carried out, within 48 hours, on any part of the facility found to need repair.*
- *Once construction has been substantially completed, the silt fence will be removed, any accumulated sediment will be removed and the landscaping and planting of the stormwater management facility will be restored as needed.*
- *After construction of the complete development, erosion will not occur and sediment transport will be minimal. The stormwater management facility will provide all sediment removal.*

Refer to GEI's (2025) SWM Design Report for further details.

## 8.3. Enhancement Strategies

### 8.3.1. Tree Replacement

Tree replacement will be undertaken on the neighbouring property (i.e. the South Lands) owned by the applicant within the Buffer Enhancement area. A total of **326 replacement trees** are proposed to address tree removals on the North (239 removals) and South Lands (87 removals) to ensure a **minimum 1:1 replacement ratio**.

All replacement trees should be native species suited to onsite habitat conditions. See the Buffer Plan (Dougan, 2025) for details.

### 8.3.2. Restoration & Biodiversity Enhancement

The Buffer Enhancement area proposed in the adjacent South Lands (Dougan, 2025) is **0.42 ha** in size and is intended to be the designate restoration site for both the North and South Lands developments. This area is intended to enhance the adjacent Core Greenlands features by consolidating and expanding the natural area while minimizing edge effects and improving habitat quality (Dougan, 2025).

The enhancement area will include replacement trees discussed above (at a minimum 1:1 ratio), along with other native species plantings to improve the ecological condition of the adjacent Core Greenlands feature that is to be preserved.

The existing condition of the proposed buffer area is disturbed cultural meadow/active agriculture. The proposed enhancements include native species plantings targeting a climax community of meadow marsh/deciduous forest complex (dependent on existing drainage patterns), which will support and improve the function of the existing natural communities by further preventing edge effects and increasing habitat patch size.

Healthy woodland edges typically include a "mantel" or zone of shrubs and saplings, and "saum" or zone of perennial herbaceous plant cover (Forman & Gordon, 1986). These areas are indicated on Figure 5. A mantel of at least 3 m is desirable to create a dense edge condition. Currently, the Core Greenland woodland/wetland edges do not contain defined mantle or saum, as the lands are actively managed as agriculture up to the edge of the feature.

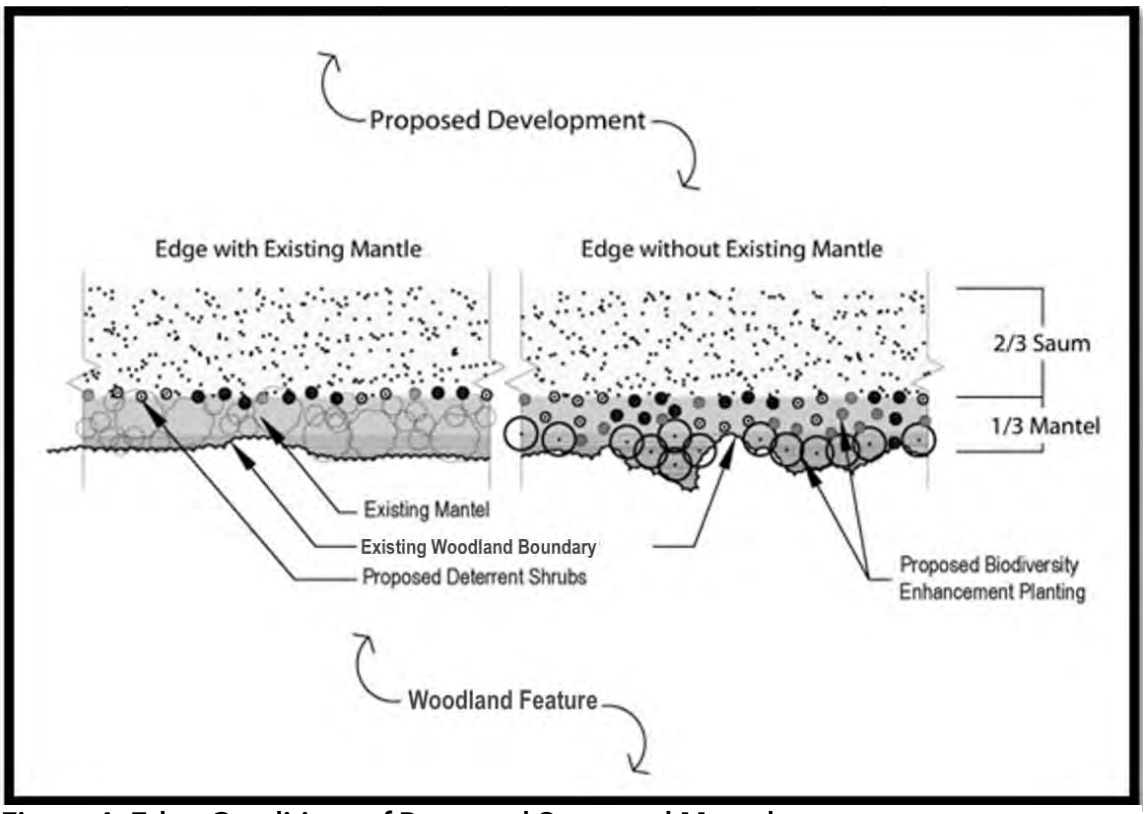


**Figure 4: Edge Conditions of Proposed Saum and Mantel**

The Restoration Plan includes treatment to restore mantle in areas where it is not present such as:

- Provide 10m band of colonial and deterrent shrubs spaced 1.5 m OC with tree whips representing ~30% of planted areas.
- Fast-growing early successional tree and shrub species (*Cornus, Populus, Prunus, Sambucus, Rosa, Rubus, Viburnum*) planted to speed canopy development and rapidly stabilize conditions (i.e., soil, moisture, nutrients).
- Concentrate deterrent species (generally any densely-growing shrub species, but in particular red/black raspberry, wild roses) along the outer edge of the mantle facing the development to minimize intrusions by domestic pets and humans
- A fence along the boundary of the buffer to deter encroachment from the development.
- Proposed treatment methods to restore saum should also be considered, such as:

- Soil preparation to facilitate restoration of outer band (saum) by native meadow seeding for any disturbed / formerly cultivated soils. Common Milkweed (*Asclepias syriaca*) is recommended to be included in the seed mix to provide additional habitat for Monarch.
- Inversion of mantle/saum orientation in the buffer adjacent to the wetland to increase the extent of continuous herbaceous vegetation and provide a dense woody barrier around the perimeter.

Overall, the goal of the Buffer Plan (Dougan, 2025) will restore a stable edge condition to the preserved environmental feature. Enhancement plantings will provide increased habitat function by introducing wildlife forage and cover species and deterring encroachment.

### 8.3.3. Habitat Structures for Wildlife

Given the impacts to Barn Swallow and SAR bat habitat, it is recommended replacement habitat structures be installed post-construction, including:

- One (1) bat rocketbox or condo certified by BCI (Bat Conservation International) and/or endorsed by MECP. Ideally bat condos should be installed on suitable trees with minimal surrounding clutter at a height of 4-6 m, with southerly exposure to provide sufficient solar heating. Boxes can also be installed on buildings or free-standing poles (BC Community Bat Program, 2019)
- One (1) artificial nesting structures for Barn Swallow that generally meets the following requirements:
    - provides horizontal ledges or rough vertical surfaces with a sheltered overhang;
    - provides surface areas suitable for nest attachment at a height that minimizes disturbances to Barn Swallow and in a location that minimizes predation;
    - allows barn swallow to freely enter and exit nests;
    - provides suitable area to accommodate appropriate spacing between nests; and
    - be structurally sound and capable of providing habitat for barn swallow on a long term basis

## 8.4. Monitoring & Adaptive Management

Monitoring objectives for before, during and after construction have been recommended below. The purpose of the monitoring program is to ensure mitigation measures are correctly implemented and maintained, and to evaluate the performance and effectiveness (i.e., adequacy) of mitigation measures. Implementation and execution of the monitoring program would be undertaken as part of future work.

### 8.4.1. Pre- and During Construction

#### Tree Protection & Buffer Zone Monitoring

Temporary tree protection hoarding / silt fencing should be inspected upon installation before construction begins, and on a monthly basis until construction has been completed. Inspections should be carried out by a qualified Tree Management Professional. Inspections should ensure the integrity of the fencing is adequately maintained and document any encroachments within tree protection zones such as equipment storage, unauthorized tree or vegetation damage/removal, dumping etc. Monitoring reports, including documentation and photos of any encroachment or fencing issues, should be submitted to the responsible planning authority immediately following each inspection. If damaged fencing is observed, it should be repaired or replaced within 48 hours of inspection.

### 8.4.2. Post-Construction

#### Restoration Monitoring

A restoration monitoring should be implemented to monitor enhancement areas 1, 3, and 5-years after implementation to allow for assessment of success and early detection of any issues that require reparative action. Details of a restoration monitoring plan should be established through a Terms of Reference process in consultation with Township staff.

# 9. SUMMARY OF RECOMMENDATIONS

Table 10 summarizes the recommendations of this EIS and demonstrates how each potential impacts can be addressed through avoidance, mitigation, or compensation.

**Table 10: Significant Natural Heritage Features, Their Potential Negative Impacts and Recommendations for Avoidance, Mitigation or Compensation**

| NATURAL HERITAGE FEATURES / FUNCTIONS (Section 5) | POTENTIAL NEGATIVE IMPACTS (Section 7) | RECOMMENDATIONS (Section 8) |
|---|---|---|
| Core Greenlands (woodlands and wetlands) | DIRECT: none anticipated; all development activities located outside the edge of features | n/a |
| | INDIRECT: future human encroachment | Buffer enhancement on adjacent South Lands and installation of permanent fencing between developed lands and preserved natural feature. |
| Watercourse | DIRECT: none anticipated | n/a |
| | INDIRECT: alterations to water balance & drainage patterns; sedimentation & erosion; future human encroachment | • Implement erosion & sediment control plan.<br>• Restore buffer with native plantings and install permanent fence between developed lands and natural feature to be preserved. |
| Habitat for Endangered & Threatened species | DIRECT: removal of up to 30 suitable bat roosting trees. | Schedule tree and vegetation clearing, and building demolition outside of the bat active season (April 1 – September 30). Install 1 replacement bat rocket-box. Consult with MECP to determine additional studies or permitting requirements. |
| Confirmed Significant Wildlife Habitat (SWH) | DIRECT:<br>• Barn Swallow: removal of nesting structure (barn) | • Barn Swallow: Schedule barn demolition and vegetation removal outside of the breeding bird window (April 9 – August 15) |

| | | |
|---|---|---|
| | | Install 1 replacement nesting structure |
| Migratory Birds | DIRECT: tree & vegetation removal | Vegetation clearing to occur outside of the breeding bird window which occurs from April 9 to August 15. If this timing cannot be avoided, a qualified avian ecologist should complete surveys prior to clearing to ensure that no MBCA-protected bird species are present. |
| | INDIRECT: temporary disturbance of protected wildlife; future human encroachment | Avoid construction activities during breeding bird window (April 9 to August 15). Install permanent fencing along natural heritage feature buffer to prevent encroachment. |
| Natural Heritage Corridor | DIRECT: Grading up to the north property boundary could smother or cut tree roots and negatively impact individual trees and/or the linkage function of the hedgerow. | If any potential impacts to boundary trees are anticipated as a result of the development, written permission is needed from the adjacent property landowner prior to removal. As the project moves toward detailed design, Polocorp should work with the Project Engineer (GEI) to minimize impacts to boundary trees currently marked as remove or injure, along the north and west property limits. Opportunities should be explored to retain as many trees as possible within the natural heritage corridor; tree protection fencing should be utilized to protect trees during clearing/grading activities. |
| | INDIRECT: sedimentation & erosion; increased future human encroachment | Implement erosion and sedimentation plan (GEI, 2025); install permanent fencing or deterrent plantings along the northern property |

| | | |
|---|---|---|
| | | boundary to prevent encroachment |
| Potential Groundwater Recharge Function | DIRECT: alterations to water balance and drainage patterns | Enhanced infiltration system (GEI, 2025) |
| | INDIRECT: none anticipated (CVDE, 2024) | n/a |
| Trees on Private Property<br>*(see Arborist Report & Tree Preservation Plan under separate cover for additional details)* | DIRECT: Removal of 239 trees | Explore opportunities to retain additional boundary trees through detailed design. Trees proposed for removal to be replaced by native tree species plantings at a 1:1 ratio in buffer enhancement area located on the South Lands. |
| | INDIRECT: Injury of 8 trees to remain post-construction | Establishment of Tree Protection Zones and installation of tree protection fencing prior to site clearing (*per specifications of the Arborist Report & Tree Preservation Plan, Dougan 2025*) |

# 10. NET RESULTS

Table 11 below provides a summary of the anticipated net ecological impacts based on the proposal and the natural heritage features present within the study area. This assessment results in an overall net ecological benefit to the features and functions of the natural heritage features present within the study area.

**Table 11: Net Results of Ecological Impact Assessment**

| Anticipated Impact | Key Natural Heritage Sensitivity | Regulatory Policy | Magnitude, Duration and Frequency of impact | Avoidance / Mitigation Strategy | Residual Impact | Enhancement Strategy | Net Ecological Result |
|---|---|---|---|---|---|---|---|
| CUMULATIVE:<br>Land Use Transition and Human Encroachment | -Unevaluated Wetlands<br>-Woodlands<br>-Regulated watercourse<br>-Core Greenlands<br>-Natural Heritage Corridor<br>-Significant Wildlife Habitat | -O. Reg. 41/24<br>-County of Wellington Official Plan (2024)<br>-Township of Centre Wellington Official Plan (2005) | -Magnitude: Low<br><br>-Duration: Permanent<br><br>-Frequency: Ongoing | Fencing along north property line to preserve natural feature and potential corridor | n/a | Buffer enhancement (on South Lands) | **Positive:** 0.42 ha of biodiversity enhancements (located on South Lands); reduction of edge effects; improvement in habitat quality and function. |
| DIRECT:<br>Tree and vegetation removal | -Privately-owned trees | -Migratory Birds Convention Act, 1994<br>-Endangered Species Act, 2007 | -Magnitude: High (239 trees proposed for removal and 8 proposed to be injured)<br><br>-Duration: Permanent<br><br>-Frequency: Single occurrence | -Site plan avoids development within Core Greenlands feature and buffer<br>-Tree and vegetation removal should not be conducted between April 1-Sept 30<br>-Nest sweeps required if tree removals occur between April 15-Aug 15<br>-Tree Protection Fencing should be installed to mitigate impacts to trees marked “preserve” or “injure” | Removal of 239 trees<br>Removal of 0.45 ha of vegetated habitat (Cultural Woodland, Hedgerow) | Replacement of trees on-site at 1:1 ratio<br><br>Buffer enhancement (on South Lands) | **Negligible:** 1:1 replacement of trees; 0.42 ha of biodiversity enhancements (located on South Lands) |
| INDIRECT:<br>Temporary disturbance of wildlife | -Migratory birds<br>-Species at Risk bats<br>-Barn Swallow | -Migratory Birds Convention Act, 1994<br>-Endangered Species Act, 2007 | -Magnitude: Moderate<br><br>-Removal of 239 trees<br>-Removal of 30 potential SAR bat roosting trees<br><br>-Demolition of barn (Barn Swallow nests)<br><br>-Duration: Permanent | -Tree and vegetation removal, and barn demolition should not be conducted between April 1-Sept 30<br>-Nest sweeps required if tree removals occur between April 15-Aug 15<br>-Consult with MECP regarding SAR bat tree removals | n/a | -Install 1 bat rocketbox / condo<br>-Install 1 artificial nesting structure for Barn Swallow | **Negligible:** 1:1 replacement of trees; 0.42 ha of biodiversity enhancements (located on South Lands); quality enhancement and consolidation of natural heritage features |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | -Frequency:<br>Single occurrence during construction | | | | |
| INDIRECT:<br>Alterations to water balance and drainage patterns | -Unevaluated wetland<br>-Core Greenlands<br>-Regulated watercourse<br>-Significant Wildlife Habitat<br>-Natural Heritage Corridor | -O. Reg. 41/24<br>-County of Wellington Official Plan (2024)<br>-Township of Centre Wellington Official Plan (2005) | -Magnitude:<br>Minor<br><br>-Duration:<br>Permanent<br><br>-Frequency:<br>Ongoing during and post-construction | -Conduct pre- to post- water balance to ensure water flow to wetland is maintained | - Post-development flow rates during the 2 to 100-year design storm events are less than existing<br>-Flow rate during the Regional storm event is greater than existing<br>(GEI, 2025) | Enhanced infiltration system and SWM (GEI, 2025) | **Negligible** |
| INDIRECT:<br>Sedimentation and erosion | -Unevaluated wetland<br>-Woodlands<br>-Core Greenlands<br>-Significant Wildlife Habitat<br>-Regulated watercourse<br>-Natural Heritage Corridor | -O. Reg. 41/24<br>-County of Wellington Official Plan (2024)<br>-Township of Centre Wellington Official Plan (2005) | -Magnitude:<br>Moderate<br><br>-Duration:<br>Temporary<br><br>-Frequency:<br>Single occurrence during site prep and construction | -Follow erosion and sediment control plan (GEI, 2025) | n/a | n/a | **Negligible** |

# 11. CONCLUSION & RECOMMENDATIONS

This preliminary EIS has been prepared for Polocorp in support of a Draft Plan development proposal at 6581 Highway 6, Fergus, Centre Wellington.

Key findings of the site characterization identified the following key natural heritage features and functions:

- Core Greenlands (significant woodland and unevaluated wetland) – adjacent lands only
- Habitat for Endangered and Threatened Species
- Confirmed Significant Wildlife Habitat (SWH)
- Migratory Birds
- Potential Natural Heritage Corridor
- Potential Groundwater Recharge Function
- Private and public owned trees

Anticipated potential impacts associated with the proposal include:

**CUMULATIVE:**

- Land use transition

**DIRECT:**

- Tree and vegetation removal
- Removal of potential SAR bat roosting trees
- Disturbance of migratory birds

**INDIRECT:**

- Alterations to water balance and drainage patterns
- Sedimentation and erosion
- Future human encroachment

Proposed avoidance, mitigation, and enhancement strategies to address potential impacts include:

**AVOIDANCE:**

- Site plan design sited outside of Core Greenlands;
- Avoid tree and vegetation removal during critical wildlife breeding/roosting periods.

**MITIGATION:**

- Tree preservation strategies including installation of tree protection zones/fencing and mitigation best management practices per Arborist Report (Dougan, 2025);
- Install permanent fencing to preserve the offsite Core Greenlands feature and prevent human encroachment;
- Maintain water balance to the offsite wetland post-development (GEI, 2025);
- Adhere to the erosion and sediment control plan (GEI, 2025).

**ENHANCEMENT:**

- Tree replacement on site at a minimum 1:1 ratio in the buffer enhancement area using native species appropriate for planting site (on the South Lands);
- Restoration and biodiversity enhancements within the ecological buffer (on the South Lands) (0.42 ha);
- Install one bat rocket-box /condo;
- Install one artificial nesting structure for Barn Swallow

Compliance monitoring recommendations include:

- Tree protection and buffer zone monitoring upon installation and throughout construction;
- Post-construction restoration monitoring.

We trust this EIS provides a summary of ecological sensitivities, potential impacts and appropriate recommendations to demonstrate no negative impact to natural heritage features and their ecological functions. The recommendations provided herein should be followed and carried through to detailed design.

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# Maps

PROJECT: DA23-034-02

CLIENT: Polocorp

DATE: 06, March 2025

DRAWN BY: C. White / J. Lacsamana / J. Sauder

# Map 1:
# Ecological Land Classification

St. David Street N - North Land EIS

- Site Boundary (Polocorp, 2025)
- Study Area Adjacent Lands (120m)
- Ecological Land Classification (Dougan, June 2024)

| ELC Code | Description |
|---|---|
| AGR | Agricultural |
| ANTH | Anthropogenic |
| CUW | Cultural Woodland |
| FOD8-1 | Fresh - Moist Poplar Deciduous Forest |
| HR | Hedgerow |
| MAM | Meadow Marsh |
| SWM3-1 | Birch - Conifer Mineral Mixed Swamp |


0 25 50 100

Metres

1:2,800

N

NAD 1983 UTM Zone 17N

Orthoimagery Source: Esri, CGIAR, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Maxar

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Dougan Ecology

PROJECT: DA23-034-02

CLIENT: Polocorp

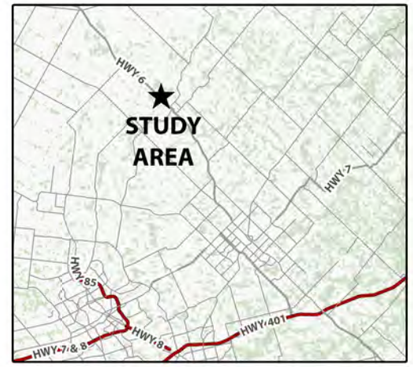
DATE: 06, March 2025

DRAWN BY: J. Lacsamana

# Map 2: Survey Coverage

St. David Street N - North Land EIS

- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Bat Visual Exit Survey
- Breeding Bird Area Search, Ecological Land Classification, Incidental Wildlife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NAD 1983 UTM Zone 17N

Orthoimagery Source: Maxar

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNRF data provided by Queen's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNRF or the Ontario Government of such products.

Dougan Ecology

PROJECT: DA23-034-02

CLIENT: Polocorp

DATE: 13, March 2025

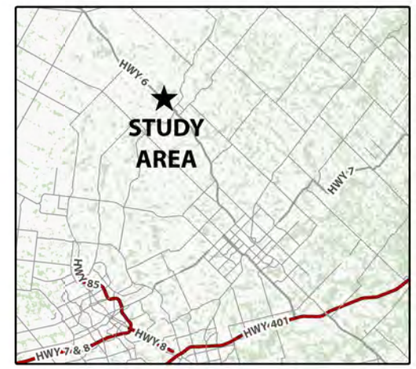
DRAWN BY: J. Lacsamana

# Map 3: Significant Observations

St. David Street N - North Land EIS

- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Species-At-Risk Observation (Dougan, 2024)

Barn Swallow
Bobolink
Barn Swallow
Barn Swallow
Bobolink
Bobolink
Barn Swallow
Bobolink
Bobolink
Barn Swallow
Bobolink
Eastern Meadowlark
Barn Swallow
Bobolink

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Metres
1:2,800

N

NAD 1983 UTM Zone 17N

Orthoimagery Source: Maxar, Microsoft



Dougan Ecology

PROJECT: DA23-034-02

CLIENT: Polocorp

DATE: 06, March 2025

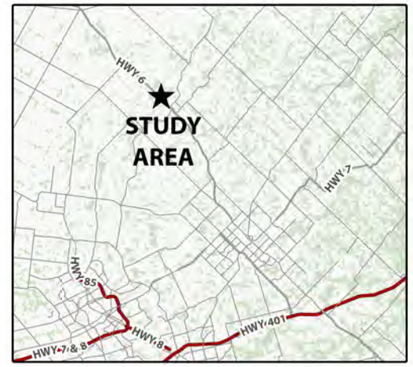
DRAWN BY: J. Lacsamana / E. Heizer

# Map 4: Existing Policy Designations

St. David Street N - North Land EIS

- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- MNRF Unevaluated Wetland [1]
- CWOP Core Greenlands (Approximate) (Schedule B1, February 2024) [2]
- GRCA Regulation Limit [3]

Notes:
1. MNRF: Ministry of Natural Resources & Forestry
2. CWOP: County of Wellington Official Plan
3. GRCA: Grand River Conservation Authority




0 25 50 100
Metres
1:2,800

NAD 1983 UTM Zone 17N

Orthoimagery Source: Maxar, Microsoft

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNRF data providec by Queen's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNRF or the Ontario Government of such products.

Dougan Ecology

PROJECT: DA23-034-02

CLIENT: Polocorp

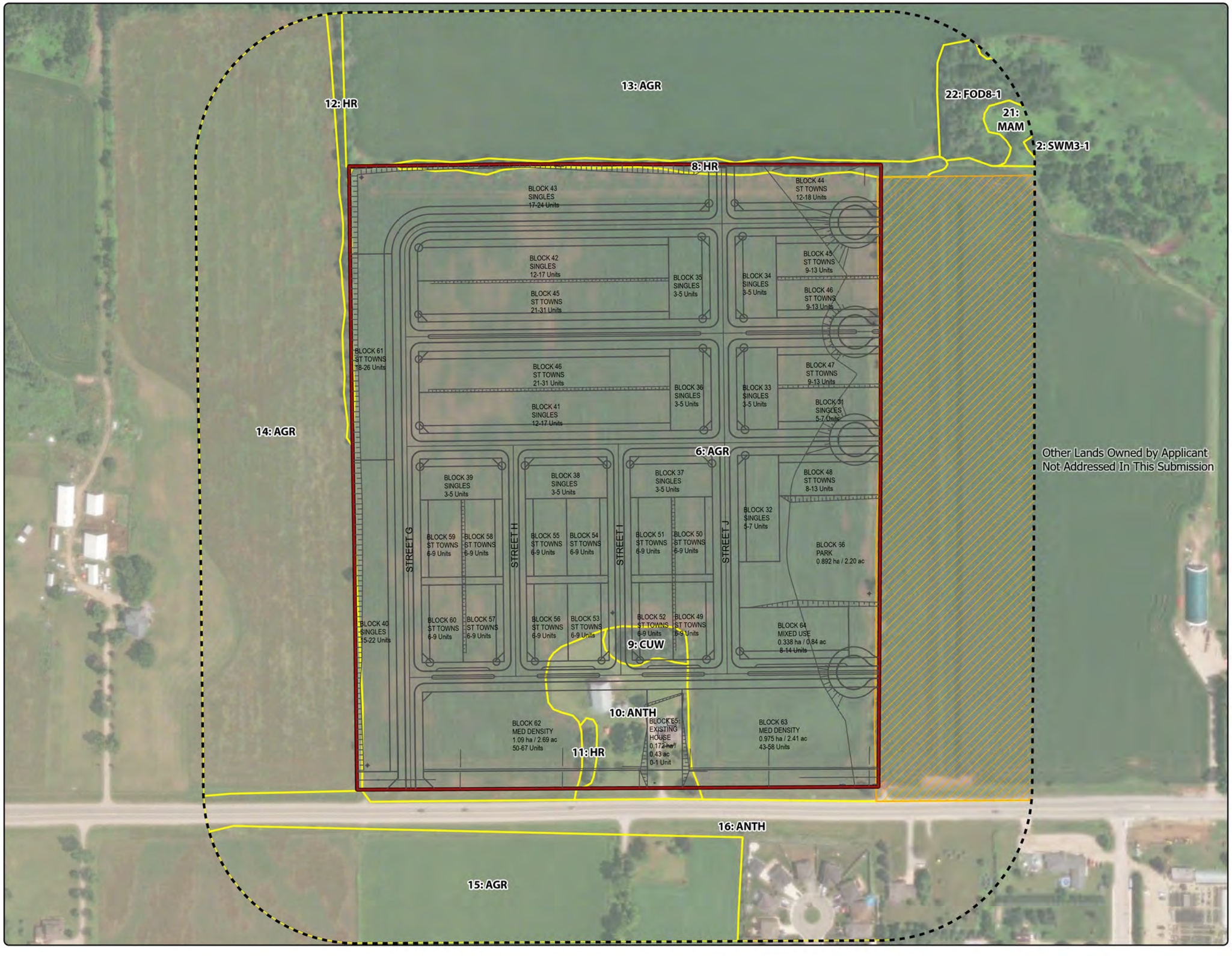
DATE: 07, March 2025

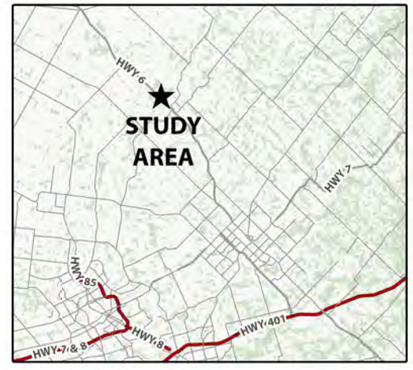
DRAWN BY: J. Lacsamana / E. Heizer

# Map 5: Impact Assessment

St. David Street N - North Land EIS

- Site Boundary (Polocorp, 2025)
- Adjacent Lands (120m)
- Site Plan (Polocorp, 2024)
- Limit of Disturbance
- Ecological Land Classification (Dougan, June 2024)
- Bobolink Habitat (Dougan, 2024)




0 25 50 100

Metres

1:2,800

NAD 1983 UTM Zone 17N

Orthoimagery Source: Maxar

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNRF data providec by Queen's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNRF or the Ontario Government of such products.

Dougan Ecology

# Appendix A: Background Species Records

**Appendix A. Background Species Records**

North Lands - St. David St. N, Fergus ON

| Common Name | Scientific Name | SARA Status | COSEWIC Status | ESA/SARO Status | Srank | Wellington | Source |
|---|---|---|---|---|---|---|---|
| **American Crow** | *Corvus brachyrhynchos* | -- | -- | -- | S5 | -- | Nature Counts |
| **Barn Swallow** | *Hirundo rustica* | S4B | THR | THR | -- | -- | GBIF |
| **Bobolink** | *Dolichonyx oryzivorus* | THR | SC | THR | S4B | C | NHIC |
| **Canada Goose** | *Branta canadensis* | -- | -- | -- | S5 | -- | iNat |
| **Eastern Meadowlark** | *Sturnella magna* | THR | THR | THR | S4B,S3N | C | NHIC |
| **Midland Painted Turtle** | *Chrysemys picta marginata* | SC | SC | SC | S4 | C | NHIC |
| **Monarch Butterfly** | *Danaus plexippus* | END | END | SC | S2N,S4B | -- | GBIF |
| **Mourning Dove** | *Zenaida macroura* | -- | -- | -- | S5 | -- | Nature Counts |
| **Ring-billed Gull** | *Larus delawarensis* | -- | -- | -- | S5B,S4N | -- | Nature Counts |
| **Trumpeter Swan** | *Cygnus buccinator* | -- | NAR | NAR | S4 | -- | Nature Counts |
| **Tundra Swan** | *Cygnus columbianus* | -- | -- | -- | S4 | -- | GBIF |
| **Wood Thrush** | *Hylocichla mustelina* | THR | THR | SC | S4B | C | NHIC / GBIF |

SARA: **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)

COSEWIC: **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)

ESA: **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)

S Rank:

**SX** Presumed Extirpated; SH Possibly Extirpated (Historical);

**S1** Critically Imperiled;

**S2** Imperiled;

**S3** Vulnerable;

**S4** Apparently Secure;

**S5** Secure;

**SNR** Unranked;

**SU** Unrankable (conflicting information about status or trends);

**SNA** A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

WC - RARE IN WELLINGTON COUNTY (informal).

**R-A**: Included based on "rare" status (i.e., occurrence at between 1 and 10 natural sites in the County) in the Flora of Wellington County.

**R-B**: Added as a plant record from post-1990 environmental studies within Guelph with global and/or provincial significance.

**R-C**: Added based on records provided by Mike Oldham (NHIC) for Wellington County in 2005.

**R-D**: New record for Wellington County (observed during field work conducted by Dougan & Associates 2005-2006).

# Appendix B: Vascular Plant List (Dougan 2023-2024)

**Appendix B. Vascular Plant List Legend**

North Property - St. David's Street N, Fergus ON

| Scientific Name[1] | Common Name[2] | G_RANK[3] | COSEWIC[4] | SARO[5] | S_RANK[6] | Native Status[7] | Wellington County[8] |
|---|---|---|---|---|---|---|---|
| ***Abutilon theophrasti*** | Velvetleaf | GNR | --- | --- | SNA | I | --- |
| ***Acer negundo*** | Manitoba Maple | G5 | --- | --- | S5 | N | --- |
| ***Acer saccharum*** | Sugar Maple | G5 | --- | --- | S5 | N | --- |
| ***Actaea rubra*** | Red Baneberry | G5 | --- | --- | S5 | N | --- |
| ***Alliaria petiolata*** | Garlic Mustard | GNR | --- | --- | SNA | I | --- |
| ***Amaranthus retroflexus*** | Redroot Amaranth | G5 | --- | --- | SNA | I | --- |
| ***Ambrosia artemisiifolia*** | Common Ragweed | G5 | --- | --- | S5 | N | --- |
| ***Arctium minus*** | Common Burdock | GNR | --- | --- | SNA | I | --- |
| ***Arisaema triphyllum*** | Jack-in-the-pulpit | G5 | --- | --- | S5 | N | --- |
| ***Asclepias incarnata*** | Swamp Milkweed | G5 | --- | --- | S5 | N | --- |
| ***Asclepias syriaca*** | Common Milkweed | G5 | --- | --- | S5 | N | --- |
| ***Asparagus officinalis*** | Garden Asparagus | G5? | --- | --- | SNA | I | --- |
| ***Athyrium filix-femina var. angustum*** | Northeastern Lady Fern | G5T5 | --- | --- | S5 | N | --- |
| ***Atriplex dioica*** | Saline Saltbush | G5 | --- | --- | S2? | N | --- |
| ***Betula alleghaniensis*** | Yellow Birch | G5 | --- | --- | S5 | N | --- |
| ***Bidens cernua*** | Nodding Beggarticks | G5 | --- | --- | S5 | N | --- |
| ***Bidens sp*** | Beggar's Ticks Species | --- | --- | --- | --- | --- | --- |
| ***Bromus inermis*** | Smooth Brome | G5T5 | --- | --- | SNA | I | --- |
| ***Carduus nutans*** | Nodding Thistle | GNR | --- | --- | SNA | I | --- |
| ***Carex bebbii*** | Bebb's Sedge | G5 | --- | --- | S5 | N | --- |
| ***Carex crinita*** | Fringed Sedge | G5 | --- | --- | S5 | N | --- |
| ***Carex gracillima*** | Graceful Sedge | G5 | --- | --- | S5 | N | --- |
| ***Carex retroflexa*** | Reflexed Sedge | G5 | --- | --- | S2 | N | --- |
| ***Carex rosea*** | Rosy Sedge | G5 | --- | --- | S5 | N | --- |
| ***Carex spp.*** | Sedge spp. | --- | --- | --- | --- | --- | --- |
| ***Carex stipata*** | Awl-fruited Sedge | G5 | --- | --- | S5 | N | --- |
| ***Carex stricta*** | Tussock Sedge | G5 | --- | --- | S5 | N | --- |
| ***Carex sychnocephala*** | Many-headed Sedge | G5 | --- | --- | S4 | N | --- |
| ***Chelidonium majus*** | Greater Celandine | GNR | --- | --- | SNA | I | --- |
| ***Chelone glabra*** | White Turtlehead | G5 | --- | --- | S5 | N | --- |

**Appendix B. Vascular Plant List Legend**
North Property - St. David's Street N, Fergus ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Chenopodium album*** | Common Lamb's-quarters | G5 | --- | --- | SNA | I | --- |
| ***Circaea canadensis*** | Broad-leaved Enchanter's Nightshade | G5 | --- | --- | S5 | N | --- |
| ***Cirsium arvense*** | Canada Thistle | G5 | --- | --- | SNA | I | --- |
| ***Cirsium vulgare*** | Bull Thistle | GNR | --- | --- | SNA | I | --- |
| ***Cornus alternifolia*** | Alternate-leaved Dogwood | G5 | --- | --- | S5 | N | --- |
| ***Cornus obliqua*** | Silky Dogwood | G5 | --- | --- | S5 | N | --- |
| ***Cornus sericea*** | Red-osier Dogwood | G5 | --- | --- | S5 | N | --- |
| ***Crataegus punctata*** | Dotted Hawthorn | G5 | | --- | S5 | N | --- |
| ***Dactylis glomerata*** | Orchard Grass | GNR | --- | --- | SNA | I | --- |
| ***Daucus carota*** | Wild Carrot | GNR | --- | --- | SNA | I | --- |
| ***Dryopteris carthusiana*** | Spinulose Wood Fern | G5 | --- | --- | S5 | N | --- |
| ***Echinochloa crus-galli*** | Large Barnyard Grass | GNR | --- | --- | SNA | I | --- |
| ***Echinocystis lobata*** | Wild Cucumber | G5 | --- | --- | S5 | N | --- |
| ***Eleocharis sp*** | Spikerush Species | --- | --- | --- | | --- | --- |
| ***Epilobium hirsutum*** | Hairy Willowherb | GNR | --- | --- | SNA | I | --- |
| ***Epilobium sp*** | Willow-herb Species | --- | --- | --- | --- | --- | --- |
| ***Epipactis helleborine*** | Broad-leaved Helleborine | GNR | --- | --- | SNA | I | --- |
| ***Equisetum arvense*** | Field Horsetail | G5 | --- | --- | S5 | N | --- |
| ***Erigeron sp*** | Fleabane Species | --- | --- | --- | --- | --- | --- |
| ***Euphorbia esula*** | Leafy Spurge | --- | --- | --- | --- | I | --- |
| ***Euthamia graminifolia*** | Grass-leaved Goldenrod | G5 | --- | --- | S5 | N | --- |
| ***Eutrochium maculatum*** | Spotted Joe Pye Weed | G5 | --- | --- | S5 | N | --- |
| ***Fagopyrum esculentum*** | Common Buckwheat | GNR | --- | --- | SNA | I | --- |
| ***Fragaria virginiana*** | Wild Strawberry | G5 | --- | --- | S5 | N | --- |
| ***Fraxinus americana*** | White Ash | G4 | --- | --- | S4 | N | --- |
| ***Fraxinus pennsylvanica*** | Red Ash | G4 | --- | --- | S4 | N | --- |
| ***Galium aparine*** | Common Bedstraw | G5 | --- | --- | S5 | N | --- |
| ***Galium palustre*** | Common Marsh Bedstraw | G5 | --- | --- | S5 | N | --- |
| ***Galium sp*** | Rough Bedstraw | --- | --- | --- | --- | --- | --- |

**Appendix B. Vascular Plant List Legend**
North Property - St. David's Street N, Fergus ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Geranium robertianum*** | Herb-Robert | G5 | --- | --- | S5 | N | --- |
| ***Geum canadense*** | Canada Avens | G5 | --- | --- | S5 | N | --- |
| ***Geum urbanum*** | Wood Avens | G5 | --- | --- | SNA | I | --- |
| ***Glechoma hederacea*** | Ground-ivy | GNR | --- | --- | SNA | I | --- |
| ***Glyceria grandis*** | Tall Mannagrass | G5 | --- | --- | S5 | N | --- |
| ***Hackelia virginiana*** | Virginia Stickseed | G5 | --- | --- | S5 | N | --- |
| ***Hesperis matronalis*** | Dame's Rocket | G4G5 | --- | --- | SNA | I | --- |
| ***Impatiens capensis*** | Spotted Jewelweed | G5 | --- | --- | S5 | N | --- |
| ***Juglans cinerea x Juglans ailantifolia*** | Butternut x Japanese Walnut | --- | --- | --- | --- | I | --- |
| ***Juncus effusus*** | Soft Rush | G5 | --- | --- | S5 | N | --- |
| ***Lactuca serriola*** | Prickly Lettuce | GNR | --- | --- | SNA | I | --- |
| ***Lactuca sp*** | Lettuce Species | --- | --- | --- | --- | --- | --- |
| ***Leersia oryzoides*** | Rice Cutgrass | G5 | --- | --- | S5 | N | --- |
| ***Lonicera tatarica*** | Tatarian Honeysuckle | GNR | --- | --- | SNA | I | --- |
| ***Lycopus americanus*** | American Water-horehound | G5 | --- | --- | S5 | N | --- |
| ***Lycopus uniflorus*** | Northern Water-horehound | G5 | --- | --- | S5 | N | --- |
| ***Mentha canadensis*** | Canada Mint | G5 | --- | --- | S5 | N | --- |
| ***Myosotis sp.*** | Forget-me-not species | --- | --- | --- | ---- | --- | --- |
| ***Nepeta cataria*** | Catnip | GNR | --- | --- | SNA | I | --- |
| ***Onoclea sensibilis*** | Sensitive Fern | G5 | --- | --- | S5 | N | --- |
| ***Panicum capillare*** | Common Panicgrass | G5 | | --- | S5 | N | --- |
| ***Parthenocissus vitacea*** | Thicket Creeper | G5 | --- | --- | S5 | N | --- |
| ***Persicaria maculosa*** | Spotted Lady's-thumb | G3G5 | --- | --- | SNA | I | --- |
| ***Phalaris arundinacea*** | Reed Canarygrass | G5 | --- | --- | S5 | N | --- |
| ***Phleum pratense*** | Common Timothy | GNR | --- | --- | SNA | I | --- |
| ***Picea glauca*** | White Spruce | G5 | --- | --- | S5 | N | --- |
| ***Poa palustris*** | Fowl Bluegrass | G5 | --- | --- | S5 | N | --- |
| ***Poa pratensis*** | Kentucky Bluegrass | G5 | --- | --- | S5 | N | --- |
| ***Populus balsamifera*** | Balsam Poplar | G5 | --- | --- | S5 | N | --- |
| ***Populus tremuloides*** | Trembling Aspen | G5 | --- | --- | S5 | N | --- |
| ***Potentilla norvegica*** | Rough Cinquefoil | G5 | --- | --- | S5 | N | --- |

**Appendix B. Vascular Plant List Legend**
North Property - St. David's Street N, Fergus ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Prunus serotina*** | Black Cherry | G5 | --- | --- | S5 | N | --- |
| ***Prunus virginiana*** | Chokecherry | G5 | --- | --- | S5 | N | --- |
| ***Ranunculus acris*** | Common Buttercup | G5 | --- | --- | SNA | I | --- |
| ***Rhamnus cathartica*** | European Buckthorn | GNR | --- | --- | SNA | I | --- |
| ***Ribes cynosbati*** | Eastern Prickly Gooseberry | G5 | --- | --- | S5 | N | --- |
| ***Ribes sp*** | Currant Species | --- | --- | --- | --- | --- | --- |
| ***Rumex crispus*** | Curled Dock | GNR | --- | --- | SNA | I | --- |
| ***Salix bebbiana*** | Bebb's Willow | G5 | --- | --- | S5 | N | --- |
| ***Salix caprea*** | Goat Willow | GNR | --- | --- | SNA | I | --- |
| ***Salix discolor*** | Pussy Willow | G5 | --- | --- | S5 | N | --- |
| ***Salix eriocephala*** | Cottony Willow | G5 | --- | --- | S5 | N | --- |
| ***Salix petiolaris*** | Meadow Willow | G5 | --- | --- | S5 | N | --- |
| ***Salix sp*** | Willow Species | --- | --- | --- | --- | --- | --- |
| ***Sambucus canadensis*** | Common Elderberry | G5T5 | --- | --- | S5 | N | --- |
| ***Sambucus racemosa*** | Red Elderberry | G5 | --- | --- | S5 | N | --- |
| ***Scirpus atrocinctus*** | Black-girdled Bulrush | G5 | --- | --- | S5 | N | --- |
| ***Scirpus sp*** | Bulrush Species | --- | --- | --- | --- | --- | --- |
| ***Setaria sp*** | Foxtail Species | --- | --- | --- | --- | --- | --- |
| ***Silene latifolia*** | White Campion | GNR | --- | --- | SNA | I | --- |
| ***Silphium perfoliatum*** | Cup Plant | G5 | --- | --- | S2 | N | --- |
| ***Solanum dulcamara*** | Bittersweet Nightshade | GNR | --- | --- | SNA | I | --- |
| ***Solanum nigrum*** | Black Nightshade | GNR | --- | --- | SNA | I | --- |
| ***Solidago canadensis*** | Canada Goldenrod | G5 | --- | --- | S5 | N | --- |
| ***Solidago gigantea*** | Giant Goldenrod | G5 | --- | --- | S5 | N | --- |
| ***Sorbus aucuparia*** | European Mountain-ash | G5 | --- | --- | SNA | I | --- |
| ***Spiraea alba*** | White Meadowsweet | G5 | --- | --- | S5 | N | --- |
| ***Symphyotrichum lanceolatum*** | Panicled Aster | G5 | --- | --- | S5 | N | --- |
| ***Symphyotrichum novae-angliae*** | New England Aster | G5 | --- | --- | S5 | N | --- |
| ***Symphyotrichum puniceum*** | Purple-stemmed Aster | G5 | --- | --- | S5 | N | --- |
| ***Thlaspi arvense*** | Field Pennycress | GNR | --- | --- | SNA | I | --- |

**Appendix B. Vascular Plant List Legend**

North Property - St. David's Street N, Fergus ON

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Thuja occidentalis*** | Eastern White Cedar | G5 | --- | --- | S5 | N | --- |
| ***Tilia cordata*** | Little-leaved Linden | GNR | --- | --- | SNA | I | --- |
| ***Toxicodendron radicans*** | Poison Ivy | G5 | --- | --- | S5 | N | --- |
| ***Trifolium pratense*** | Red Clover | GNR | --- | --- | SNA | I | --- |
| ***Tsuga canadensis*** | Eastern Hemlock | G4G5 | --- | --- | S5 | N | --- |
| ***Tussilago farfara*** | Coltsfoot | GNR | --- | --- | SNA | I | --- |
| ***Typha angustifolia*** | Narrow-leaved Cattail | G5 | --- | --- | SNA | I | --- |
| ***Ulmus americana*** | White Elm | G4 | --- | --- | S5 | N | --- |
| ***Urtica dioica*** | Stinging Nettle | G5 | --- | --- | SNA | N | --- |
| ***Verbena hastata*** | Blue Vervain | G5 | --- | --- | S5 | N | --- |
| ***Veronica beccabunga*** | European Speedwell | GNR | --- | --- | SNA | I | --- |
| ***Viburnum lentago*** | Nannyberry | G5 | --- | --- | S5 | N | --- |
| ***Viburnum opulus*** | Cranberry Viburnum | G5 | --- | --- | S5 | N | --- |
| ***Vicia cracca*** | Tufted Vetch | GNR | --- | --- | SNA | I | --- |
| ***Viola pubescens*** | Yellow Violet | G5 | --- | --- | S5 | N | --- |
| ***Viola selkirkii*** | Selkirk's Violet | G5 | --- | --- | S5 | N | --- |
| ***Vitis riparia*** | Riverbank Grape | G5 | --- | --- | S5 | N | --- |

1. NHIC (Natural Heritage Information Centre). 2017. Ontario Vascular Plant Species List.February 2017. Ontario Ministry of Natural Resources. https://www.ontario.ca/page/get-natural-heritage-information
2. NHIC (Natural Heritage Information Centre). 2017. Ontario Vascular Plant Species List.February 2017. Ontario Ministry of Natural Resources. https://www.ontario.ca/page/get-natural-heritage-information
3. NHIC (Natural Heritage Information Centre). 2017. Ontario Vascular Plant Species List.February 2017. Ontario Ministry of Natural Resources. https://www.ontario.ca/page/get-natural-heritage-information. **G1** critically imperiled on a global scale; **G2** imperiled on a global scale; **G3** vulnerable on a global scale; **G4** apparently secure on a global scale; **G5** secure on a global scale; **GX** Presumed Extinct, Not located despite intensive searches and virtually no likelihood of rediscovery; GH Possibly Extinct, Missing; known from only historical occurrences but still some hope of rediscovery; **G#G#** Range Rank—A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty in the status of a species or community; **GU** Unrankable—-Currently unrankable due to lack of information or due to substantially conflicting information about status or trends. Whenever possible, the most likely rank is assigned and the question mark qualifier is added (e.g., G2?) to express uncertainty, or a range rank (e.g., G2G3) is used to delineate the limits (range) of uncertainty; **GNR** Unranked—Global rank not yet assessed; **GNA** Not Applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities; **?** Inexact Numeric Rank—Denotes inexact numeric rank (e.g., G2?).
4. NHIC (Natural Heritage Information Centre). 2017. Ontario Vascular Plant Species List.February 2017. Ontario Ministry of Natural Resources. https://www.ontario.ca/page/get-natural-heritage-information. **NAR** Not At Risk, a wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances; **SC** Special Concern, a wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats; **T** Threatened, a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction;

**Appendix B. Vascular Plant List Legend**

North Property - St. David's Street N, Fergus ON

**E** Endangered, a wildlife species facing imminent extirpation or extinction; **XT** Extirpated, a wildlife species that no longer exists in the wild in Canada, but exists elsewhere; **X** Extinct, a wildlife species that no longer exists.

5. NHIC (Natural Heritage Information Centre). 2017. Ontario Vascular Plant Species List.February 2017. Ontario Ministry of Natural Resources. https://www.ontario.ca/page/get-natural-heritage-information. **NAR** Not At Risk; **SC** Special Concern; **THR** Threatened; **END** Endangered; **EXP** Extirpated; **END-R** Endangered (Regulated)
6. NHIC (Natural Heritage Information Centre). 2017. Ontario Vascular Plant Species List.February 2017. Ontario Ministry of Natural Resources. https://www.ontario.ca/page/get-natural-heritage-information. **SX** Presumed Extirpated; SH Possibly Extirpated (Historical); **S1** Critically Imperiled; **S2**Imperiled; **S3** Vulnerable; **S4** Apparently Secure; **S5** Secure; **SNR** Unranked; **SU** Unrankable (conflicting information about status or trends); SNA A conservation status rank is not applicable because the species is not a suitable target for conservation activities (e.g. an introduced species, or a species that has been recorded in Ontario but the observations were made at locations far outside the species' usual range); **S#S#** Range Rank (used to indicate any range of uncertainty about the status of the species or community). **S?** Not Ranked Yet; or if following a ranking, Rank Uncertain (e.g. S3?).
7. NHIC (Natural Heritage Information Centre). 2014. Ontario Vascular Plant Species List. April 2014. Ontario Ministry of Natural Resources. https://contrib.ontario.ca/environment-and-energy/get-natural-heritage-information; Brouillet, L., F. Coursol, S.J. Meades, M. Favreau, M. Anions, P. Bélisle & P. Desmet. 2010+. VASCAN, the Database of Vascular Plants of Canada. http://data.canadensys.net/vascan/ (consulted on 2017-06-22). **N** native; **I** introduced
8. Frank, R. and A. Anderson. 2009. The Flora of Wellington County. Wellington County Historical Society, Fergus Ontario. 145 pp. Defined by the number of survey sites where the species was found. **R1** 1-3 sites; **R2** 4-6 sites; **R3** 6-10 sites.

# Appendix C: Fauna Observations (Dougan, 2023-2024)

**Appendix C. Fauna Observation List Legend**
North Lands - St. David's Street N, Fergus ON

| Common Name[1] | Scientific Name[1] | BBS Evidence (Birds Only)[2] | SARA Status[3] | COSEWIC Status[4] | ESA Status[5] | S Rank[6] | Area Sensitivity[7] | Wellington County[8] |
|---|---|---|---|---|---|---|---|---|
| American Crow | *Corvus brachyrhynchos* | --- | --- | --- | --- | S5B | --- | --- |
| American Goldfinch | *Spinus tristis* | Probable | --- | --- | --- | S5B | --- | --- |
| American Robin | *Turdus migratorius* | Probable | --- | --- | --- | S5B | --- | --- |
| Barn Swallow | *Hirundo rustica* | Probable | THR | SC | SC | S4B | --- | --- |
| Black-capped Chickadee | *Poecile atricapillus* | Possible | --- | --- | --- | S5 | --- | --- |
| Blue Jay | *Cyanocitta cristata* | --- | --- | --- | --- | S5 | --- | --- |
| Bobolink | *Dolichonyx oryzivorus* | Probable | THR | SC | THR | S4B | AS | --- |
| Brown-headed Cowbird | *Molothrus ater* | Probable | --- | --- | --- | S4B | --- | --- |
| Cedar Waxwing | *Bombycilla cedrorum* | Possible | --- | --- | --- | S5B | --- | --- |
| Chipping Sparrow | *Spizella passerina* | Possible | --- | --- | --- | S5B | --- | --- |
| Common Grackle | *Quiscalus quiscula* | Possible | --- | --- | --- | S5B | --- | --- |
| Downy Woodpecker | *Dryobates pubescens* | Confirmed | --- | --- | --- | S5 | --- | --- |
| Eastern Kingbird | *Tyrannus tyrannus* | --- | --- | --- | --- | S4B | --- | --- |
| Eastern Meadowlark | *Sturnella magna* | Possible | THR | THR | THR | S4B | AS | --- |
| Eastern Phoebe | *Sayornis phoebe* | Probable | --- | --- | --- | S5B | --- | --- |
| European Starling | *Sturnus vulgaris* | Confirmed | --- | --- | --- | SNA | --- | --- |
| Gray Catbird | *Dumetella carolinensis* | Possible | --- | --- | --- | S4B | --- | --- |
| House Finch | *Haemorhous mexicanus* | --- | --- | --- | --- | SNA | --- | --- |
| House Sparrow | *Passer domesticus* | Probable | --- | --- | --- | SNA | --- | --- |
| Indigo Bunting | *Passerina cyanea* | Possible | --- | --- | --- | S4B | --- | --- |
| Mallard | *Anas platyrhynchos* | Observed | --- | --- | --- | S5 | --- | --- |
| Mourning Dove | *Zenaida macroura* | Possible | --- | --- | --- | S5 | --- | --- |
| Northern Flicker | *Colaptes auratus* | Possible | --- | --- | --- | S4B | --- | --- |
| Northern Harrier | *Circus hudsonius* | Observed | --- | NAR | NAR | S4B | AS | --- |
| Red-eyed Vireo | *Vireo olivaceus* | Possible | --- | --- | --- | S5B | --- | --- |
| Red-winged Blackbird | *Agelaius phoeniceus* | Confirmed | --- | --- | --- | S4 | --- | --- |
| Rock Pigeon | *Columba livia* | Possible | --- | --- | --- | SNA | --- | --- |
| Savannah Sparrow | *Passerculus sandwichensis* | Probable | --- | --- | --- | S4B | AS | --- |
| Song Sparrow | *Melospiza melodia* | Probable | --- | --- | --- | S5B | --- | --- |
| Turkey Vulture | *Cathartes aura* | Possible | --- | --- | --- | S5B | --- | X |
| Vesper Sparrow | *Pooecetes gramineus* | Possible | --- | --- | --- | S4B | --- | --- |
| Wood Duck | *Aix sponsa* | Observed | --- | --- | --- | S5 | --- | --- |
| Big Brown Bat | *Eptesicus fuscus* | --- | --- | --- | --- | S4 | --- | --- |
| Coyote | *Canis latrans* | --- | --- | --- | --- | S5 | --- | --- |
| Eastern Red Bat | *Lasiurus borealis* | --- | --- | --- | --- | S4 | --- | --- |
| Northern Hoary Bat | *Lasiurus cinereus* | --- | --- | --- | --- | S4 | --- | --- |
| Silver-haired Bat | *Lasionycteris noctivagans* | --- | --- | --- | --- | S4 | --- | --- |
| White-tailed Deer | *Odocoileus virginianus* | --- | --- | --- | --- | S5 | --- | --- |

**Appendix C. Fauna Observation List Legend**
North Lands - St. David's Street N, Fergus ON

**Weather and Survey Times**
Breeding Bird Survey 1: May 29th, 2024, light breeze, cloudy, 12°C
Breeding Bird Survey 2: June 12th, 2024, light breeze, damp/haze/fog, 9°C
**Legend:**
1. Common names, scientific names and taxonomic order consistent with the American Ornithologists' Union's "Check-list of North American Birds. 7th edition" (AOU, 1998) and the American Ornithologists' Society's 64th supplement (Chesser et al., 2023).

2. **OBBA (Ontario Breeding Bird Atlas**). 2021. Breeding Evidence Codes. Observed: **X** Species observed in its breeding season (no breeding evidence); **Possible**: **H** Species observed in its breeding season in suitable nesting habitat C, **S** Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season; **Probable**: **M** At least 7 individuals singing or producing other sounds associated with breeding, heard during the same visit to a single square and in suitable nesting habitat during the species' breeding season, **P** Pair observed in suitable nesting habitat in nesting season, **T** Permanent territory presumed through registration of territorial song, or the occurrence of an adult bird, at the same place, in breeding habitat, on at least two days a week or more apart, during breeding season, **D** Courtship display, including interaction between a male and female or two males, **V** Visiting probable nest site, **A** Agitated behaviour or anxiety call of an adult, **B** Brood Patch on adult female or cloacal protuberance on adult male, **N** Nest-building or excavation of nest hole, by a wren or woodpecker; **Confirmed**: **DD** Distraction display or injury feigning, **NB** Nest-building or excavation of nest hole (excluding wrens/ woodpeckers), **NU** Used nest or egg shells found (occupied or laid within the period of the survey), **FY** Recently fledged young incapable of sustained life, **AE** Adults leaving or entering nest site in circumstances indicating occupied nest, **FS** Adult carrying fecal sack, **CF** Adult carrying food for young, **NE** Nest containing eggs, **NY** Nest with young seen or heard.

3. **SARA Schedule1 Status**: Status as depicted in Schedules 1 of the Species at Risk Act (Government of Canada, 2002) **SC** = Special Concern: A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats. **THR** = Threatened: A wildlife species that is likely to become an endangered species if nothing is done to reverse the factors leading to its extirpation or extinction. **END** = Endangered: A wildlife species that is facing imminent extirpation or extinction.

4. **COSEWIC** (Committee on the Status of Endangered Wildlife in Canada) 2024.

5. **SARO (ESA) Status**: Status as per the Species at Risk in Ontario (SARO) List which is the official list of endangered, threatened, special concern and extirpated animals and plants in Ontario (OMECP, 2024). It is provided in Ontario Regulation 230/08 under the Endangered Species Act, 2007, S.O. 2007, c. 6 (Government of Ontario, 2007). **NAR** = Not at Risk **SC** = Special Concern = A species that lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered because of a combination of biological characteristics and identified threats. **END** = A species that lives in the wild in Ontario but is facing imminent extinction or extirpation.

**Appendix C. Fauna Observation List Legend**
North Lands - St. David's Street N, Fergus ON

6. **Srank**: Sub-national ranks (SRanks) are evaluated & assigned by the Natural Heritage Information Centre (NHIC, 2024). Subnational conservation status definitions set by NatureServe Explorer (2024). **S5** = Secure: Common, widespread, and abundant in the nation or state/province. **S4** = Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors. **S3** = Vulnerable: Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. **_ _B** = Conservation status refers to the breeding population of the species in the nation or state/province. Those without any suffixes are considered resident species. **SNA** = Not Applicable: A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

7. **Area Sensitivity**: Identified by OMNR (2000). **AS** = Area Sensitive.

8. **Wellington County (2009)**: City of Guelph Natural Heritage Strategy - Phase 2: Terrestrial Inventory & Natural Heritage System (VOL. 2 – APPENDICES). Final Report March 2009.

# Appendix D: Species at Risk (SAR) Screening

**Appendix D. Species at Risk Screening for St. David's St. N. - North Lands EIS, Fergus**

| SPECIES LIST (MNRF, November 2018) | SAR Designation (if different = federal / provincial) | Status in Ontario | Key Habitats Used By Species | Status at St. David's St. N EIS site and adjacent lands (within 120 metres) |
|---|---|---|---|---|
| ***AMPHIBIANS*** | | | | |
| **Jefferson Salamander (*Ambystoma jeffersonianum*)** | Endangered | Southern Ontario, mainly along the Niagara Escarpment | Inhabits deciduous and mixed deciduous forests with suitable breeding areas which generally consist of ephemeral (temporary) bodies of water that are fed by spring runoff, groundwater, or springs. | **Suitable habitat of adequate size to provide ephemeral ponds is absent on site or on adjacent lands. This species is found mainly along Niagara Escarpment; the NHIC and MECP databases do not have records from this area (most populations in Ontario have been identified). Given the isolated nature of these habitats, with surrounding urban and agricultural habitats, it is highly unlikely that this species is present.** |
| ***BIRDS*** | | | | |
| **Bald Eagle (*Haliaeetus leucocephalus*)** | Special Concern (provincial only) | Widespread in southern Ontario | Prefers deciduous and mixed-deciduous forest; and habitat close to water bodies such as lakes and rivers; they roost in super canopy trees such as pine. | **No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| **Bank Swallow (*Riparia riparia*)** | Threatened | Widespread in southern Ontario | Low areas along rivers, streams, coasts or reservoirs; nest in natural bluffs and eroding streamside banks, also sand and gravel quarries and road cuts | **No suitable breeding habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| **Barn Swallow (*Hirundo rustica*)** | Threatened / Special Concern | Widespread in southern Ontario | Prefers farmland, lake/river shorelines, wooded clearings, urban populated areas, rocky cliffs, and wetlands. They nest inside or outside buildings; under bridges and in road culverts; on rock faces and in caves, etc. | **NHIC records exist for the general area. This species was recorded during the first Breeding Bird Area Search on May 29th, 2024. Multiple observations were made during this first survey, including sightings of individuals foraging over the agricultural fields within the study area (up to 5 birds) and near the existing barns, indicating active use of these habitats. During the second breeding bird survey (June 12th) several adult birds were observed entering the barn on the property, in a manner suggesting nest occupancy and therefore Confirming breeding status.** |
| **Bobolink (*Dolichonyx oryzivorus*)** | Threatened | Widespread in southern Ontario | Generally prefers open grasslands and hay fields. In migration and in winter uses freshwater marshes and grasslands. | **NHIC records exist for the general area. During the second breeding bird survey, several males (up to 3) and one (1) female were observed in the agricultural field (alfalfa and other tall grasses, planted for hay) on the property immediately adjacent to the south. As of the second breeding bird survey (June 12th) this This species should be is considered 'Probably' breeding on this neighbouring property only. The agricultural field (wheat or barley) located on the subject property should not be considered suitable habitat, as Bobolink were only observed here early in the season, when territories were likely not established.** |
| **Canada Warbler (*Wilsonia canadensis*)** | Threatened / Special Concern | Absent in southwestern Ontario; primarily breeds in Southern Shield | Generally prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer. Nests on the ground, on logs or hummocks, and uses dense shrub layer to conceal the nest. | **No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| **Chimney Swift (*Chaetura pelagica*)** | Threatened | Widespread in southern Ontario | Historically found in deciduous and coniferous, usually wet forest types, all with a well developed, dense shrub layer; now most are found in urban areas in large uncapped chimneys. | **No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| **Common Nighthawk (*Chordeiles minor*)** | Special Concern | Widespread in southern Ontario | Generally prefers open, vegetation-free habitats, including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and river banks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nests on flat roof-tops). | **No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| **Eastern Meadowlark (*Sturnella Magna*)** | Threatened | Widespread in southern Ontario | Generally prefers grassy pastures, meadows and hay fields. Nests are always on the ground and usually hidden in or under grass clumps. | **NHIC records exist for the general area. This species was recorded during the first Breeding Bird Area Search on May 29th, 2024. One bird was observed singing from the adjacent property to the northwest, and from the property boundary between 6581 Highway 6 and the adjacent property. This suggests that the adjacent agricultural and meadow lands may provide suitable habitat for Eastern Meadowlark. Although this property is not part of this EIS, the presence of singing males indicates potential breeding territories nearby. None were detected during the second breeding bird survey (Jun 12), however it was noted that the suitable habitat on the adjacent property had been recently mowed. This species was determined to be Possibly breeding on adjacent lands to northwest of the subject properties.** |

| | | | | |
|---|---|---|---|---|
| **Eastern Wood-Pewee (*Contopus virens*)** | Special Concern | Widespread in southern Ontario | Found in deciduous, mixed woods, or pine plantations; also found in mature woodlands, urban shade trees, roadsides, and orchards; usually found in clearings and forest edges. | **Potentially suitable habitat present surround existing properties and at city park on adjacent lands. None detected during breeding bird surveys.** |
| **Golden-winged Warbler (*Vermivora chrysoptera*)** | Threatened / Special Concern | Local; primarily central-eastern Ontario | Generally prefers areas of early successional vegetation, found primarily on field edges, hydro or utility right-of-ways, or recently logged areas. | **Some potentially suitable habitat present between southern field and wetland. None detected during breeding bird surveys.** |
| **Red-headed Woodpecker *(Melanerpes erythrocephalus)*** | Endangered | Widespread but rare in southern Ontario | Generally prefers open oak and beech forests, grasslands, forest edges, orchards, pastures, riparian forests, roadsides, urban parks, golf courses, cemeteries, as well as along beaver ponds and brooks. | **None detected during breeding bird surveys.There are suitable snag tree present in the study area.** |
| **Wood Thrush (Hylocichla mustelina)** | Threatened / Special Concern | Widespread in southern Ontario | Breeds in mature deciduous and mixed forests, most commonly those with American beech, sweet gum, red maple, black gum, eastern hemlock, flowering dogwood, American hornbeam, oaks, or pines; nests less successfully in fragmented forests and suburban parks with enough large trees for a territory; ideal habitat includes trees over 50 feet tall, a moderate understory of saplings/shrubs, an open floor with moist soil and decaying leaf litter, and water nearby. | **NHIC records exist for the general area. No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| **Yellow-breasted Chat *(Icteria virens)*** | Endangered | Breeds mainly Point Pelee and Pelee Island | Generally prefers dense thickets around wood edges, riparian areas, and in overgrown clearings. | **No suitable habitat found on site or in adjacent lands. None detected during breeding bird surveys.** |
| ***INSECTS*** | | | | |
| **Monarch *(Danaus plexippus)*** | Endangered / Special Concern | Widespread in southern Ontario | Exist primarily wherever milkweed and wildflowers exist, such as abandoned farmland, along roadsides, and other open spaces. | **A GBIF record exist for the general area located in the nearby Gibbons Drive Park, to the south beyond adjacent lands. Suitable habitat for this species is not present within the study area.** |
| **Rusty-patched Bumble Bee *(Bombus affinis)*** | Endangered | The only sightings of this bee in Canada since 2002 have been at The Pinery Provincial Park on Lake Huron. | Can be found in open habitat such as mixed farmland, urban settings, savannah, open woods and sand dunes. | **Potential habitat found on site or in adjacent lands. No NHIC or MECP records from area.** |
| **West Virginia White (*Pieris virginiensis*)** | Special Concern (provincial only) | 50 sites in south and central Ontario; primarily western Lake Ontario region | Generally prefer moist, deciduous woodlands; the larvae feed only on the leaves of the two-leaved toothwort (Cardamine diphylla), which is a small, spring-blooming plant of the forest floor. | **No suitable habitat found on site or in adjacent lands. No NHIC or MECP records from area; most sites in southern Ontario are generally known.** |
| ***MAMMALS*** | | | | |
| **Eastern Small-footed Myotis (*Myotis leibii*)** | Endangered (provincial only) | Widespread in southern Ontario | Overwintering habitat: caves and mines that remain above 0 degrees Celsius; Maternal roosts: primarily under loose rocks on exposed rock outcrops, crevices and cliffs, and occasionally in buildings, under bridges and highway overpasses, and under tree bark. | **A total of 32 suitable maternity roost trees are present in the study area. This species was not recorded during visual exit/acoustic surveys targeting the barn structure in June 2024. Any snag trees or structures slated for removal should not be removed durin the bat active season (between April 1 and September 30).** |
| **Little Brown Myotis (*Myotis lucifugus*)** | Endangered | Widespread in southern Ontario | Overwintering habitat: caves and mines that remain above 0 C; Maternal roosts: Often associated with buildings (attics, barns, etc.). Occasionally found in trees (25-44 cm dbh). | **See Eastern Small-footed Myotis. This species was not recorded during targeted bat visual exit/acoustic surveys in June 2024.** |
| **Northern Myotis (*Myotis septentrionalis)*** | Endangered | Widespread in southern Ontario | Overwintering habitat: caves and mines that remain above 0 C; Maternal roosts: often asssociated with cavities of large diameter trees (25-44 cm dbh). Occasionally found in structures (attics, barns, etc.) | **See Eastern Small-footed Myotis. This species was not recorded during targeted bat visual exit/acoustic surveys in June 2024.** |
| ***REPTILES*** | | | | |
| **Blanding's Turtle *(Emydonidea blandingii)*** | Threatened | Widespread in south, central, and eastern Ontario | Generally occurs in freshwater lakes, permanent or temporary pools, slow-flowing streams, marshes and swamps. Prefers shallow water that is rich in nutrients, organic soil and dense vegetation. Adults are generally found in open or partially vegetated sites, and juveniles prefer areas that contain thick aquatic vegetation including sphagnum, water lilies and algae. They dig their nest in a variety of loose substrates, including sand, organic soil, gravel and cobblestone. Overwintering occurs in permanent pools that average about one metre in depth, or in slow-flowing streams. | **No large open bodies of water. No NHIC or MECP records from area (the locations of most populations in this region of Ontario are known). Given the isolated nature of this site, surrounded by anthropogenic and agriculatural habitats, it is highly unlikely that a population of this species persists in the area.** |

| | | | | |
|---|---|---|---|---|
| **Eastern Ribbonsnake (*Thamnophis sauritus)*** | Special Concern | | Generally occur along the edges of shallow ponds, streams, marshes, swamps, or bogs bordered by dense vegetation that provides cover. Abundant exposure to sunlight is also required, and adjacent upland areas may be used for nesting. | **Potential habitat found on site or in adjacent lands. However, soils are not sandy in nature so not suitable for egg-laying or overwintering. No NHIC or MECP records from area.** |
| **Midland Painted Turtle (Chrysemys picta marginata)** | Special Concern (federal only) | Very widespread and common in southern Ontario | Painted turtles inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. The midland painted turtle hibernates on the bottom of waterbodies. | **NHIC records exist for the general area. There is no suitable habitat present on the subject lands. While wetland communities are present on adjacent lands there is not sufficient water depth to provide suitable overwintering habitat for turtles.** |
| **Snapping Turtle *(Chelydra serpentina)*** | Special Concern | Very widespread and common in southern Ontario | Generally inhabit shallow waters where they can hide under the soft mud and leaf litter. Nesting sites usually occur on gravely or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits. | **This species can utilize habitats such as ditches and small watercourses and wetlands. No records for area in the NHIC and MECP databases. If present, the habitat for this species will be preserved and no adverse impacts are anticipated. See report for mitigation measures.** |
| ***VASCULAR PLANTS*** | | | | |
| **Butternut (*Juglans cinerea*)** | Endangered | Found throughout the southwest, north to the Bruce Peninsula, and south of the Canadian Shield. | Generally grows in rich, moist, and well-drained soils often found along streams. It may also be found on well-drained gravel sites, especially those made up of limestone. It is also found, though seldomly, on dry, rocky and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows. | **Potential Butternut were identified in polygon 2 during 2023 field investigations. Genetic analysis revealed that the identified individual is a hybrid Butternut x Japanese Walnut (*J. cinerea x J. ailantifolia*) and therefore not SAR. See report and Appendix F for details.** |

# Appendix E: Significant Wildlife (SWH) Screening

## Appendix E: Significant Wildlife Habitat (SWH) Assessment for *North Property - St David St. N.* and lands within 120 m using SWH Criteria Schedules for Ecoregion 6E (OMNRF, 2015)

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| ***Seasonal Concentration Areas of Animals*** | | | | |
| Waterfowl Stopover and Staging Areas (Terrestrial) | Fields with sheet water during mid-Mar to May. ELC[1] Ecosites: CUM1 & CUT1 plus evidence of annual spring flooding; does not include agricultural fields, unless spring sheet water is available. Qualifying spp.: ABDU[2], AMBD, AMWI, BWTE, GADW, GWTE, MALL, NOPI, NSHO &, WODU. Confirmed SWH: Any mixed species groups of 100+ birds. | Air photo interpretation, possibly followed by ELC confirmation and spring bird surveys conducted between mid-March to May according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Waterfowl Stopover and Staging Areas (Aquatic) | Ponds, marshes, lakes, bays, coastal inlets, and watercourses are 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. ELC Ecosites: MAS1 –MAS3, SAS1, SAM1, SAF1, & SWD1 –SWD7. Qualifying species: ABDU, AMWI, BLSC, BRAN, BUFF, BWTE, CACG, CANG, CANV, COGO, COME, GADW, GRSC, GWTE, HOME, LESC, LTDU, NOPI, NSHO, RBME, REDH, RNDU, RUDU, SNGO, SUSO & WWSC. Confirmed SWH: 100+ of listed species for 7 days; areas with annual staging of Canvasback, Redhead, and Ruddy Duck. | Air photo interpretation, possibly followed by ELC confirmation, and spring or fall migratory bird surveys conducted according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats are not present within the study area. |
| Shorebird Migratory Stopover Area | Shorelines of lakes, rivers and wetlands, incl. beach areas, bars & seasonally flooded, muddy and un-vegetated shoreline habitats. Also groynes and other forms of armour rock lakeshores. Habitat is extremely rare; typically has a long history of use. Does not include sewage treatment ponds or SWM ponds. ELC Ecosites: BB01, BB02, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, & MAM1 – MAM5. Qualifying spp.: AGPL, BASA, BBPL, DUNL, GRYE, HUGO, LESA, LEYE, MAGO, PESA, PUSA, RNPH, RUTU, SAND, SBDO, SEPL, SESA, SOSA, SPSA, STSA, WHIM, & WRSA. Confirmed SWH: 3+ qualifying spp. and 1000+ "shorebird use days[3]" during spring or fall; sites with > 100 WHIM used for 3+ years. | Air photo interpretation, possibly followed by ELC confirmation, and migratory bird surveys conducted during spring (May 1 – mid-June) or fall (early July –October) according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Raptor Wintering Area | **Hawks/Owls:** Combination of upland fields and woodland providing roosting, foraging & resting habitat. Sites are 20+ ha, but least disturbed sites (i.e., idle/fallow or lightly grazed fields/meadows) need only be >15 ha with adjacent woodlands. Field should be wind swept with low snow depth. ELC Community Series: FOD, FOM, FOC & CUM, CUT, CUS, & CUW. **Bald Eagle:** Eagle sites have open water & large trees/snags for roosting. ELC Community Series: FOD, FOM, FOC, SWD or SWC on shoreline areas next to large rivers or adjacent to lakes with open water. Qualifying spp.: AMKE, BAEA, NOHA, RLHA, RTHA, SEOW, & SNOW. Confirmed SWH: 1 SEOW, 1 BAEA, or 10+ birds of 2 listed spp. Also must be used regularly (3 in 5 years) for 20+ days by the above number of birds. | Air photo interpretation, possibly followed by ELC confirmation, and multi-year winter bird surveys conducted according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Bat Hibernacula | May be found in caves, mine shafts, underground foundations and karsts. (Note: active mine shafts or buildings are not SWH). ELC Ecosites: CCR1, | Check with MNDMNRF. Air photo interpretation, followed by ELC survey, and possibly bat surveys conducted during the peak | **SWH Absent.** Available aerial photo and topographic mapping suggests there are no areas of exposed bedrock suitable for | **SWH Absent.** Qualifying habitats were not present within the study area. No |

[1] Ecological Land Classification (ELC) information/codes are based on the **Ecological Land Classification for Southern Ontario: First Approximation and Its Application** (Lee et al., 1998).
[2] Four-letter codes for birds are based on the 2023 list prepared by Peter Pyle and David F. DeSante (The Institute for Bird Populations).
[3] Shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period.

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| | CCR2, CCA1, & CCA2. Qualifying spp.: Big Brown Bat & Tri-colored Bat. Confirmed SWH: All sites with confirmed hibernating bats. | swarming period (Aug. – Sept.) according to *"Bats and Bat Habitats: Guidelines for Wind Power Projects"* (OMNR, 2011). | hibernation. To be verified during field investigations. | qualifying species were observed when conducting field investigations. |
| Bat Maternity Colonies | Found in tree cavities & vegetation in mature deciduous or mixed forest stands with 10+ large diameter (25+ cm dbh) snag trees/ha. Also found in buildings, but buildings are not SWH. Females prefer snags in early stages of decay (Class 1 –3). ELC Ecosites: All Ecosites in FOD, FOM, SWD, & SWM Community Series. Qualifying spp.: Big Brown Bat & Silver-haired Bat. Confirmed SWH: Colonies with 10+ Big Brown Bats or 5+ Silver-haired Bats. | Air photo interpretation of vegetation communities. ELC confirmation, and specialized bat habitat surveys conducted according to *"Bats and Bat Habitats: Guidelines for Wind Power Projects"* (OMNR, 2011). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Turtle Wintering Areas | Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen; usually in the same area as their core habitat, where water is deep enough not to freeze and have soft mud substrates. Does not include man-made ponds such as sewage lagoons/stormwater ponds. **Snapping/Midland Painted Turtles:** Includes SW, MA, OA, & SA ELC Community Classes and FEO and BOO ELC Community Series. **Northern Map Turtle:** open water areas (e.g. deeper rivers, streams) and lakes with current can be used. Qualifying spp.: Midland Painted Turtle, Northern Map Turtle & Snapping Turtle. Confirmed SWH: 5+ 'Painted' or 1+ Snapping/Northern Map Turtles. | Air photo interpretation, to help guide spring (March – May) and/or fall (Sept. – Oct.) basking turtle surveys | **SWH Absent.** Available aerial photos suggest that there are no wetland habitats of adequate size, or large permanent water bodies within the Study Area. | **SWH Absent.** Qualifying habitats were not present within the study area. No qualifying species were observed when conducting field investigations. |
| Reptile Hibernaculum | **Snakes:** Any ELC ecosite except very wet ones; talus, rock barren, crevice, cave, and alvar sites may be directly related. Occurs below frost lines in burrows, rock crevices/fissures & other natural or naturalized locations. Qualifying spp.: E. Gartersnake, N. Watersnake, Red-bellied Snake, DeKay's Brownsnake, Smooth Greensnake, Ring-necked Snake, E. Milksnake, E. Ribbonsnake. Confirmed SWH: Presence of a hibernaculum/congregations near potential hibernaculum used by 5+ individuals of a snake spp., or 2+ snake species, or presence of 1+ Special Concern spp. (i.e., E. Ribbonsnake). **Comom Five-lined Skink:** Prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. ELC Community Series: FOD & FOM; ELC Ecosites: FOC1 & FOC3. Confirmed SWH: Presence of any active hibernaculum. | Air photo interpretation, to help guide visual encounter surveys conducted on sunny warm days in spring (i.e., Apr/May) and/or autumn (i.e., Sept/Oct). | **SWH Absent.** Desktop review determined a lack of suitable habitat despite natural and cultural habitats being present, including forest/agricultural edge. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Colonially - Nesting Bird Breeding Habitat (Bank and Cliff) | Any sites/areas with exposed, eroding soil banks, sandy hills, borrow pits, steep slopes, sand piles, & cliff faces that are undisturbed or naturally eroding, that is not a licensed/permitted aggregate area. Excludes man-made structures such as bridges or buildings or recently (2 years) disturbed soil areas, e.g. berms, embankments, soil/aggregate stockpiles. ELC Ecosites: CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, & CLT1. Qualifying spp.: Cliff Swallow & Northern Rough-winged Swallow. Confirmed SWH: 8+ CLSW or NRWS nesting pairs or any combination. | Air photo interpretation, ELC surveys, and possibly breeding bird surveys conducted during the breeding season according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Desktop review determined a lack of suitable habitat. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs) | Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and occasionally emergent vegetation are also used. ELC Ecosites: SWM2; SWM3; SWM5; SWM6; SWD1 –SWD7; & FET1. Qualifying spp.: Great Blue Heron, Black-crowned Night-Heron, Great Egret & Green Heron. Confirmed SWH: Presence of 5+ active Great Blue Heron nests or other listed species. | Air photo interpretation, ELC surveys, breeding bird surveys (April to August) or site visits outside the nesting season for evidence of the presence of fresh guano, dead young, and/or eggshells. | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Colonially - Nesting Bird Breeding Habitat (Ground) | **Gulls/Terns**: On rocky islands/peninsulas (natural or artificial) in a lake or large river, or in marshy areas. **Brewer's Blackbird**: Open fields/pastures with scattered trees/shrubs in close proximity to streams/ditches. ELC | Air photo interpretation, ELC surveys, and possibly breeding bird surveys conducted in May/June according to *"Bird and Bird Habitats:* | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| | Ecosites/Community Series: MAM1 – MAM6, MAS1 – MAS3, CUM, CUT, & CUS. Qualifying spp.: HERG, GBBG, LIGU, RBGU, COTE, CATE & BRBL. Confirmed SWH: 25+ active HERG or RBGU nests; 5+ COTE nests; 2+ CATE nests; 1+ GBBG/LIGU nests; or 5+ Brewer's Blackbird pairs. | *Guidelines for Wind Power Projects"* (OMNR, 2010). | | |
| Migratory Butterfly Stopover Areas | Sites are a combination of field and forest, 10+ ha in size, ≤ 5 km of Lake Erie or Lake Ontario, should not be disturbed, and include an abundance of preferred nectar plants/ woodland edge (for shelter). Includes one Community Series from each of the following Community Class groups: Field: CUM, CUS, CUT. Forest: FOC, FOD, FOM, CUP. Qualifying spp.: Painted Lady, Red Admiral & Monarch. Confirmed SWH: 5000+ "Monarch Use Days"[4] (i.e., MUD), or 3000+ MUD with the presence of Painted Lady or Red Admiral. | GIS analysis to measure distance from the Lake Ontario shoreline, and if applicable, size of qualifying ELC communities, as well as frequently conducted observational studies during the fall migration (i.e., Aug./Oct.). | **SWH Absent.** The Study Area is > 5 km from the Lake Ontario/Erie shoreline. | **SWH Absent**. n/a |
| Landbird Migratory Stopover Areas | Woodlots >10 ha in size and ≤ 5 km of Lake Ontario, If multiple woodlands are located along the shoreline, those ≤ 2 km are more significant. Sites have a variety of habitats: forest, grassland & wetland complexes. ELC Community Series: FOC, FOM, FOD, SWC, SWM & SWD. Qualifying spp.: All migratory songbirds and all migrant raptors. Confirmed SWH: Use of the habitat by >200 birds/day and with >35 spp. with at least 10 bird spp. recorded on at least 5 different survey dates. | GIS analysis to measure distance from the Lake Ontario shoreline and if applicable, size of woodlots. Migratory bird surveys would be completed during spring (April – May) and/or fall (Aug – Oct) migration using standardized assessment techniques. Evaluation methods to follow *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** The Study Area is > 5 km from the Lake Ontario/Erie shoreline. | **SWH Absent**. n/a |
| Deer Yarding Area | Habitat to be determined by MNDMNRF. Deer yards are 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. The Stratum I area, considered the core of a deer yard, 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%. ELC Community Series: FOM, FOC, SWM and SWC, and ELC Ecosites: CUP2, CUP3, FOD3 and CUT. However, woodlots with high densities of deer due to artificial feeding are not significant. Qualifying spp.: White-tailed Deer. Confirmed SWH: Identified and mapped by MNDMNRF District Offices; snow depth must be > 40 cm for more than 60 days in a typical winter to be considered SWH. | Review of Land Information Ontario (LIO) database and potential confirmation with MNDMNRF District office, as deer yards are Identified and mapped by MNDMNRF using the methods outlined in *"Selected Wildlife and Habitat Features: Inventory Manual"* (OMNR, 1998). | **SWH Absent.** LIO database did not reveal any deer yarding areas in the study area. | **SWH Absent**. n/a |
| Deer Winter Congregation Areas | Typically includes woodlots >100 ha in size, but conifer plantations much smaller than 50 ha may also be used. Winter deer movement in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large #'s in suitable woodlands. If deer are constrained by snow depth, assess for Deer Yarding Area SWH. All Forested Ecosites with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, and SWD. However, woodlots with high densities of deer due to artificial feeding are not significant. Qualifying spp.: White-tailed Deer. Confirmed SWH: Areas considered significant will be mapped by MNDMNRF. Woodlots that are >100 ha in size are significant unless determined not to be significant by MNDMNRF. Woodlots <100 ha may be considered as significant based on MNDMNRF studies or assessment. | Land Information Ontario (LIO) database query and consultation with MNDMNRF District office, as use of a woodlot by White-tailed Deer is determined by MNDMNRF. Studies are completed during winter (Jan/Feb) when >20 cm of snow is on the ground using aerial survey techniques, ground or road surveys or a pellet count deer density survey. | **SWH Absent.** LIO database did not reveal any deer winter congregation areas in the study area. | **SWH Absent**. n/a |
| ***Rare Vegetation Communities*** | | | | |

[4] "Monarch Use Days" (i.e., MUD) is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site.

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| Cliffs and Talus Slopes | Cliffs are vertical to near vertical bedrock > 3 m in height. Talus slopes are rock rubble at the base of a cliff. Most cliffs & talus slopes occur along the Niagara Escarpment. ELC Community Series: TAO, TAS, TAT, CLO, CLS, CLT. Most occur along the Niagara Escarpment. Confirmed SWH: Any ELC Vegetation Type for Cliffs of Talus Slopes. | Air photo interpretation and ELC surveys to ELC Vegetation Type. | **SWH Absent.** The terrain within the Study Area is flat to gently undulating, precluding the possibility of any cliffs or talus slopes. | **SWH Absent.** The terrain within the Study Area is flat to gently undulating, precluding the possibility of any cliffs or talus slopes. |
| Sand Barren | Typically consists of exposed sand and generally sparsely vegetated (due to 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 continuous meadow, thicket-like, or more closed and treed. Treed cover is always ≤ 60%. Sites must be 0.5+ ha in size. ELC Ecosites: SBO1, SBS1, & SBT1. Confirmed SWH: Any ELC Vegetation Type for Sand Barren with < 50% exotic vegetative cover spp. | Air photo interpretation and ELC surveys to ELC Vegetation Type. | **SWH Absent.** No areas of exposed sand with sparsely vegetated cover were observed on available aerial photography. | **SWH Absent.** No areas of exposed sand with sparsely vegetated cover were observed on available aerial photography. |
| Alvar | Typically, a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Must be 0.5+ ha in size. Vegetation cover varies from patchy to barren with < 60% tree cover. Must be ≥ 0.5 ha in size. ELC Ecosites: ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2. Indicator spp.: *Carex crawei*, *Panicum philadelphicum*, *Eleocharis compressa*, *Scutellaria parvula*, & *Trichostema brachiatum*. Confirmed SWH: Sites with 4+ of 5 alvar indicator species, in excellent condition, fit in with adjacent landscape, & with < 50% of the vegetative cover exotic spp. | Air photo interpretation, ELC surveys to ELC Ecosite, and botanical surveys. | **SWH Absent.** No areas of shallow, exposed limestone bedrock were visible on available aerial photography or are likely to be present. | **SWH Absent.** No areas of shallow, exposed limestone bedrock were visible on available aerial photography or are likely to be present. |
| Old Growth Forest | Woodland area 30+ ha in size with 10+ ha of interior habitat (assuming 100 m buffer from edge of forest) and characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and abundance of snags and downed woody debris. ELC Community Series: FOD, FOC, FOM, SWC, SWD, SWM. Confirmed SWH: Dominant tree species are > 140 years old, and the candidate area has not experienced recognizable forestry activities. | Air photo interpretation and ELC surveys. | **SWH Absent.** The forested area within the Study Area is not of sufficient size. | **SWH Absent.** The forested area within the Study Area is not of sufficient size. |
| Savannah | A savannah is a tallgrass prairie habitat that has 25 – 60% tree cover and is natural or restored. There is no minimum size; does not include remnant sites such as railway right of ways. ELC Ecosites: TPS1, TPS2, TPW1, TPW2, & CUS2. Confirmed SWH: Presence of 1+ Savannah indicator sp. listed in Appendix N (OMNR, 2000) using Savannah plant list from Ecoregion 6E. Sites should be composed of <50% exotic/introduced species. | Air photo interpretation, ELC surveys to ELC Ecosite, and botanical surveys. | **SWH Absent.** No areas of tree cover between 25 and 60% were observed on available aerial photography. | **SWH Absent.** No areas of tree cover between 25 and 60% were observed on available aerial photography. |
| Tallgrass Prairie | A Tallgrass Prairie has ground cover dominated by prairie grasses, with < 25% tree cover. There is no minimum size to site, and it must be restored or in a natural state. Remnant sites (e.g. railway right of ways) are not SWH. ELC Ecosites: TPO1 & TPO2. Confirmed SWH: 1+ Prairie indicator species listed in Appendix N (OMNR, 2000) & using Prairie plant list from Ecoregion 6E. Sites should be composed of <50% exotic/introduced species. | Air photo interpretation, ELC surveys to ELC Ecosite, and botanical surveys. | **SWH Absent.** No areas of ground cover dominated by prairie grasses, with < 25% tree cover were observed. | **SWH Absent.** No areas of ground cover dominated by prairie grasses, with < 25% tree cover were observed. |
| Other Rare Vegetation Communities | May include beaches, fens, forest, marsh, barrens, dunes, swamps, etc. ELC Ecosites: Any ELC Ecosite that has a possible ELC Vegetation Type that is Provincially Rare (i.e., S1, S2, or S3) according to Appendix M of the SWHTG (OMNR, 2000) is Candidate SWH. Confirmed SWH: Field studies confirming ELC Vegetation Type is a rare vegetation community according to Appendix M of the SWHTG (OMNR, 2000), or updated lists. | Air photo interpretation and ELC surveys to ELC Vegetation Type. | **SWH Absent.** No Provincially Rare ELC Vegetation Types appear to be present. To be confirmed in the field. | **SWH Absent.** No Provincially Rare ELC Vegetation Types present in the study area. |

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| ***Specialized Habitat for Wildlife*** | | | | |
| Waterfowl Nesting Area | All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 – MAS3, SAS1, SAM1, SAF1, MAM1 – MAM6, SWT1, SWT2, & SWD1 – SWD4. A waterfowl nesting area extends 120 m from (1) a wetland (> 0.5 ha) or, (2) a wetland (>0.5 ha) and any small wetlands (0.5 ha) within 120 m, or (3) 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 120+ m in width. Qualifying spp.: ABDU, BWTE, GWTE, GADW, HOME, MALL, NOPI, NSHO & WODU. Confirmed SWH: 3+ nesting pairs of listed species (excluding MALL); or 10+ nesting pairs of listed species (including MALL); or any active ABDU nest. | Air photo interpretation, ELC surveys, and nesting studies completed between April and June according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Bald Eagle and Osprey Nesting, Foraging, and Perching Habitat | Nests are in forest communities directly adjacent to riparian areas – rivers, lakes, ponds & wetlands. Nests located on man-made objects are not SWH (e.g., telephone poles and constructed nesting platforms). Qualifying spp.: Osprey, Bald Eagle. ELC Community Series: FOD, FOM, FOC, SWD, SWM and SWC. Confirmed SWH: 1+ active nests. However, to be significant, a site must be used annually. If found inactive, must be known inactive 3+ years (or suspected 5+ years) before considered not significant. | Air photo interpretation, ELC surveys, and observational studies conducted between mid-March and mid-August according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Woodland Raptor Nesting Habitat | All natural or conifer woodland/forest stands that are 30+ ha in size with 10+ ha interior habitat (determined using 200 m buffer). Stick nests found within the tops or crotches of trees in a variety of intermediate-aged to mature forests. ELC Ecosites: All forested ELC ecosites & CUP3; ELC Community Series: SWC, SWM, & SWD. Qualifying spp.: AGOS, BADO, BWHA, COHA, RSHA, & SSHA. Confirmed SWH: 1+ active nests of listed species. | Air photo interpretation, GIS analysis, ELC surveys, and nesting surveys conducted mid-March to end of May, using call broadcasts to help locate territorial raptors and facilitate the discovery of nests by narrowing sown the search area. | **SWH Absent.** Forested vegetation communities within the Study Area are less than 30 ha in size. | **SWH Absent.** Forested vegetation communities within the Study Area are less than 30 ha in size. |
| Turtle Nesting Areas | Nesting areas must provide exposed mineral soil (i.e., sand and gravel) to dig in and be located in open, sunny areas. Best sites are close to water and away from roads. Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, & rivers are most frequently used. Municipal/provincial road embankments and shoulders are not SWH. Sites are adjacent (< 100 m) or within these ELC Ecosites: MAS1 – MAS3, SAS1, SAM1, SAF1, BOO1, & FEO1. Qualifying spp.: Midland Painted Turtle, Northern Map Turtle, & Snapping Turtle. Confirmed SWH: 5+ nesting Midland Painted Turtles, or 1+ Snapping/Northern Map Turtles. | Air photo interpretation, ELC surveys, and dedicated turtle nesting activity surveys/turtle nest search surveys conducted between the last week of May and first week of July. | **SWH Absent.** Desktop review determined a lack of suitable qualifying habitat. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Seeps and Springs | Seeps/Springs are areas where ground water comes to the surface. Any forested ecosite (with <25% meadow/field)/pasture) within headwater area of stream/river system. Indicator spp.: WITU, RUGR, SPGR, White-tailed Deer, and salamander spp. Confirmed SWH: Presence of 2+ seeps/springs. The area of the Ecosites or Ecoelements is the SWH. | Air photo interpretation, ELC surveys, and wildlife habitat assessment. Review of site-specific hydrogeologic information. | **SWH Absent.** Desktop review determined a lack of suitable qualifying habitat. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Amphibian Breeding Habitat (Woodland) | Presence of wetland, pond or woodland pool (incl. vernal pool) 500+ $m^2$ (i.e., 25 m dia.) within or adjacent (≤ 120 m) to a woodland (any size). All ELC Ecosites associated within FOC, FOM, FOD, SWC, SWM, & SWD Community Series. Qualifying spp.: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, & Wood Frog. Confirmed SWH: breeding population of any listed newts/ salamanders; or 2+ listed frogs with at least 20 individuals (adults or egg masses); or 2+ listed frog sp. with Call Level Code 3. | Air photo interpretation, GIS analysis of wetland size, and a combination of observational study (for salamanders and frogs) and nocturnal call counts (for frogs & toads) during the spring (March – June). Call counts typically occur in April, May & June) as per the Marsh Monitoring Program (BSC, 2009). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| Amphibian Breeding Habitat (Wetlands) | These wetland ecosites (500+ $m^2$ in size, i.e., 25 m dia.) are typically 120+ m from woodlands. However, larger wetlands containing predominantly aquatic species (e.g. American Bullfrog) may be adjacent to woodlands. ELC Community Class: SW, MA, FE, BO, OA, & SA. Qualifying spp.: Eastern Newt, Blue-spotted…, Spotted…, & Four-toed Salamander, American Toad, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog & Bullfrog. Confirmed SWH: breeding population of any listed newts/salamanders; or 2+ listed frogs with at least 20 individuals (adults or egg masses); or 2+ listed frog sp. with Call Level Code 3. | Air photo interpretation, GIS analysis of wetland size, proximity to woodland ecosites, ELC surveys, and a combination of observational study (for salamanders and frogs) and nocturnal call counts (for frogs & toads) during the spring (March – June). Call counts typically occur in April, May & June, as per the Marsh Monitoring Program (BSC, 2009). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Woodland Area-Sensitive Bird Breeding Habitat | Habitats where forest interior birds are breeding, Typically mature (60+ years) stands or woodlots 30+ ha in size with forest interior habitat (measured 200+ m from edge). ELC Community Series: FOC, FOM, FOD, SWC, SWM & SWD. Qualifying spp.: BHVI, BLBW, BTBW, BTNW, CAWA, CERW, NOPA, OVEN, RBNU, SCTA, VEER, WIWR, & YBSA. Confirmed SWH: Presence of 3+ nests/breeding pairs of qualifying spp., or any breeding by CAWA or CERW. | GIS analysis of size of woodlot/forest, as well as interior forest habitat. ELC survey confirmation and breeding bird surveys conducted according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying large, mature forest stands appear to be absent. | **SWH Absent.** Qualifying large, mature forest stands appear to be absent. No qualifying species were observed when conducting field investigations. |
| ***Habitats for Species of Conservation Concern*** *(not including END or THR species)* | | | | |
| Marsh Breeding Bird Habitat | Candidate wetland habitats must contain shallow water & aquatic emergent vegetation. Although nesting usually occurs in wetlands, Green Heron may nest in upland shrubs or trees. ELC Ecosites: MAM1 – MAM6, SAS1, SAM1, SAF1, FEO1, BOO1, and SW, MA, CUM1 sites (for Green Heron). Qualifying spp.: AMBI, AMCO, BLTE, COGA, COLO, GRHE, MAWR, PBGR, SACR, SEWR, SORA, TRUS, VIRA & YERA. Confirmed SWH: 5+ nesting pairs of MAWR/ SEWR; or any 5+ listed spp.; or 1+ pairs of SACR; or any wetland with 1+ nesting BLTE, GRHE, TRUS, or YERA. | Air photo interpretation, ELC surveys and breeding bird surveys conducted in late May/June, according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Open Country Bird Breeding Habitat | Grassland areas (incl. natural & cultural fields & meadows) >30 ha., but not Class 1 or 2 agricultural lands, or areas actively used for farming (i.e., row cropping or intensive hay or livestock pasturing) in the last 5 years. Sites should have a history of longevity of 5+ years. ELC Ecosites: CUM1 & CUM2. Qualifying spp.: GRSP, NOHA, SAVS, SEOW, UPSA, & VESP. Confirmed SWH: Nesting of 2+ listed spp. or any SEOW. | Air photo interpretation, ELC, GIS analysis of the size of natural & cultural fields & meadows, and review of agricultural land classification mapping. If necessary, breeding bird surveys conducted in late May/June according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Non-agricultural grassland communities >30 ha are absent from the Study Area. | **SWH Absent.** Non-agricultural grassland communities >30 ha are absent from the Study Area. |
| Shrub/Early Successional Bird Breeding Habitat | Large field areas succeeding to shrub and thicket habitats >10 ha in size, but not class 1 or 2 agricultural lands, or being actively used for farming (*i.e.* no row-cropping, haying or live-stock pasturing in the last 5 years). ELC Ecosites: CUT1, CUT2, CUS1, CUS2, CUW1, & CUW2. Qualifying spp.: BRTH, BBCU, CCSP, EATO, FISP, GWWA, WIFL, & YBCH. Confirmed SWH: Nesting/breeding of BRTH or CCSP and then 2+ qualifying spp.; or any GWWA/YBCH breeding. | Air photo interpretation, ELC, GIS analysis of the size of the qualifying cultural communities, and review of agricultural land classification mapping. If necessary, breeding bird surveys conducted in late May/June according to *"Bird and Bird Habitats: Guidelines for Wind Power Projects"* (OMNR, 2010). | **SWH Absent.** Shrub/early successional communities > 10 ha are absent from Study Area. | **SWH Absent.** Shrub/early successional communities > 10 ha are absent from Study Area. |
| Terrestrial Crayfish | Often occur in wet meadows and edges of shallow marshes, mudflats (no minimum size) where they construct burrows. However, can be found far from water. ELC Ecosites: MAM1 – MAM6, MAS1 – MAS3, and CUM1 with inclusions of above MAM or swamp ecosites. ELC Community Series: SWD, SWM, & SWT. Qualifying spp.: Digger Crayfish (*Creaserinus fodiens*) and Great Plains Mudbug (*Lacunicambarus nebrascensis*). Confirmed SWH: Presence of either qualifying sp. or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. | Air photo interpretation, ELC surveys, and searches for crayfish chimneys from April to August (although early spring is best, when vegetation is lowest). | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |

| SWH Type | SWH description/qualifying ELC codes/species + other criteria/ thresholds | Methods used to assess SWH | Results of Desktop Habitat Assessment | Results of Field Investigations |
|---|---|---|---|---|
| Special Concern and Rare Wildlife Species | May occur in any habitat type. Qualifying spp.: All plant and animal species designated "Special Concern" or provincially rare (i.e., S1, S2, S3, and SH). Confirmed SWH: Presence of any qualifying plant or animal species/habitat. | Review of aerial photography and background information sources (e.g., NHIC Make-a-Map rare species query results). ELC surveys, botanical surveys, and seasonally appropriate breeding bird surveys, and other wildlife habitat assessments. | **SWH Candidate.** A desktop review of known SAR records within the area, and ELC habitat types present on site determined candidate habitat for the following Special Concern species:<br>• Barn Swallow | **SWH Confirmed.** Barn Swallow was detected during targeted breeding bird surveys within suitable habitat. |
| ***Animal Movement Corridors*** | | | | |
| Amphibian Movement Corridors | Corridors between breeding habitat and summer habitat may be in all ecosites associated with water. However, an assessment is only required if Confirmed or Candidate Amphibian Breeding Habitat SWH is present based on these Criterion Schedules or the Significant Wildlife Habitat Technical Guide (OMNR, 2000). Qualifying spp.: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, American Toad, Gray Treefrog, Western Chorus Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog & Bullfrog. Confirmed SWH: No thresholds for numbers/diversity. However, corridors should consist of several layers of native vegetation, have 15+ m of veg on both sides of waterway, or up to 200 m of woodland habitat (with gaps < 20 m), and must provide a connection between summer & breeding habitat. They should also be unbroken by roads, waterways or bodies. | Air photo interpretation and ELC when amphibian call count surveys (typically during April, May & June) and observational study confirm Amphibian Breeding Habitat SWH is present. | **SWH Absent.** Qualifying habitat appears to be absent in the Study Area. To be confirmed during field investigations. | **SWH Absent.** Qualifying habitats were not present within the study area. |
| Deer Movement Corridors | Movement corridors may be found in all forested ecosites and must be determined when Deer Wintering Habitat is confirmed as SWH. They have potential to occur within Stratum II Winter Congregation Areas; MNDMNRF to confirm if such occurs. Typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). ELC Ecosites: All forested ecosites. Qualifying sp.: White-tailed Deer. Confirmed SWH: Studies confirming usage. | Review of Land Information Ontario (LIO) database, consultation with MNDMNRF, and studies conducted at the time of year when deer are migrating or moving to and from winter concentration areas. | **SWH Absent.** There are no corridors leading to a nearby Stratum II area that are unbroken by roads and residential areas, and 200+ m wide with gaps < 20 m; riparian corridors didn't have 15+ m of vegetation on both sides of waterway. | **SWH Absent.** There are no corridors leading to a nearby Stratum II area that are unbroken by roads and residential areas, and 200+ m wide with gaps < 20 m; riparian corridors didn't have 15+ m of vegetation on both sides of waterway. |
| ***Exceptions for Ecoregion 6E*** *– Exceptions are candidate wildlife habitats that will have different criteria than what is proposed in the above schedules for an area within an Eco-region. These are based on Eco-Districts and municipalities can apply the exception for the eco-district within their planning area.* | | | | |
| Eco-District 6E-14 (i.e., Bruce Peninsula) – Mast Producing Areas for Black Bears | Candidate forested habitats need to be large enough to provide cover and protection for Black Bears. These are woodland ecosites >30 ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Qualifying sp.: Black Bear. ELC Community Series: All Forested habitat within FOM & FOD. Confirmed SWH: All woodlands > 30ha with a 50% composition of these ELC Vegetation Types are considered SWH: FOM1-1, FOM2-1, FOM3-, FOD1-1, FOD1-2, FOD2-1, FOD2-, FOD2-3, FOD2-, FOD4-1, FOD5-, FOD5-3, FOD5-7, & FOD6-5. | Review of Eco-District mapping. If necessary, GIS analysis of the size of woodland area, review of Land Information Ontario (LIO) database, consultation with MNDMNRF, air photo interpretation, ELC/botanical surveys, and seasonally appropriate wildlife surveys. | **SWH Absent.** Site is not located in Ecodistrict 6E-14 (i.e., the Bruce Peninsula). | **SWH Absent.** Site is not located in Ecodistrict 6E-14 (i.e., the Bruce Peninsula). |
| Eco-District 6E-17 (i.e., on Manitoulin Island) – Sharp-tailed Grouse Lek | Leks or 'dancing grounds' consist of bare, grassy, or sparse shrubland, often on a hill or rise in topography; used annually. Grasslands (field/meadow) are >15 ha when adjacent to shrubland and >30 ha when adjacent to deciduous woodland, and undisturbed with low intensities of agriculture (light grazing or late haying). Conifer trees within 500 m are not tolerated. Qualifying sp.: Sharp-tailed Grouse. ELC Community Series: CUM, CUS & CUT. Confirmed SWH: Any site with confirmed Sharp-tailed Grouse courtship activities. | Review of Eco-District mapping. If necessary, GIS analysis of the size of woodland area, review of Land Information Ontario (LIO) database, consultation with MNDMNRF, air photo interpretation, ELC/botanical surveys, and studies confirming lek habitat completed from late March to June. | **SWH Absent.** Site is not located in Ecodistrict 6E-17 (i.e., Manitoulin Island). | **SWH Absent.** Site is not located in Ecodistrict 6E-17 (i.e., Manitoulin Island). |

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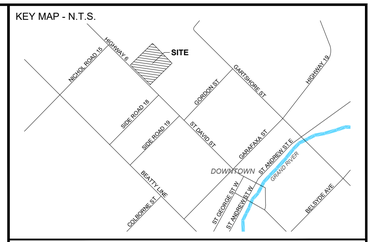
# Appendix F: Concept Plan (Polocorp, 2024)


KEY MAP - N.T.S.




# DRAFT PLAN OF SUBDIVISION

PT OF LOT 18, CONCESSION 16
IN THE FORMER GEOGRAPHIC TWP OF NICHOL
CENTRE WELLINGTON

POLOCORP INC.

20 0 20 40 60 80 100

SCALE = 1:1400 (metric)

## LAND USE SCHEDULE

| DESCRIPTION | LOTS/BLKS. | UNITS | AREA (ha.) |
|---|---|---|---|
| Single Detached | 31-43 | 87-129 | 4.863 |
| Street Townhouses | 44-61 | 179-266 | 5.512 |
| Medium Density | 62, 63 | 93-125 | 2.065 |
| Mixed Use | 64 | 8-14 | 0.338 |
| Existing House | 65 | 0-1 | 0.172 |
| Stormwater Management Facility | - | - | - |
| Trail | - | - | - |
| Parkland | 66 | - | 0.892 (4.6%) |
| Pedestrian Walkway | 67-69 | - | 0.115 |
| Environmental Feature & Buffer | - | - | - |
| MTO Allowance | 70, 71 | - | 0.534 |
| Roads | - | - | 5.279 |
| TOTAL | | 367-535 | 20.027 |

| SALEABLE FRONTAGE | LENGTH | UNIT SMALL | UNIT LARGE |
|---|---|---|---|
| Single Detached | 1,466.3m | 36' (11.0m) | 50' (15.2m) |
| Street Townhouses | 1,773.2m | 18' (5.5m) | 27' (8.3m) |
| TOTAL | 3,239.5m | | |

| DENSITY | |
|---|---|
| Gross Area (ha) | 20.027 ha (49.49 ac) |
| Developable Area (ha) | 19.457 ha (48.08 ac) |
| Net Density (uph) | 18.9 - 27.5 upha |
| Net People-Jobs (3.05 per unit) | 57.7 - 83.9 PJ pha |

## INFORMATION REQUIRED

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

INFORMATION REQUIRED BY CLAUSES a,b,c,d,e,f,g, j AND I ARE AS SHOWN ON THE DRAFT PLAN.

(h) Municipal Water Supply
(i) Sandy Loam
(k) Municipal Sanitary and Storm Sewers

## SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

O.L.S.
Surveying Inc.

XX XX, 2024
DATE

## OWNER'S CERTIFICATE

I HEREBY CONSENT TO THE FILING OF THIS PLAN BY POLOCORP INC., IN DRAFT FORM

MIKE PUOPOLO
Polocorp Inc.

DATE

## APPROVALS

REGIONAL MUNICIPALITY OF
WATERLOO APPROVAL BLOCK

DRAFT
FOR DISCUSSION
PURPOSES ONLY

APPROVED: DATE:

| REVISIONS | | |
|---|---|---|
| DATE | BY | DESCRIPTION |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |


POLOCORP
379 Queen Street South, Kitchener | N2T 1W6 | 519-745-3249 | polocorpinc.com


| | |
|---|---|
| DATE: December 10, 2024 | SCALE 1:4000 (metric) |
| PROJECT: 1012 (Fergus) | DRAWN BY: GFE |

# Appendix G: Terms of Reference (TOR)

DOUGAN & ASSOCIATES
ECOLOGICAL CONSULTING & DESIGN
3-7 EDINBURGH ROAD SOUTH GUELPH ON N1H 5N8 T 519.822.1609 F 519.822.5389 www.dougan.ca

May 13, 2024

Mike Puopolo
Chief Operating Officer, Polocorp Inc.
379 Queen Street South, Kitchener, Ontario N2G 1W6
(519)-745-3249, ext. 201

RE: 968 ST. DAVID ST. N (FERGUS) – TERMS OF REFERENCE (TOR) FOR SCOPED ENVIRONMENTAL IMPACT STUDY (EIS)

Dear Mike,

D&A was retained by Polocorp Inc. to prepare a Terms of Reference (TOR) and scoped EIS in support of a proposed development. The property, located on the east side of St. David's St. N in Fergus, ON, Township of Centre Wellington, County of Wellington is subject to the Township of Centre Wellington Municipal Official Plan (OP).

The enclosed TOR outlines D&A's proposed approach for the EIS, following a desktop review of the proposal in the context of existing natural heritage background data, policy mapping, known survey protocols, and professional experience in the locality.

We trust this information is sufficient for your review and we look forward to a response at your earliest convenience to finalize the scope of the EIS and schedule a site visit with GRCA and agency staff. Please do not hesitate to contact the undersigned with any questions or concerns.

Respectfully submitted,

Todd Fell, OALA, CSLA, CERP
Principal, Landscape Architect, Restoration Ecologist
tfell@dougan.ca

Bianca Marcellino, MSc., BSc. [ENV]
Ecologist
bmarcellino@dougan.ca

# Terms of Reference

# Scoped Environmental Impact Statement

ST. DAVID ST. NORTH, FERGUS, ONTARIO

Dougan & Associates (D&A) was retained by Polocorp to prepare a Terms of Reference (ToR) for an Environmental Impact Statement (EIS) for a 75-ha property located at 968 St. David St. North, Fergus, Ontario (see Figure 1). The proposed development will consist of 340 stacked townhouses, 307 street townhouses, and 188 single units including a parkette, SWM facilities, mixed use area, associated servicing, and village green. The development is proposed on existing farm/agricultural lands zoned primarily for agriculture (see Concept Plan provided in Appendix A). The site lies within the watershed managed by the Grand River Conservation Authority (GRCA). Directly adjacent to the proposed development area is a natural feature (wetland) zoned for Environmental Protection, triggering the need for an EIS. The area surrounding the wetland is also part of the GRCA regulated area.

## PURPOSE AND SCOPE

The Township of Centre Wellington requires an EIS for any proposed development with the potential to negatively impact natural areas designated under their Official Plan (Centre Wellington, 2005). The subject lands are almost entirely agricultural, however the proposed development is adjacent to an wetland designated as “Environmental Protection” and within a GRCA regulated area.

This EIS serves as a due diligence exercise to screen for ancillary impacts of the proposed development on the adjacent natural feature and any additional natural heritage constraints within the study area. The EIS will meet the criteria outlined in Section E.1.3 of the Centre Wellington OP as well as the GRCA EIS guideline document including the following components:

- description of the proposal;
- description of the existing land use and surrounding environment, including adjacent lands;
- identification and assessment of the potential impacts of the proposal on the environment and the significant features and functions of the natural heritage features;
- assessment of the potential effects of the proposal such as enhancement and/or restoration of significant features;
- delineation of any environmental constraint area on a site plan;
- assessment of the feasibility of alternative mitigation measures or techniques and the ability of such measures to prevent or minimize impacts;
- recommendations on the advisability of proceeding with the proposal, appropriate mitigation measures, changes to the proposal;
- a statement of the relative environmental and ecological significance of the nature features and functions affected by the proposal;
- a statement that there are no negative impacts on provincially significant natural heritage features and functions; and,
- if necessary, recommendations relating to a monitoring plan and contingency plans and funds should the proposal result in any unexpected impacts to the natural features.

Recommendations will be made for avoiding or mitigating impacts to natural heritage features. Opportunities for restoring and enhancing natural heritage features will also be identified.

The proposed study area for the EIS is shown on Figure 1. This will include the subject property, the adjacent 120m lands and any natural heritage features that overlap the 120m adjacent lands. Areas outside the subject property may be surveyed indirectly (e.g., aerial/satellite interpretation, roadside survey) if property access is not available.

# BACKGROUND REVIEW

The EIS will include review of background data, documents, plans and legislation relevant to the subject property. Key background sources will include:

- Natural Heritage Information Centre (NHIC) Biodiversity Atlas;
- Grand River Conservation Authority mapping and data request;
- Township of Centre Wellington Official Plan and Schedules and relevant zoning by-laws;
- Other data or mapping from City Natural Heritage Planners;
- Global Biodiversity Information Facility;
- Review of online citizen science databases (i.e., iNaturalist);
- Ontario Breeding Bird Atlas;
- Ontario Reptile & Amphibian Atlas;
- Ontario Butterfly Atlas and,
- Any other relevant background documents.

The information gathered in this phase will provide a preliminary understanding of the natural heritage features and functions present on the subject lands, facilitate decision-making during the study, and will be incorporated into subsequent reporting.

# POLICY CONTEXT

The policy context will be reviewed, and relevant natural heritage designations and regulations will be discussed in the EIS where applicable, including:

- Migratory Birds Convention Act (1994);
- Endangered Species Act (2007);
- Provincial Policy Statement (2020);
- Greenbelt Plan (2017);
- Conservation Authorities Act/O.Reg. 150/06 and GRCA Policies;
- Township of Centre Wellington Official Plan (2005);
- Township of Centre Wellington Zoning By-laws;
- Township of Centre Wellington Site Alteration By-law;
- Township of Centre Wellington Public Forest Policy;
- Wellington County Conservation and Sustainable Use of Woodlands Bylaw

# DESKTOP AND FIELD STUDIES

The scope of desktop and field studies for this EIS is proposed based on the presence of documented constraint features or anticipated constraints. The proposed study area boundary is shown on Figure 1. Table 1 summarizes the proposed desktop and field studies for this study:

*Table 1. Proposed desktop and field studies for St. David St. North EIS*

| Activity | Details | Timing |
|---|---|---|
| **Desktop Studies** | | |
| **Background and Policy Review** | The background and policy documents listed above will be reviewed for natural heritage information to form a preliminary understanding of natural heritage features and functions on the study site.<br>The EIS will clearly demonstrate how the proposal is consistent with the Natural Heritage Policies contained within the City's Official Plan. | Fall 2023 |
| **Significant Wildlife Habitat Screening** | A desktop screening will be completed for Significant wildlife habitat (SWH) criteria for Ecoregion 7E (per MNRF 2015) prior to fieldwork. Field results will inform and/or confirm SWH presence/status. | Following 2024 vegetation and wildlife field surveys |
| **Species at Risk Screening** | A desktop screening of the Global Biodiversity Information Facility (GBIF) and Natural Heritage Information Centre (NHIC) will be completed prior to fieldwork which will inform and/or confirm SAR presence/status. | Following 2024 vegetation and wildlife field surveys |
| **Vegetation Surveys** | | |
| **Ecological Land Classification** | Three (3) season vegetation surveys (spring, summer, and fall) will be used to delineate communities to vegetation type based on the ELC system for Southern Ontario, 1st approximation (Lee et al, 1998). | September 2023<br>May 2024<br>July/August 2024<br>(concurrent with Botanical Inventory and Tree Inventory visits) |
| **Botanical Inventory** | Three (3) season botanical inventories will be conducted in spring, summer, and fall 2023 to capture all vascular plants observable in the study area. This inventory will also determine if locally, provincially, or federally significant species are present. Local status will be based on the information provided within the Wellington Flora inventory (Anderson & Frank, 2009). | September 2023<br>May 2024<br>July/August 2024<br>(concurrent with ELC and Tree Inventory visits) |

| Activity | Details | Timing |
|---|---|---|
| Tree Inventory and Arborist Assessment | An ISA certified arborist will conduct a tree inventory and arborist assessment within the study area (Figure 1) to collect data for all trees that are ≥10cm DBH (diameter-at-breast height) that have driplines extending within the proposed limit of disturbance. Trees will be tagged with a uniquely numbered metal forestry tag that will correspond with mapping and reporting. | September 2023<br>(concurrent with ELC and Botanical Inventory) |
| **Wildlife Surveys** | | |
| Breeding Bird Survey | Breeding bird surveys will take place following protocols outlined in the Ontario Breeding Bird Atlas (OBBA 2001), i.e. two surveys taking place at least seven days apart between May 24 and July 10. Surveys will occur between sunrise and approximately 10:00 a.m. under suitable weather conditions (i.e. light winds, good visibility, and no heavy rain). | Survey 1: May 24 – June 15<br>Survey 2: June 15 – July 10 |
| Nocturnal Amphibian Call Survey | Nocturnal amphibian call surveys will be conducted in accordance with the Marsh Monitoring Program (BSC, 2009). Three (3) visits are required, in April, May and June to ensure that all frog species' calling windows are covered during surveys. Surveys will commence 30 minutes after sunset and will conclude at midnight. | Survey 1: April 15 – April 30<br>Survey 2: May 15 – May 30<br>Survey 3: June 15 – June 30 |
| Bat Visual Exit Surveys* | Visual exit surveys (VES) for Species at Risk (SAR) bats will be undertaken in accordance with MECP's (2021) "Bats & Buildings – Exit & Roost Surveys" protocol which stipulates two (2) visits be undertaken in June under suitable weather conditions, with observers positioned from sunset to one (1) hour after the first emergence of bats (or longer if bats continue to emerge), or 1.5 hours after sunset, if no bats are observed emerging. Information that will be collected includes:<br>• Date<br>• Start and end time of survey<br>• Temperature<br>• Wind and sky condition<br>• Species present<br>• # of exit points monitored<br>• Numbers counted<br>• Names of surveyors | Survey 1: June 1 – 15<br>Survey 2: June 15 – 30 |
| Incidental Wildlife Observations | Wildlife will be noted on an incidental basis during all field investigations.<br>Any incidental observations of Species at Risk (SAR) will be used in addition to desktop queries of the Global Biodiversity Facility (GBFI) and Natural Heritage Information Centre (NHIC). | Concurrent with all field investigations |

* VES for SAR bats will be undertaken at the buildings proposed for demolition. Based on on-site knowledge, these buildings present potentially suitable habitat for SAR bats and MECP requires visual exit surveys be conducted prior to demolition:
"If a proposed activity or project will remove or alter an anthropogenic structure in a way that would negatively affect use of the structure by SAR bats then bat surveys are warranted. This applies whether the structure provides potential SAR bat habitat or was known to provide bat habitat historically." (MECP, 2022).

# REPORTING AND MAPPING

The findings of the background review and field studies will be integrated into a scoped EIS report that will characterize natural heritage features, summarize identified constraints and opportunities, assess potential impacts and mitigation measures (including vegetative protection zone requirements) consistent with GRCA's Environmental Impact Study Guidelines and Submission Standards for Wetlands (2005). The impact assessment will examine the proposed development and address the direct, indirect and cumulative impacts to the natural heritage features and landscape functions. As required by GRCA guidelines, an assessment of potential impacts that the proposal may have on the natural heritage features will include:

- A description of the negative or positive impacts associated with the development proposal
- The potential for impacts on specific wetland features and/or functions
- The spatial extent, magnitude, frequency, and duration of wetland impacts (direct and indirect)
- The extent and degree to which lands adjacent to wetlands will be affected
- The possibility of cumulative impacts

Avoiding negative impacts is preferred over mitigation; as such, avoidance strategies undertaken will be listed and evaluated, including any modifications considered to the proposal. Where negative impacts are unavoidable, mitigation strategies to reduce or minimize significant impacts to Core Areas will be evaluated for relative effectiveness, and the extent of any residual impacts will be discussed. This section should include the following:

- an analysis of buffers and setbacks that are relevant to the potential impacts of the proposal and the Core Area features to be protected.
- how the proposal was designed to avoid and/or minimize impacts;
- a description of any proposed compensation for impacts that cannot be mitigated (e.g. fragmented habitat), or restoration plans for disturbed areas; and,
- mitigation measures (e.g. lighting, fencing, erosion control, landowner stewardship brochures) proposed to eliminate or reduce impacts.

GIS tools will produce mapping products that support a scoped report. A summary of the proposed Table of Contents for the scoped EIS can be found in Appendix B.

A Parks and Landscape Plan will be completed by an OALA in good standing and will be forthcoming after the final EIS submission, which will document 1:1 compensation for all private tree removals.

# CONCLUSION

A summary of the findings, potential impacts on natural features and functions, recommended mitigation, monitoring and residual impacts will be provided within the EIS. The EIS will provide the

foundation for future requirements for development approval as it relates to the natural heritage system. As the EIS progresses, consultation with the Township of Centre Wellington and GRCA will be maintained throughout to disclose observations and identify concerns and constraints. The EIS will also provide the foundation for impacts (if any) to SAR and/or their habitat and denote recommendations for next steps should SAR be identified.

# REFERENCES

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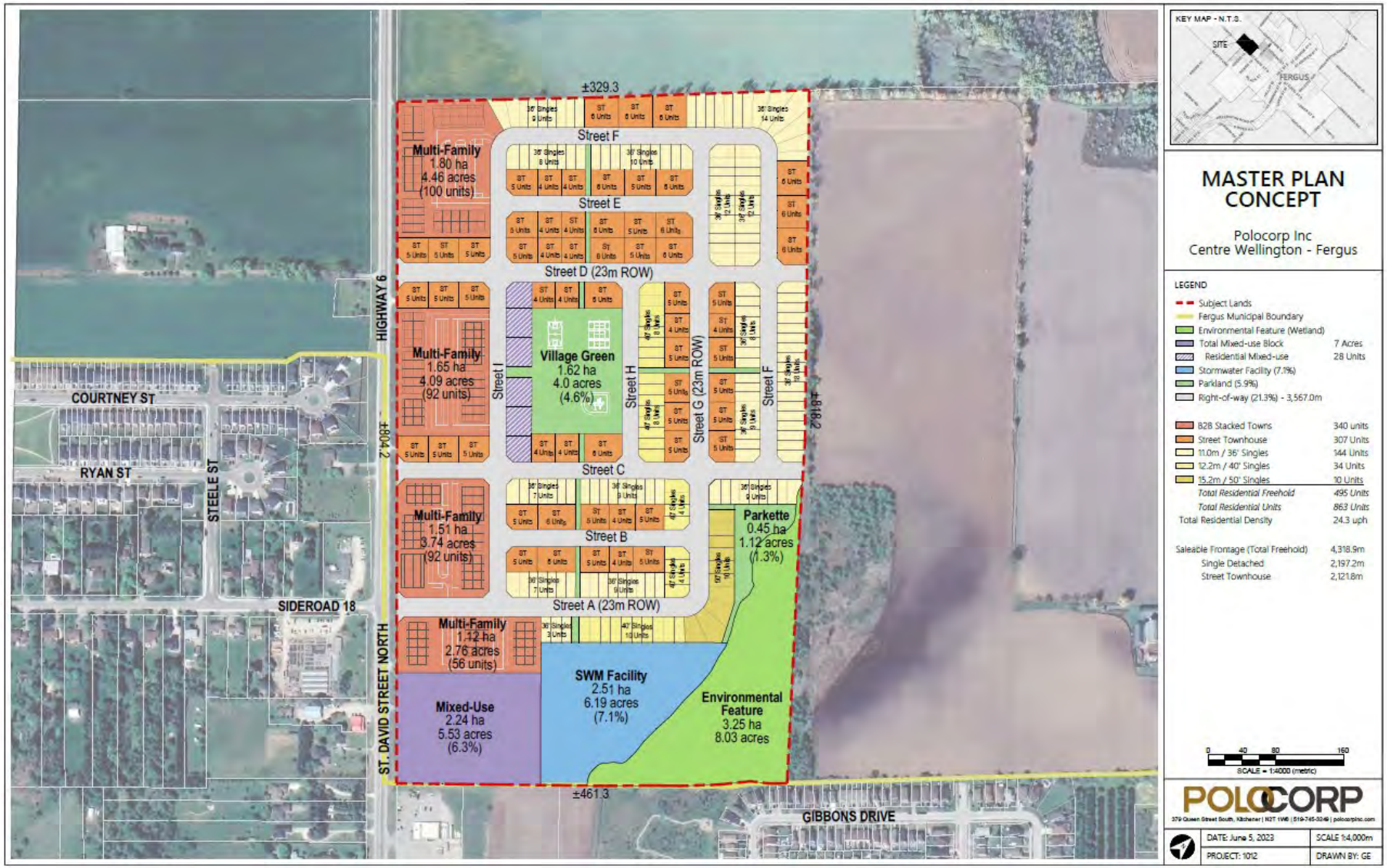
Figure 1. Site location and Study area (yellow line) including 120 m adjacent lands (red line) – St. David St. North EIS

# Appendix A – Concept Plan



# Appendix B
# Proposed EIS Table of Contents

## ANTICIPATED MAPS

Map 1: Study Area Landscape Context

Map 2: ELC Vegetation Communities and Survey Locations

Map 3: Tree Inventory and Arborist Assessment

Map 4: Impact Assessment

Map 5: Constraints and Opportunities

Map 6: Tree Protection Plan

## ANTICIPATED APPENDICES

- Flora and Fauna Species Lists (including Federal, Provincial, and Local Rankings Species Checklist According to the Wellington Flora inventory (Anderson & Frank, 2009).
- ELC Data;
- Background Review Species List;

- SAR Screening List;
- SWH Screening List;
- Relevant Policy Summaries.