

ENVIRONMENTAL IMPACT STUDY



March 1, 2026

772082 Highway 10
Township of Southgate
County of Grey

Prepared for: 772082 Highway 10 Inc.

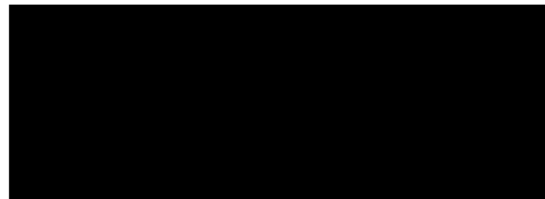


Table of Contents

1	INTRODUCTION	1
2	POLICY AND LEGISLATION OVERVIEW	1
3	METHODOLOGY	1
3.1	Consultation with Agencies	1
3.1.1	Terms of Reference	1
3.2	Desktop Review	1
3.3	Field Investigations	3
3.3.1	Vascular Plants	4
3.3.2	Vegetation Communities	4
3.3.3	Wetlands	4
3.3.4	Breeding Birds	4
3.3.5	Amphibian Breeding Surveys	5
3.3.6	SAR Bat Maternity Roost (Treed)	5
3.3.7	Incidental Wildlife Observations	5
3.3.8	Aquatic Habitats	5
4	EXISTING CONDITIONS	5
4.1	Desktop Review	5
4.1.1	MNRF NHIC Make-A-Map: Natural Heritage Areas	5
4.1.2	County of Grey GIS	7
4.1.3	Ontario Nature Reptile and Amphibian Atlas	7
4.1.4	Ontario Breeding Bird Atlas	7
4.1.5	iNaturalist	7
4.2	Vegetation	8
4.2.1	Ecological Land Classification	8
4.2.2	Botanical Inventory	11
4.2.3	Wetlands	11
4.3	Wildlife	12
4.3.1	Breeding Birds	12
4.3.2	Amphibians	12
4.3.3	Incidental Wildlife Observations	12
4.4	Species at Risk	12
4.5	Aquatic Habitats	12
5	ASSESSMENT OF NATURAL HERITAGE FEATURES/AREAS	13
5.1	Significant Wetlands (and Coastal Wetlands)	13
5.2	Other Wetlands (Unevaluated, Non-Provincially Significant)	13
5.3	Significant Woodlands	13
5.4	Significant Valleylands	15
5.5	Significant Wildlife Habitat	15
5.6	Significant Areas of Natural and Scientific Interest	15

5.7	Fish Habitat/Watercourses.....	15
5.8	Habitat of Endangered Species and Threatened Species.....	15
6	PROPOSED DEVELOPMENT	16
6.1	Development Overview	16
7	IMPACT ASSESSMENT	16
7.1	Provincially Significant Wetlands.....	16
7.2	Significant Woodlands	19
7.3	Fish Habitat.....	20
7.4	Additional Recommendations.....	21
7.5	Summary of Technical Recommendations.....	21
8	POLICY AND LEGISLATION COMPLIANCE.....	22
8.1	Environmental Planning Policies.....	22
8.2	Endangered Species Act.....	26
8.3	Migratory Birds Convention Act.....	26
9	CONCLUSIONS	27

LIST OF TABLES

Table 1:	Summary of Site Investigations.....	3
Table 2:	Site Photos (K Fleming 2025).	10
Table 6:	Provincial Planning Statement (2024).....	22
Table 7:	County of Grey Official Plan (Consolidation 2025).....	23
Table 8:	Township of Southgate Official Plan (2022).....	25

LIST OF FIGURES

Figure 1:	Site Location.....	2
Figure 2:	NHIC Map	6
Figure 3:	Existing Conditions	9
Figure 4:	Natural Heritage Features	14
Figure 5:	Conceptual Site Plan	17
Figure 6:	Setbacks and Mitigation Measures.....	18

LIST OF APPENDICES

Appendix A-	Terms of Reference
Appendix B-	Desktop Review
Appendix C-	Species Lists
Appendix D-	Significant Wildlife Habitat Assessment
Appendix E-	Species at Risk Assessment
Appendix F-	CV for Kyle Fleming

1 INTRODUCTION

Roots Environmental Inc. (“Roots”) has been retained by 772082 Highway 10 Inc. to complete an Environmental Impact Study (EIS) for the property located at 772082 Highway 10 in the Township of Southgate, County of Grey as illustrated in *Figure 1 – Site Location*.

The proposed development of the site is for residential and commercial uses. An EIS is required to support an Official Plan Amendment for the development per policies of the Township of Southgate and County of Grey Official Plans. This EIS is also provided to satisfy a future Zoning By-Law Amendment (ZBA) and Draft Plan of Subdivision for the development.

The purpose of the EIS is to identify the presence of any natural heritage features on the site or adjacent lands of 120 metres, assess any impacts resulting from the proposed development, and identify any preventative, mitigative or remedial measures to ensure no negative impacts.

2 POLICY AND LEGISLATION OVERVIEW

A detailed review of relevant environmental legislation and policies will be included in Section 8 of this EIS. This review will include the Provincial Planning Statement, County of Grey Official Plan, Township of Southgate Official Plan, *Endangered Species Act (ESA)* and *Migratory Birds Convention Act*.

3 METHODOLOGY

Preparation for the EIS involves a desktop review of available information, field investigations and consultation with applicable agencies. The following provides a summary of tasks completed for the EIS.

3.1 Consultation with Agencies

3.1.1 Terms of Reference

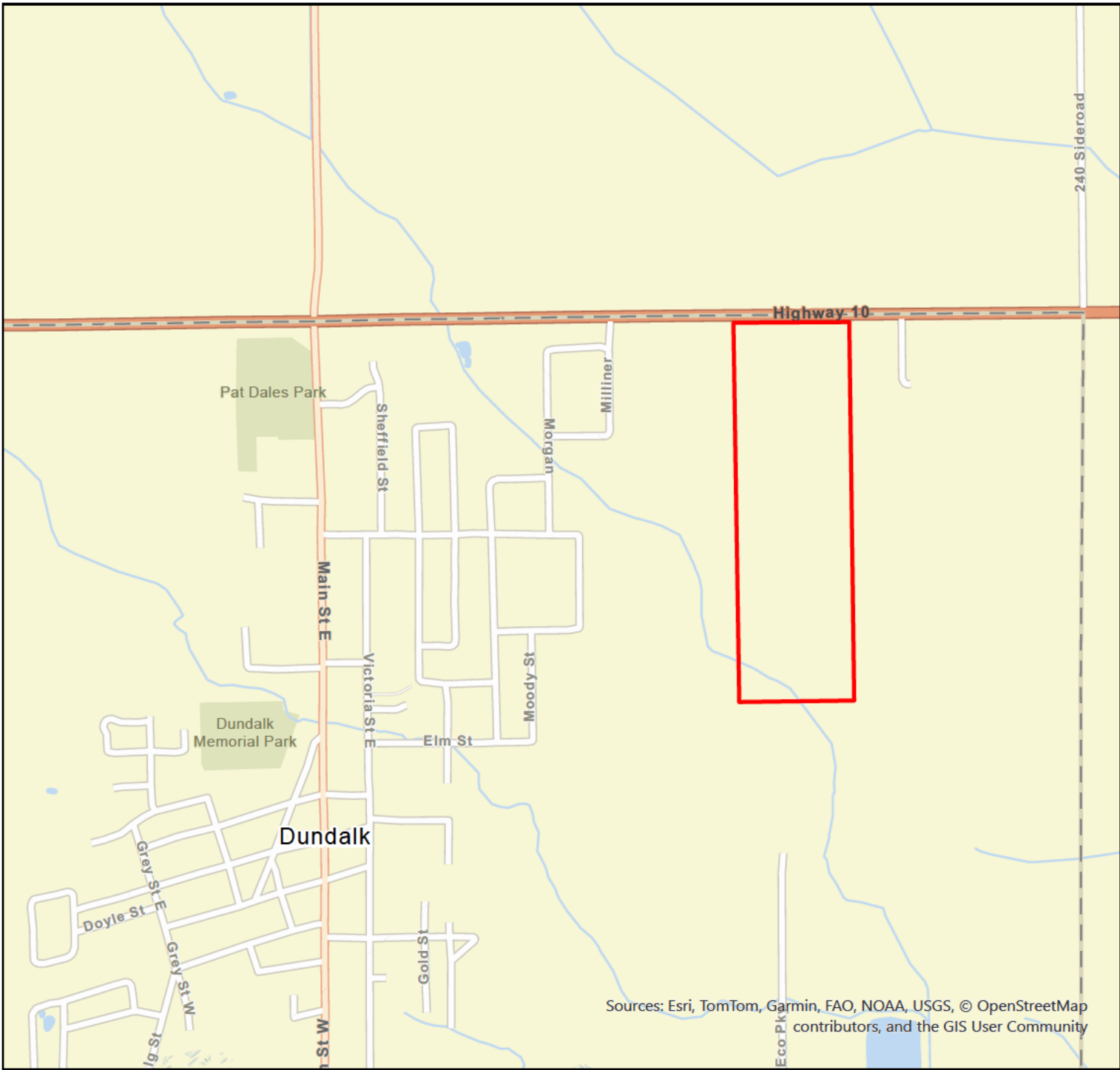
Terms of Reference for the EIS were submitted to the County of Grey and Grand River Conservation Authority (GRCA) on April 8, 2025. The County and GRCA provided comments, which were accepted and included in the preparation of the EIS. The Terms of Reference and County/GRCA comments are included in Appendix A.

A site meeting was also held with County of Grey staff on November 20, 2025, to review preliminary wetland delineation and site constraints.


3.2 Desktop Review

A desktop review was completed to identify previously known natural features and occurrences of rare species or SAR in the Study Area. Sources included the following:

- The Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) Make A Map: Natural Heritage Areas;
- County of Grey and Township of Southgate Official Plans and GIS;



Legend

 Property Boundary

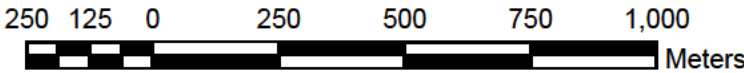
ENVIRONMENTAL IMPACT STUDY

Figure 1
Site Location

772082 Highway 10
Township of Southgate
County of Grey



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



- Ontario Nature Reptile and Amphibian Atlas;
- Ontario Breeding Bird Atlas; and
- iNaturalist.

3.3 Field Investigations

Site investigations were completed in 2025 based on a preliminary desktop review for the Study Area, habitats present on site, and the Terms of Reference for the EIS. Table 1 below provides a summary of dates and tasks completed.

Detailed site investigations were limited to the subject property. Adjacent lands of 120 metres were investigated through roadside observations where possible, aerial photography and background mapping to avoid any contravention of the *Trespass to Property Act*.

Table 1: Summary of Site Investigations

Task	Survey Dates (Duration)	Weather Conditions	Personnel
Bat Maternity Roost Tree Survey	April 24, 2025 (0945 – 1230hrs)	12°C; 2 wind*; 100% (Cloud Cover) (CC)	Kyle Fleming
Breeding Bird Surveys	June 12, 2025 (0645-0805hrs)	16°C; 1 wind; 50% CC	Kyle Fleming
	June 24, 2025 (0718-0830)	26°C; 1 wind; 0% CC	
	July 7, 2025 (0658-0835hrs)	19°C; 1-2 wind; 100% CC	
Vascular Plants Ecological Land Classification	June 12, 2025 (0805-1330hrs)	16°C; 1 wind; 50% CC	Kyle Fleming
	July 29, 2025 (1030-1415hrs)	25°C; 2 wind; 50% CC	
	October 9, 2025 (1300-1645hrs)	16°C; 2 wind; 50-75% CC	
Amphibian Breeding Surveys	April 29, 2025 (2110-2145)	7°C; 1-2 wind; 0% CC	Kyle Fleming
	May 27, 2025 (2100-2135hrs)	14°C; 1 wind; 10% CC	
	June 24, 2025 (2115-2150hrs)	20°C; 1 wind; 0% CC	
Preliminary Wetland Delineation	October 9, 2025 (1300-1400hrs)	16°C; 2 wind; 50-75% CC	Kyle Fleming

*Wind Measurement using Beaufort Scale (0-6)

3.3.1 Vascular Plants

Vascular plant surveys were completed in the spring, summer and fall growing seasons were completed using roving transects through all habitats within the subject property. Adjacent lands were completed using observations from the site property line.

Particular attention was paid during field investigations for rare species and Species at Risk listed under the Ontario *Endangered Species Act*. Incidental observations were also completed during other surveys on site.

The significance of vascular plants sampled was assessed based on the Natural Heritage Information Centre's (NHIC) rankings (S-rank) for provincial rarity.

3.3.2 Vegetation Communities

Vegetation communities were identified using the Ecological Land Classification (ELC) for Southern Ontario, First Approximation (Lee et al., 1998). Polygons within the development area were delineated using aerial photography, field sampled and classified into the most appropriate vegetation type. The polygons were identified based on vegetative cover, soils and landscape features. Vegetation communities within adjacent lands are identified to the Ecosite or Community level dependent on accessibility and/or sightlines from roadside observations.

The significance of the vegetation communities was assessed based on the Natural Heritage Information Centre's (NHIC) provincial rankings where applicable.

3.3.3 Wetlands

A wetland delineation was completed for the Provincially Significant Melancthon Wetland Complex #1 found within the south part of the subject lands and within adjacent lands to the west and south. The north limit of this wetland, where it occurred on the subject lands, was GPS surveyed by Roots in October 2025 in accordance with criterium in the Ontario Wetland Evaluation System (Southern Manual 2022). County of Grey staff conducted a site inspection with Roots in November 2025 and generally agreed with the defined limit.

A subsequent wetland delineation will occur with GRCA and County staff in spring 2026 to confirm the limits. The wetland limit will be subsequently surveyed.

3.3.4 Breeding Birds

Three surveys for breeding bird species were completed using general protocols in the Ontario Forest Breeding Bird Program and Ontario Breeding Bird Survey Guide for Participants (2021 version).

Pre-determined point count sampling stations were spaced to ensure coverage of all habitats (i.e., forest, open meadow, cultural), site conditions (i.e., topography) and to minimize noise influence from adjacent anthropogenic areas.

Surveys were completed early in the morning between 0500-1000hrs, in calm weather conditions. Each survey lasted approximately 10 minutes in duration, where all species detected (auditory and visual) were documented. Additional observations were made during transit between survey stations.

3.3.5 Amphibian Breeding Surveys

Three amphibian breeding surveys for anuran (frog or toad) species were completed adjacent to identified wetlands within the subject property. Surveys were completed using protocols in the Marsh Monitoring Program (MMP) (Bird Studies Canada), which were adapted for this small site. Survey stations are illustrated in Figure 2.

3.3.6 SAR Bat Maternity Roost (Treed)

All treed areas within the subject property were surveyed for the presence of any cavity/snag trees that could support maternity roosting habitat for SAR bat species (*Myotis* spp.) using general criteria in the Species at Risk Bats Survey Note (MECP 2022).

Surveys in woodland polygons included counting all trees that contained suitable snags and/or cavities at each station within a 12.6-m radius. An overall snag density was then calculated using the total number of snags and survey plots completed for treed habitats.

3.3.7 Incidental Wildlife Observations

Incidental observations were made for mammals and herptiles (amphibians and reptiles) during field investigations through observations of physical evidence (scats, tracks) and for shelter, feeding and breeding sites (e.g., vernal pools, rock piles, etc.).

3.3.8 Aquatic Habitats

A tributary of the Grand River, known as the James Foley Drain, flows through the south part of the subject property. This watercourse is contained with the Melancthon Wetland Complex #1 and there will be no development, in-waterworks or crossings associated with this feature. Additionally, setbacks and buffers to the wetland and watercourse will be implemented for protection measures.

As there would be no development or in-water works, detailed habitat assessments of this watercourse are not warranted. General observations on the condition of this watercourse were made during field surveys and are included in this EIS.

4 EXISTING CONDITIONS

4.1 Desktop Review

4.1.1 MNR/NHIC Make-A-Map: Natural Heritage Areas

The NHIC geographic search for the subject property and adjacent lands of 120-metres (Squares 17NJ5090, 17NJ4990, 17NJ5091 and 17NJ4991) was completed to identify previous records for natural features and species in the area as shown on *Figure 2 – NHIC Natural Areas Map*. Occurrences documented by NHIC may include those beyond the site and on habitats suitable to those species. The following records of rare species or SAR were found:

- Eastern Meadowlark (*Sturnella magna*) (S4B, S3N) (Threatened) (THR)
- Bobolink (*Dolichonyx oryzivorus*) (S4B) (THR)
- Snapping Turtle (*Chelydra serpentina*) (S4) (Special Concern) (SC)

The Provincially Significant Melancthon Wetland Complex #1 and unevaluated wetlands are mapped within the south part of the subject property and adjacent lands to the south and west. No other natural heritage features (i.e., ANSI) were identified in the review. A summary of the records is included in Appendix B.

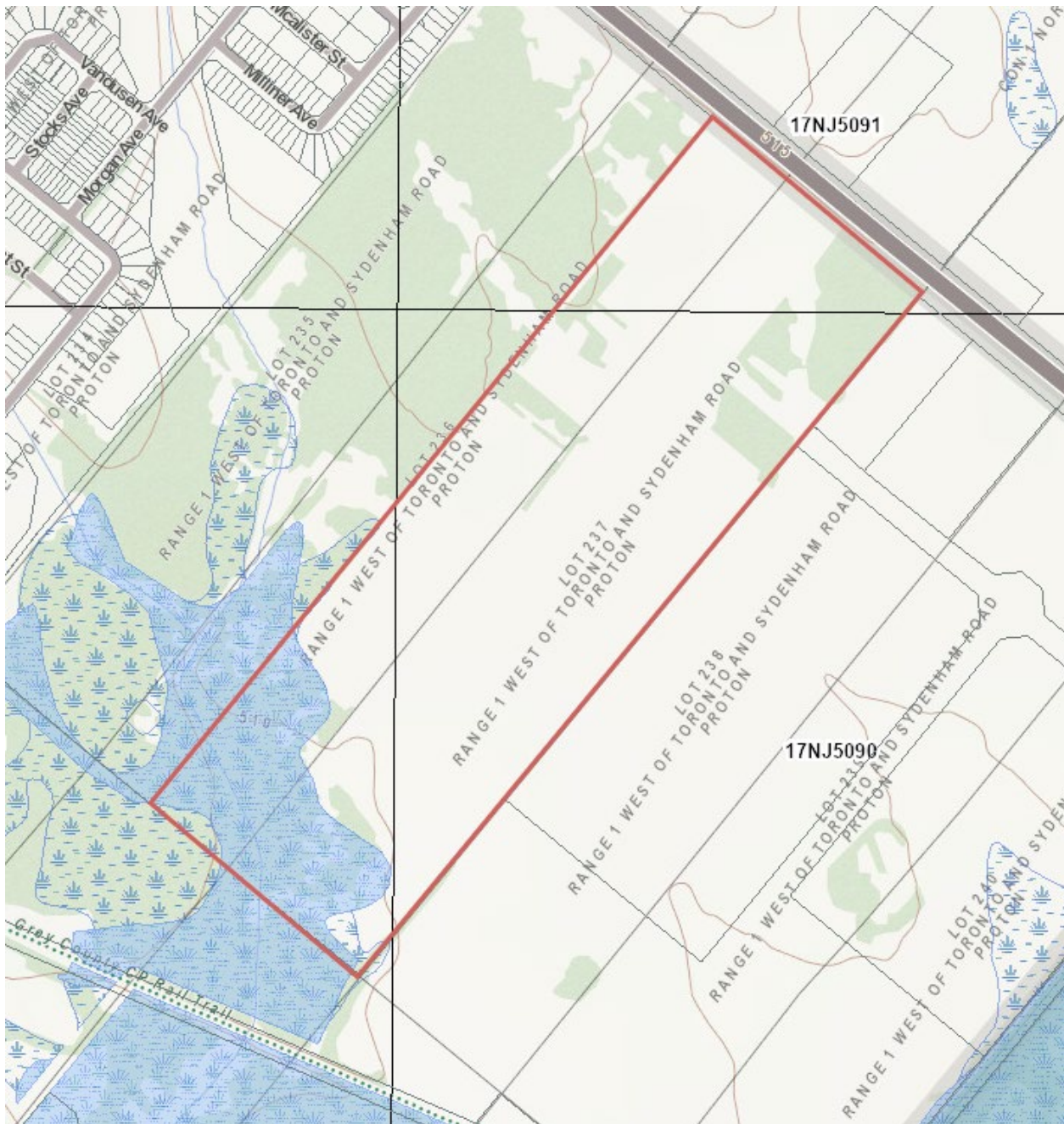


Figure 2: NHIC Map (Property boundary in red border)

4.1.2 County of Grey GIS

Schedule A (Land Use) to the County of Grey Official Plan designates the subject property as Rural, Provincially Significant Wetland and Hazard Lands. The proposed development area will occur entirely in the Rural designation.

Appendix B to the Official Plan identifies the presence of two watercourses in the north part and the James Foley Drain in the south part of the property. Significant Woodlands are also identified in the south part and adjacent lands to the west and further south.

4.1.3 Ontario Nature Reptile and Amphibian Atlas

A geographic query of occurrence square 17NJ49 and 17NJ59 was completed using the Ontario Nature Reptile and Amphibian Atlas (ONRAA) for observations of species collected from 1970-2019.

Observations will include observations beyond the site and on habitats suitable to those species. One Species at Risk (SAR) was identified in the search, the Snapping Turtle (*Chelydra serpentina*) (SC). Other species noted in the search are common to Ontario. A summary of the records is included in Appendix B.

4.1.4 Ontario Breeding Bird Atlas

A geographic query of occurrence square 17NK85 was completed using the Atlas Breeding Birds of Ontario for observations of species collected from 2001-2005. It is noted that these occurrence squares encompass a large area that includes the subject property. Occurrences will include those beyond the subject property and on habitats suitable to those species.

A summary of the search is included in Appendix B. 10 species observed during the Breeding Atlas are listed as a SAR in the *Endangered Species Act*. These species are:

- Eastern Wood-Pewee (*Contopus virens*) (SC)
- Barn Swallow (*Hirundo rustica*) (SC)
- Bank Swallow (*Riparia riparia*) (THR)
- Wood Thrush (*Hylocichla mustelina*) (SC)
- Canada Warbler (*Cardellina canadensis*) (SC)
- Grasshopper Sparrow (*Ammodramus savannarum*) (SC)
- Bobolink (*Dolichonyx oryzivorus*) (THR)
- Eastern Meadowlark (THR)

Other species noted in the search are common to Ontario. An analysis of habitat potential for these significant species is provided in Section 5.

4.1.5 iNaturalist

A geographic query was completed for iNaturalist records within the site and adjacent lands. Two Special Concern species, the Snapping Turtle and Monarch (*Danaus Plexippus*), have been observed within adjacent lands to the subject property. All other species were found to be common (S4 or higher) and non-at-risk in Ontario.

4.2 Vegetation

4.2.1 Ecological Land Classification

Vegetation communities were identified on site using ELC to the vegetation type within the subject property. Provided below are descriptions of communities, which are shown on *Figure 3 – Existing Conditions* and *Table 2 – Site Photos*.

A portion of the site was cleared and tilled in the fall of 2025 to re-establish agricultural uses on the property that had historically been present based on a review of air photos from 2006 – 2020 and the present zoning of Agricultural Zone (A1) in the Township of Southgate Zoning By-Law 19-2002. These agricultural lands will be planted in 2026.

CUP3-3: Scots Pine Coniferous Plantation Type

This community is dominated by planted Scots Pine (*Pinus sylvestris*) with a cultural meadow understory including Reed-canary Grass (*Phalaris arundinacea*), Common Milkweed (*Asclepias syriaca*), Green Ash (*Fraxinus pennsylvanica*), Garlic Mustard (*Alliaria petiolate*), Orchard Grass (*Dactylis glomerata*), Red-osier Dogwood (*Cornus sericea*), Herb Robert (*Geranium robertianum*) and Meadow Horsetail (*Equisetum pratense*).

CUP3-2: White Pine Coniferous Plantation Type

This community is dominated by a stand of semi-mature planted White Pine (*Pinus strobus*) with a cultural meadow understory including Tall Buttercup (*Ranunculus acris*), Garlic Mustard, Orchard Grass, Yellow Avens (*Geum aleppicum*), Tufted Vetch (*Vicia cracca*), Kentucky Bluegrass (*Poa pratensis*) and occasional Green Ash, Norway Spruce (*Picea abies*), Eastern White Cedar (*Thuja occidentalis*) and Staghorn Sumac (*Rhus typhina*).

CUP3-8: White Spruce – European Larch Coniferous Plantation Type

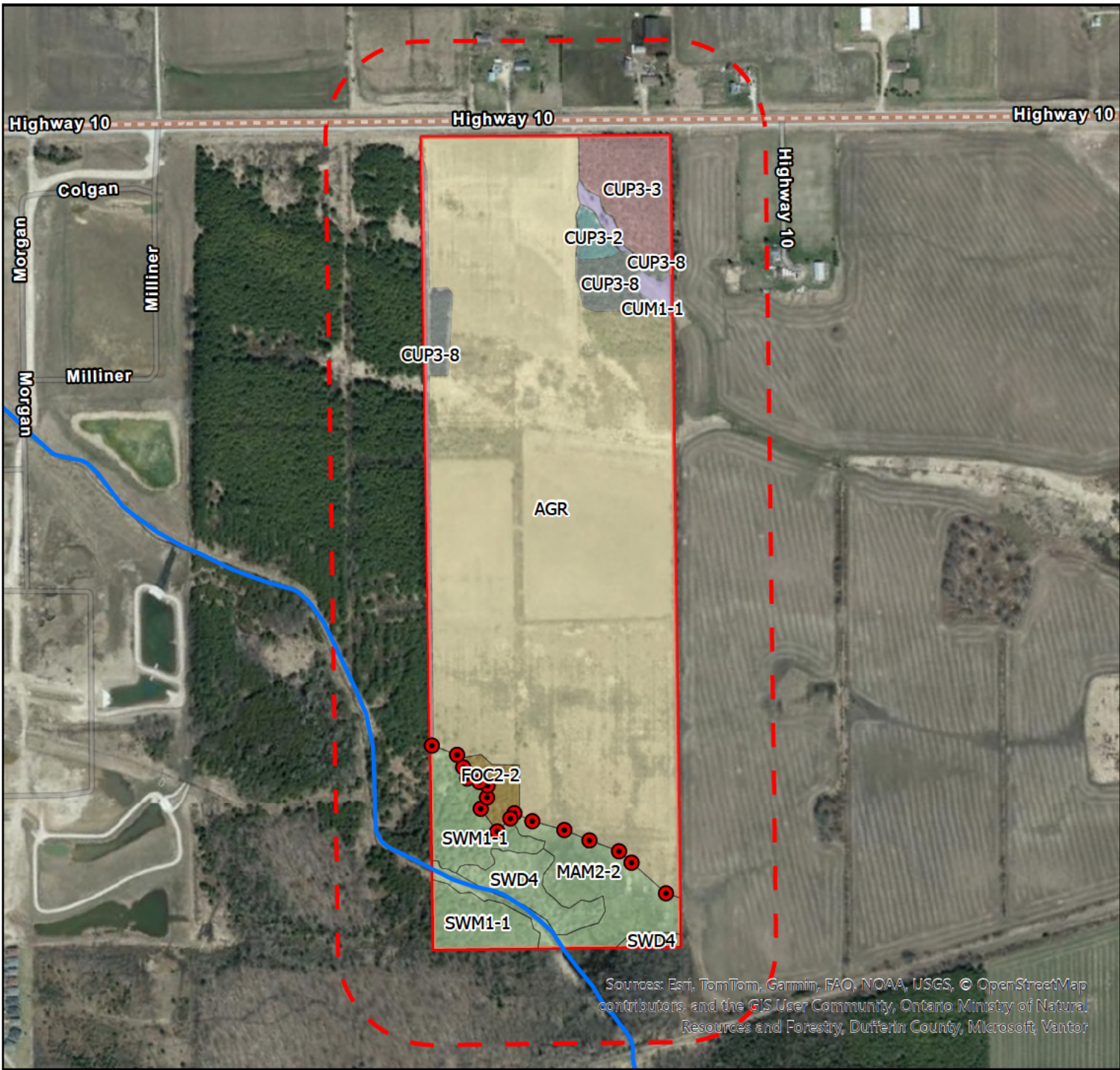
This community is dominated by a stand of semi-mature planted White Spruce (*Picea glauca*) with a cultural meadow understory similar to CUP3-2.

CUM1-1: Dry – Moist Old Field Meadow Type

This corridor of cultural meadow is present between CUP3-3, CUP3-2 and CUP3-8. It is largely comprised of Reed Canary Grass with associates of Dandelion (*Taraxacum officinale*), Green Ash, Scots Pine, Orchard Grass, Tufted Vetch and Field Chickweed (*Cerastium arvense*). Early spring (April 2025) investigation noted that overland drainage flows through this area from the northwest to adjacent lands to the east. This drainage appeared short in duration, as no flow or significant areas of standing water were present in April or May 2025.

AGR: Agricultural Lands

These lands were cleared and tilled in the fall of 2025 (late September) and have no native or naturalized attributes.



Legend

- Property Boundary
- Adjacent Lands (120m)
- Wetland Survey GPS Points
- Watercourse (James Foley Drain)

ELC

- AGR
- CUM1-1
- CUP3-2
- CUP3-3
- CUP3-8
- FOC2-2
- MAM2-2
- SWD4
- SWM1-1

ENVIRONMENTAL IMPACT STUDY

Figure 3
Existing Conditions
772082 Highway 10
Township of Southgate
County of Grey



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Ontario Ministry of Natural Resources and Forestry, Dufferin County, Microsoft, Vantor

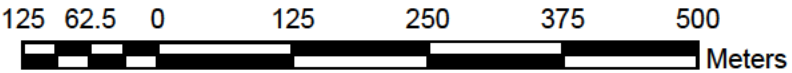


Table 2: Site Photos (K Fleming 2025).

	
<p>Agricultural lands (AGR) in the central part of the subject property.</p>	<p>CUP3-3 (Scots Pine Plantation) in the northeast part of the subject property.</p>
	
<p>CUP3-8 (White Spruce Plantation) in the northeast part of the subject property.</p>	<p>FOC2-2 (White Cedar Forest) in the southwest part of the subject property.</p>
	
<p>The James Foley Drain in the south part of the subject property.</p>	<p>MAM2-2 (Reed Canary Grass Meadow Marsh) in the south part of the subject lands.</p>

FOC2-2: Dry – Fresh White Cedar Coniferous Forest Type

This is a stand of Eastern White Cedar with an almost 100% canopy closure. The understory was found to be largely absent due to a heavy duff layer. Occasional ground flora present included Kentucky Blue Grass, Common Plantain (*Plantago major*) and Common Helleborine (*Epipactis helleborine*).

MAM2-2: Reed-canary Grass Mineral Meadow Marsh Type

This wetland community is part of the Provincially Significant Melancthon Wetland Complex #1 in the south part of the subject property. It was found to be largely dominated by Reed-canary Grass with associates of Panicked Aster (*Symphotrichum lanceolatum*), Spotted Joe-pye Weed (*Eutrochium maculatum*), European Reed (*Phragmites australis*) and Hard-stemmed Bulrush (*Schoenoplectus acutus*). Scattered patches of Red-osier Dogwood and Narrow-leaved Spirea (*Spiraea alba*) were noted, in addition to occasional White Elm (*Ulmus americana*), White Birch (*Betula papyrifera*), Eastern White-Cedar and dead Ash (*Fraxinus* spp.).

SWM1-1: White Cedar – Hardwood Mineral Mixed Swamp Type

Found in the southwest part of the site within the Provincially Significant Melancthon Wetland Complex #1, this community forms a transitional community between AGR lands to the north, MAM2-2 to the east and the James Foley Drain to the south. Dominant cover was found to be Eastern White-Cedar with associates of Trembling Aspen (*Populus tremuloides*), White Elm, White Birch and Green Ash. Groundcover included Sensitive Fern (*Onoclea sensibilis*), Red-osier Dogwood and Reed-canary Grass.

SWD4: Mineral Deciduous Swamp Ecosite

This community was not intensively surveyed as no development would occur within or approximately 60-metres of it. It is largely comprised of deciduous cover, including Trembling Aspen, White Birch, White Elm, Balsam Poplar (*Populus balsamifera*), Eastern White Cedar and dead Ash (*Fraxinus* spp.).

4.2.2 Botanical Inventory

Surveys identified the presence of 116 species. The majority of the proposed development area has been cleared and tilled for existing agricultural uses. No rare species or SAR were found within the development area or adjacent lands. All species were found to be common to similar habitats found in Ontario or are listed as non-native/exotic species. A detailed list of species is provided in Appendix C.

4.2.3 Wetlands

MNR mapping identified the presence of the Provincially Significant Melancthon Wetland Complex #1 in the south part of the subject property and adjacent lands to the west and further south as illustrated in Figures 3. A delineation of the north boundary of this wetland was completed in October 2025 by Roots as illustrated in Figure 3. This new north boundary has been amalgamated with existing MNR wetland mapping to the south and within adjacent lands.

A secondary survey will be completed in the spring of 2026 with GRCA and County staff to confirm this limit. Once that limit has been confirmed, it will be provided to MNR to update their wetland mapping in this area.

GRCA mapping indicates the presence of unevaluated wetlands in the north part of the property. This area has been historically farmed based on aerial imagery from 2006-present and was tilled for agricultural crop planting in 2026. No wetlands are found in this location.

4.3 Wildlife

4.3.1 Breeding Birds

31 bird species were documented on site and adjacent lands. No SAR or rare species were found on site or adjacent lands. Species found included the Black-capped Chickadee (*Poecile atricapillus*), American Robin (*Turdus migratorius*), American Goldfinch (*Spinus tristis*), Blue Jay (*Cyanocitta cristata*), European Starling (*Sturnus vulgaris*), Red-eyed Vireo (*Vireo olivaceus*) and House Sparrow (*Passer domesticus*). A list of species observed is included in Appendix C.

4.3.2 Amphibians

Three amphibian breeding surveys for anuran (frog or toad) species were completed adjacent to identified wetlands within the subject property. No amphibian use (calling) was detected during surveys on the property. Field surveys in April and May 2025 also found no standing water in the wetlands that would provide breeding habitat.

4.3.3 Incidental Wildlife Observations

Incidental wildlife observations made during site visits included the Eastern Grey Squirrel (*Sciurus carolinensis*), Raccoon (*Procyon lotor*), White-tailed Deer (*Odocoileus virginianus*) and Eastern Chipmunk (*Tamias striatus*). These observations are included in Appendix C.

4.4 Species at Risk

A bat roost survey completed for treed areas found no potential roost trees in the entire development area. Wooded areas to be removed included Scots Pine, White Pine and White Spruce plantations, which did not contain suitable roost trees.

No other SAR or habitat was found within the proposed development area based on field investigations completed in 2025.

4.5 Aquatic Habitats

A tributary is found within the south part of the site as illustrated in Figure 3. This tributary is a constructed drain known as the James Foley Drain per Ontario Ministry of Agriculture, Food and Rural Affairs' (OMAFRA) records. MNR data for this drain identify species consistent with warm or cool-warm habitats.

Two watercourses were identified in County Official Plan mapping in the northeast part of the property. No watercourses were found in this location. Drainage may move through this area in the early spring (freshet); however, no defined channels were found.

5 ASSESSMENT OF NATURAL HERITAGE FEATURES/AREAS

Identification of natural heritage features is based on the PPS, the MNRF “Natural Heritage Reference Manual” (2nd Edition) (MNRF 2010), County of Grey Official Plan, Township of Southgate Official Plan, “Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E” (MNRF January 2015), and listings and habitat descriptions for species listed in the ESA.

5.1 Significant Wetlands (and Coastal Wetlands)

The Provincially Significant Melancthon Wetland Complex #1 is found in the south part of the subject property as illustrated in *Figure 4 – Natural Heritage Features*. As development will occur within adjacent lands to this wetland, an impact assessment is provided in Section 7 of this report.

5.2 Other Wetlands (Unevaluated, Non-Provincially Significant)

MNR NHIC mapping identified the presence of unevaluated wetlands within the subject property and adjacent lands to the west. These unevaluated wetlands about the mapped limits of the Provincially Significant Melancthon Wetland Complex #1 and based on a re-delineation of the PSW in 2025, they would now be included in that larger wetland unit. As they are now included in the PSW, no further assessment of impacts is warranted on these Other Wetlands as an impact assessment will be completed for the PSW in Section 7 of this report.

5.3 Significant Woodlands

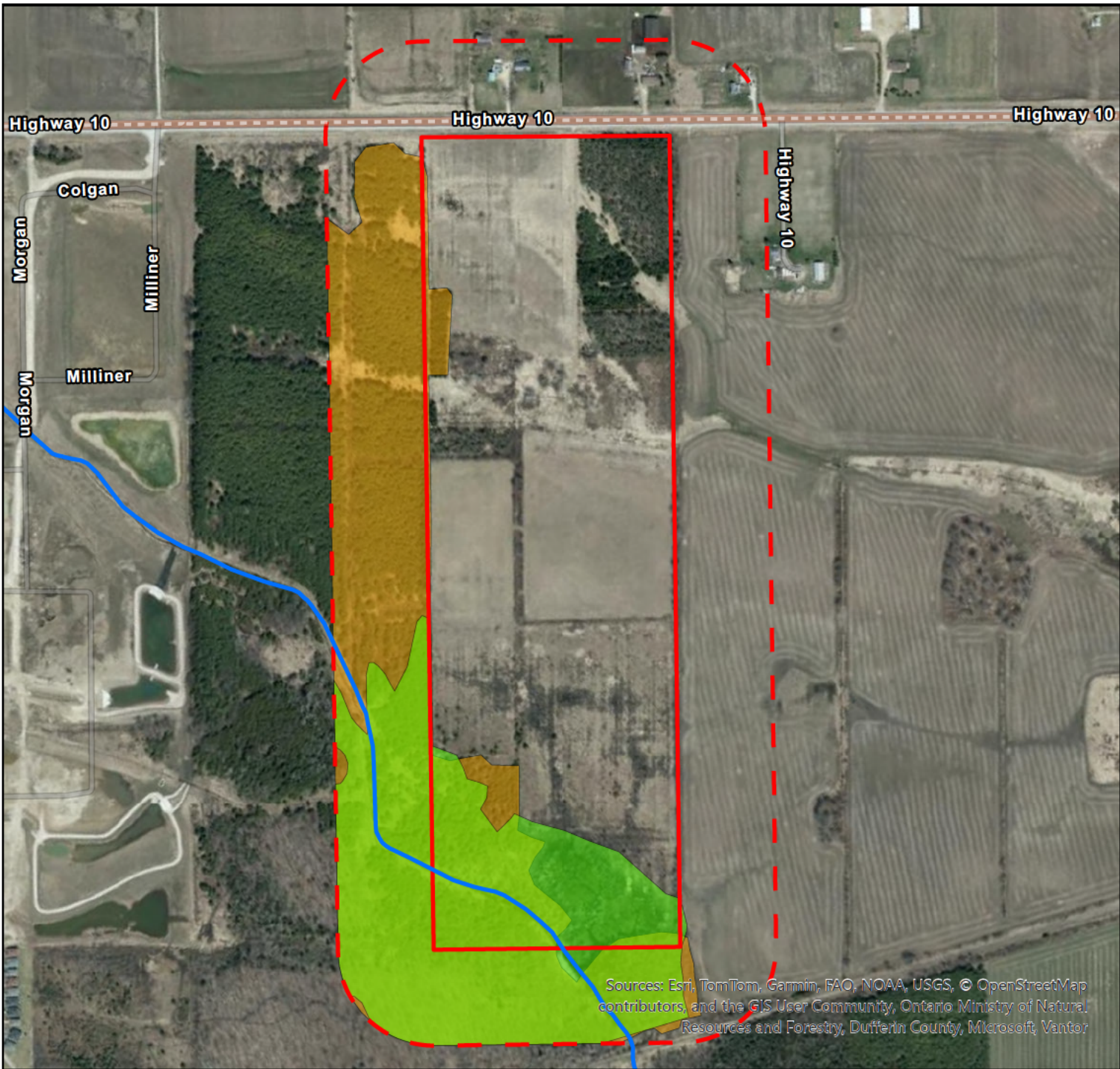
The Natural Heritage Reference Manual (OMNR 2010) states that planning authorities should undertake comprehensive studies to identify significant woodlands in their planning area.

The County of Grey has mapped Significant Woodlands on site in Appendix B to the Official Plan. Section 7.4 of the Official Plan provides criteria for the identification of Significant Woodlands as follows:

- Outside of Settlement Areas: ≥ 40 ha
- Settlement Areas: ≥ 4 ha

A woodland may also be deemed significant if it meets two of the following criteria:

- Proximity to other woodlands (within 30 metres of another Significant Woodland);
- Overlaps with a Provincially Significant Wetland, Significant Coastal Wetland, Core Area, Significant Valleyland or a Significant Area of Natural and Scientific Interest; or
- Interior habitat ≥ 8 ha with a 100-metre buffer on all sides.



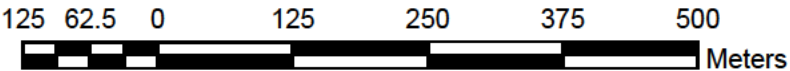
Legend

- Property Boundary
- Adjacent Lands (120m)
- Watercourse (James Foley Drain)
- Provincially Significant Wetlands
- Significant Woodlands

ENVIRONMENTAL IMPACT STUDY

Figure 4
 Natural Heritage Features
 772082 Highway 10
 Township of Southgate
 County of Grey

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Ontario Ministry of Natural Resources and Forestry, Dufferin County, Microsoft, Vantor



The site is not within a Settlement Area as illustrated in Schedule A to the Official Plan; therefore, all woodlands must be ≥ 40 ha in size or meet secondary criteria for significance.

As illustrated in Figure 4, woodlands in the south part of the site have been identified as significant based on their size, proximity to identified Significant Woodland in the County Official Plan and connectivity to the Melancthon Wetland Complex #1.

Other woodland areas, being cultural plantations in the northeast corner of the subject property were found to be too small in size (< 40 ha) and had no connection to either other Significant Woodlands or other natural heritage features.

Based on the presence of this feature within subject property and adjacent lands, an impact assessment is provided in Section 7 of this report.

5.4 Significant Valleylands

No significant valley land features were identified during the desktop review or found during field surveys on the site.

5.5 Significant Wildlife Habitat

An assessment of candidate Significant Wildlife Habitat (SWH) has been completed using the “Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E” (MNRF 2015) based on the results of the desktop review, habitats present and field investigations. The assessment is included as Appendix D. No Significant Wildlife Habitat was identified within the subject property or adjacent lands.

5.6 Significant Areas of Natural and Scientific Interest

A desktop review of available information found no Provincially Significant ANSI within 120 metres of the subject property.

5.7 Fish Habitat/Watercourses

One watercourse, the Jame Foley Drain, was confirmed in the south part of the subject property as illustrated in Figure 4. No other watercourses or aquatic habitats capable of supporting fish habitat were found. Based on the presence of this feature within adjacent lands to the proposed development, an impact assessment is provided in Section 7 of this report.

5.8 Habitat of Endangered Species and Threatened Species

A SAR Assessment was completed for existing records within the property and adjacent lands obtained through the desktop review. Subsequent field investigations 2025 found no habitats present for those species in the desktop review or otherwise listed in the ESA. The results of the SAR Assessment are provided in Appendix E.

Based on this assessment and field investigations, habitat for threatened or endangered species is not present within the proposed development area.

6 PROPOSED DEVELOPMENT

6.1 Development Overview

The proposed development will include blocks for Single Detached, Townhouse Dwellings, Commercial Mixed-use, Park, Walkways, SWM Ponds, Open Space and Environmental Protection areas within the subject property as illustrated in *Figure 5 – Conceptual Site Plan*. The site will be on municipal servicing and will be accessed by a collector road originating from the adjacent property to the east.

7 IMPACT ASSESSMENT

Three natural heritage features have been identified on the site and adjacent lands:

- Provincially Significant Wetlands;
- Significant Woodlands; and
- Fish Habitat.

This section will assess potential impacts to these features and ecological functions resulting from the proposed development and provides mitigation measures to ensure no negative impacts. This report utilizes the definition of a “negative impact” in the PPS (Page 48) “*in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.*”

7.1 Provincially Significant Wetlands

As illustrated in Figures 5 and 6 – *Setbacks and Mitigation*, all development will occur outside the defined limits of the Provincially Significant Melancthon Wetland Complex #1, therefore, no direct impacts are anticipated.

Potential indirect impacts to the wetland on adjacent lands resulting from the proposed development during and post-construction could include the following:

- Changes in drainage patterns would reduce hydrological input to the wetland.
- Sediments and/or contaminants leaving the development area and entering the wetland.
- Removal of vegetation adjacent to the wetland could impact the thermal regime, reduce nutrients, increase erosion, etc.

A setback of 30-metres is recommended from the north limit of the wetland to development as illustrated in Figures 5 and 6. Currently, this setback is used for agricultural purposes. The setback shall be restored with native vegetation (i.e., seed mix, trees and shrubs) through the provision of a landscaping plan for the development at detailed design. All species proposed shall be suitable to site conditions, including soils, sun exposure and drainage.



CONCEPTUAL SITE PLAN



- LEGEND**
- Subject Lands (313,283,95m² / 31,33 ha)
 - Development Limit (242,104,55m² / 24,21 ha)
 - Single Detached Dwellings (82,789,68m² / 9,26 ha)
 - Standard Townhouse Dwellings (8,089,15m² / 0,81 ha)
 - Commercial Mixed-Use (61,292,33m² / 6,13 ha)
 - Park (4,087,25m² / 0,41 ha)
 - Walkways (720,00m² / 0,07 ha)
 - S/J/A, Ponds (19,631,88m² / 1,96 ha)
 - Open Space (1,921,85m² / 0,19 ha)
 - Environmental Protection (71,085,26m² / 7,11 ha)

Note: Information shown is approximate and subject to change.

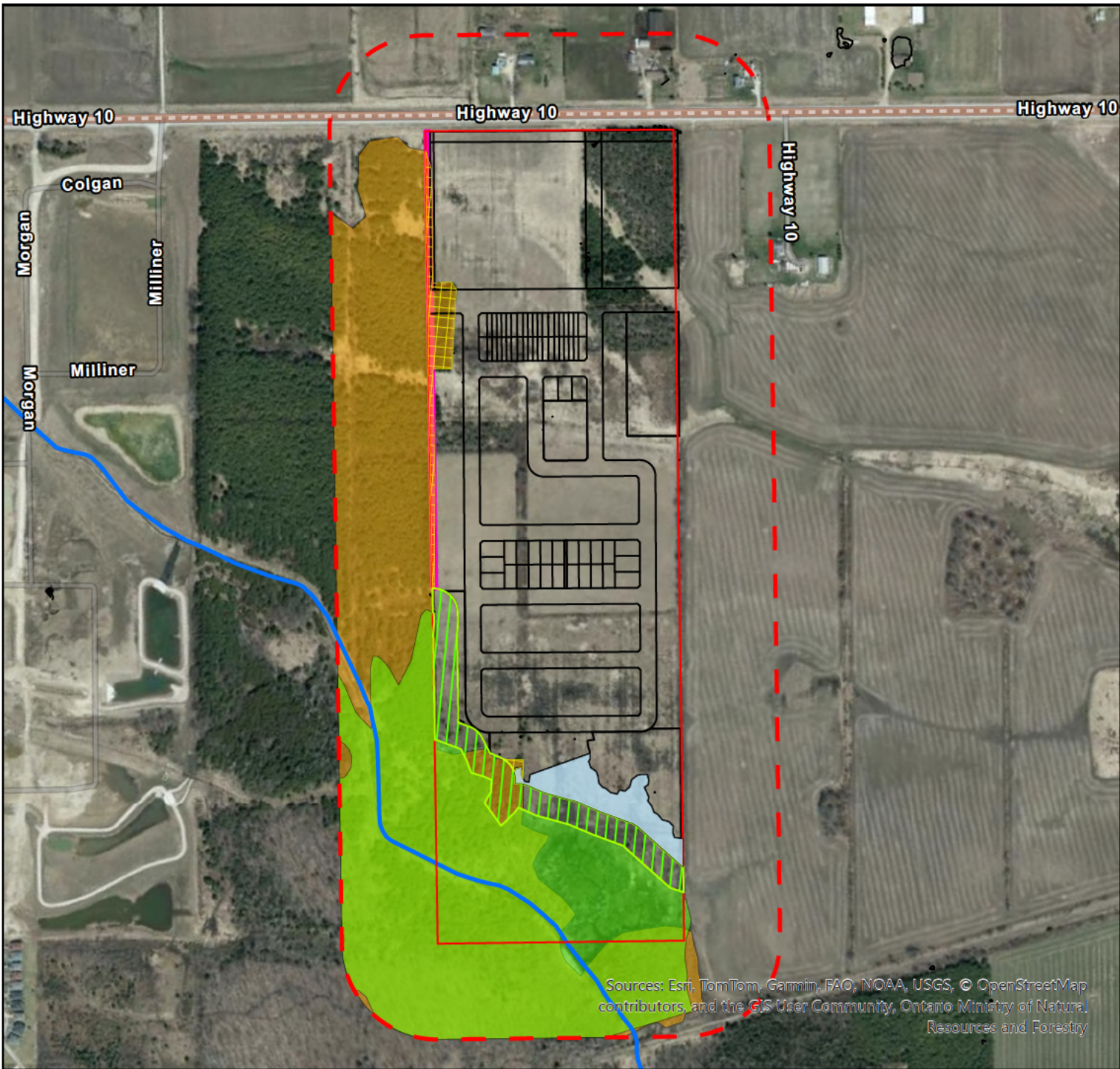
CONCEPTUAL SITE PLAN

772082 HWY. 10, DUNDALK

SCHEDULE OF REVISIONS			
No.	Date	Description	By

IPS INNOVATIVE PLANNING SOLUTIONS
 PLANNERS - PROJECT MANAGERS - LAND DEVELOPMENT
 1800 STEELES AVE. W. SUITE 200A, VAUGHAN, ON L4L 4G9 | TEL: 905.709.0821
 info@innovativeips.com | www.innovativeips.com

Date: Jan, 5, 2026 Drawn By: A.S.
 File: 23-1342 Checked: D.G.



Legend

- Property Boundary
- Adjacent Lands (120m)
- Significant Woodlands
- Significant Woodlands to be Removed (0.58ha)
- Woodland Setback (5 m)
- Provincially Significant Wetlands
- Wetland Setback (30m) (to be restored)
- Floodplain Area (to be restored)
- Watercourse (James Foley Drain)

ENVIRONMENTAL IMPACT STUDY

Figure 6
 Setbacks and Mitigation Measures
 772082 Highway 10
 Township of Southgate
 County of Grey

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Ontario Ministry of Natural Resources and Forestry



Temporary grading will be required during restoration of the setback. It is recommended that silt fence be installed at the limit of the wetland during restoration and maintained until completed. Silt fence shall also be installed at the limit of the development and maintained until all construction is completed to ensure no sediments enter the setback area.

A water balance for the development will be completed by Tatham Engineering in accordance with GRCA requirements at detailed design. The site will be designed to mitigate infiltration deficits from development through incorporation of infiltration based Low Impact Development (LID) measures.

A spring 2026 delineation will be completed with GRCA and County staff to confirm the north boundary of this wetland. Any changes to the wetland limit will be incorporated into the site plan at detailed design.

As a 30-metre setback to development will be implemented and restored with native vegetation, silt fencing will control sediments leaving the site during construction, and development will not result in a significant impact to the hydrological regime of the wetland, no negative impacts are anticipated to this feature resulting from the proposed development.

7.2 Significant Woodlands

Significant Woodlands are present within the subject property and adjacent lands to the west and south as illustrated in Figure 4. The test of 'negative impact' in this case is to determine if removal of woodland would result in a reduction in the overall size and degradation of those supporting characteristics that would diminish significance.

The proposed development will remove approximately 0.58 ha of Significant Woodlands along the westerly limit of the site and 0.02 ha in the south part as illustrated in Figure 6. These woodland areas are comprised of cultural plantation (CUP3-8) and coniferous forest (FOC2-2). No significant ecological functions were found within these woodlands.

To mitigate loss of these woodlands, it is recommended that planting of trees and shrubs be completed in the setback to the PSW (See Section 7.1) and Floodplain Area (refer to Figure 6). The setback and floodplain areas are currently used for agricultural purposes except for a small area of FOC2-2 woodland present. Planting will directly abut existing Significant Woodlands on site and adjacent lands to the west, and will measure approximately 2.15 ha, thereby, resulting in an overall increase in size of the Significant Woodlands by 1.16 ha post-development.

Potential indirect impacts to Significant Woodlands on adjacent lands resulting from the proposed development during and post-construction could include the following:

- Impacts to adjacent retained vegetation during construction, including incidental harm or soil compaction from machinery in the rooting zone.
- Human disturbance through encroachment, dumping of refuse and garden waste, etc.
- Planting of non-native invasive species that can impact native species in the retained woodland.
- Alteration of drainage patterns to retained woodlands.

To mitigate indirect impacts resulting from the proposed development, the following measures are recommended:

- Implement a 5-metre setback along the west limit of the property that abuts retained woodlands on adjacent lands. No significant ecological functions were found to be associated with this cultural plantation. A 5-metre setback will ensure no intrusion into the rooting zone.
- Establish a Tree Protection Limit at the limit of the 5-metre setback and 30-metre setback area for the PSW (Section 7.1). The protection limit shall be clearly marked prior to and during construction to ensure no incidental intrusion in this area.
- Locate all equipment, storage areas, fueling outside of the Tree Protection Limit.
- Preparation of an Edge Management Plan for retained woodland edges that will illustrate the Tree Protection Limit and document mitigation measures to reduce impacts to abutting treed areas. It shall include plantings of native, non-invasive trees, shrub, and groundcover along the new forest edge where appropriate as determined by a qualified professional.
- Match existing grades along the edges of retained woodland and setbacks to maintain drainage patterns.
- Installation of fencing (ex. post-wire, cedar rail, etc.) along the rear lot lines of all development abutting the setbacks.
- An Environmental Pamphlet is prepared and provided for new purchasers of residences abutting the retained woodlands and setbacks. This Pamphlet shall advise residents of the potential impacts of re-moving vegetation within the woodlands, planting non-native invasive species, dumping of refuse and garden waste into the woodland area, and allowing urban pets (i.e., cats) to free-range outside of their properties.

Based on the retention of woodlands on site and adjacent woodlands which will continue to meet size requirements for significance, restoration of setbacks that will result in an overall increase in woodland area, and implementation of mitigation measures to reduce indirect impacts pre-to-post-development, no negative impacts are anticipated resulting from the proposed development.

7.3 Fish Habitat

The James Foley Drain is located within adjacent lands to the proposed development as illustrated in Figures 6. There will be no in-water works or alterations to this watercourse resulting from the proposed development.

Potential indirect impacts to the watercourse on adjacent lands resulting from the proposed development during and post-construction could include the following:

- Changes in drainage patterns reducing hydrological or hydrogeological input to the watercourse.
- Sediments and/or contaminants leaving the development area and entering the watercourse.
- Removal of vegetation adjacent to the watercourse could impact the thermal regime, reduce nutrients, etc.

All development will be set back 104-metres or greater to this watercourse. This setback will include existing retained woodland and wetland vegetation, and restored setback and floodplain areas where it has previously been disturbed. This vegetated setback will be maintained to provide a buffer for any incidental sediments and/or contaminants leaving the site post-construction.

To reduce potential impacts during construction, it is recommended that Erosion Sediment Control (ESC) fence be installed at the limit of setbacks and maintained until all construction and landscaping of the restoration of those setback areas are completed. This fence will assist in capturing any sediments from the construction area, preventing sedimentation into the watercourse and setback areas.

A water balance for the development will be completed by Tatham Engineering in accordance with GRCA requirements at detailed design. The site will be designed to mitigate infiltration deficits from development through incorporation of infiltration based Low Impact Development (LID) measures, thereby maintaining any groundwater contributions to the watercourse.

As no in-water works or alternations will occur, a vegetated setback will be maintained and enhanced, and LID measures will ensure infiltration and groundwater contributions are maintained, we anticipate no negative impacts to fish habitat resulting from the proposed development.

7.4 Additional Recommendations

To avoid potential direct impacts (i.e. destruction of nests), it is recommended that no clearing of vegetation occur between April 1 – August 31st per Environment Canada’s general nesting periods of migratory birds. This window will also provide protection for other migratory bird species on site.

To mitigate light impacts to wildlife in retained natural areas and setbacks post-construction, it is recommended that all street lighting be directed away from those natural areas or have downward deflectors.

7.5 Summary of Technical Recommendations

The following provides a summary of technical recommendations for mitigation measures made in this EIS to ensure no negative impacts to identified natural heritage features and their ecological functions, and for compliance with applicable municipal and provincial policy and legislation.

- A setback of 30-metres is recommended from the north limit of the wetland to development as illustrated in Figures 5 and 6.
- The 30-metre setback shall be restored with native vegetation (i.e., seed mix, trees and shrubs) through provision of a landscaping plan for the development at detailed design.
- Silt fence is installed at the limit of the wetland during restoration and maintained until completed. Silt fence shall also be installed at the limit of the development and maintained until all construction is completed to ensure no sediments enter the setback area.
- A spring 2026 delineation will be completed with GRCA and County staff to confirm the north boundary of this wetland. Any changes to the wetland limit will be incorporated into the draft plan/site plan at detailed design.
- Restoration occurs in the Floodplain Area, which is to include planting of native trees and shrubs.

- Implement a 5-metre setback along the west limit of the property that abuts retained woodlands on adjacent lands.
- Establish a Tree Protection Limit at the limit of the 5-metre and 30-metre setback areas. The protection limit shall be cleared marked prior to and during construction.
- Locate all equipment, storage areas, fueling outside of the Tree Protection Limit.
- Preparation of an Edge Management Plan for retained woodland edges that illustrates the Tree Protection Limit and document mitigation measures to reduce impacts to abutting treed areas.
- Match existing grades along the edges of retained woodland and setbacks to maintain drainage patterns.
- Installation of fencing (ex. post-wire, cedar rail, etc.) along the rear lot lines of all development abutting the setbacks.
- An Environmental Pamphlet is prepared and provided for new purchasers of residences abutting the retained woodlands and setbacks.
- No clearing of vegetation occurs between April 1 – August 31st.
- All external lighting (i.e., streetlights) includes deflectors to direct impact downward and away from the retained woodlands and setbacks.

8 POLICY AND LEGISLATION COMPLIANCE

8.1 Environmental Planning Policies

The following tables provide a summary of planning policies and rationale for compliance with the Provincial Planning Statement, County of Grey Official Plan and Township of Southgate Official Plan for the proposed development. This environmental policy consistency and conformity was undertaken by Charles F. Burgess, MCIP, RPP of Burgess Gleason Environmental Inc.

Table 3: Provincial Planning Statement (2024)

Section	Policy	Policy Consistency
4.1.3	Natural heritage systems shall be identified in Ecoregions 6E and 7E ¹ recognizing that they will vary in size and form in settlement areas, rural areas, and prime agricultural areas.	Natural Heritage Systems (NHS) are typically illustrated on Schedules to the regional Official Plan (County) and local Official Plan (Township of Southgate). A NHS has not been identified on the subject property based on Schedule C to the County's OP.
4.1.4	Development and site alteration shall not be permitted in significant wetlands and coastal wetlands.	A provincially significant wetland exists in the southern part of the subject property. All new development will be located outside this natural heritage feature sufficiently setback from the wetland area.

4.1.5	Development and site alteration shall not be permitted in valleylands, woodlands, wildlife habitat, and ANSI that are significant including coastal wetlands unless it has been demonstrated that there will be no negative impacts on the natural feature and their ecological functions.	There are no significant valley lands or ANSI on the subject property based on an evaluation of existing information and field inspections. However, significant woodland exists on the property based on our assessment. It has been demonstrated that there will be no negative impacts on this natural heritage feature given the minor loss of forested area and the proposed restoration efforts (refer to Section 7.2).
4.1.6	Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.	A watercourse (James Foley Drain) exists in the southern part of the subject lands. No in-water works or alterations are proposed in association with this watercourse. Further, all new development will be setback a minimum of 30 metres from this watercourse and fish habitat (refer to Section 7.3).
4.1.7	Development and site alteration shall not be permitted in habitat of endangered species and threatened species except in accordance with provincial and federal requirements.	The field inspection and evaluation has demonstrated that the proposed development will be located in an area that is devoid of any habitat of endangered or threatened species. On this basis, the provisions of the <i>Endangered Species Act</i> will be met through this planning process and development.
4.1.8	Development and site alteration shall not be permitted on adjacent lands to features identified in 4.1.4, 4.1.5, and 4.1.6 unless it has been demonstrated that there will be no negative impacts.	The proposed development will be located adjacent to provincially significant wetland (4.4), significant woodland (4.5), and fish habitat (4.6). It has been demonstrated that there will be no negative impacts on these natural heritage features given that all new development will be sufficiently setback from the significant wetland and fish habitat. Further, the minor loss of significant woodland will be offset through the proposed restoration efforts and planting scheme.

Table 4: County of Grey Official Plan (Consolidation 2025)

Section	Designation	Conformity
Schedule A (Map 2)	The subject property is designated Rural, Hazard Lands, and Provincially Significant Wetland and Significant Coastal	All new development will be located outside the Hazard Lands and Provincially Significant Wetland and Significant Coastal Lands

	Lands according to the Land Use Schedule to the Official Plan.	designation on lands currently designated Rural.
Schedule C Natural Heritage System Core Areas and Linkages	This Schedule shows the County's Natural Heritage System (NHS).	Based on Schedule C, the subject lands are outside the County's NHS.
Appendix A (Map 2)	This Appendix shows the constraints within the County including karst topography and woodland fire risk.	Based on this Appendix, the subject property is located outside any karst area as shown on Map 2.
Appendix B (Map 2)	This Appendix illustrates the constraints within the County including natural heritage features such as significant woodlands.	This Appendix shows that a significant woodland and stream exist on the property. The proposed land use and development will be generally located outside the woodland feature. Further, a development setback will be provided from the watercourse (James Foley Drain).
Section 7 Natural Grey	This section provides a framework for the protection of natural heritage features in the County. It also defines adjacent lands to natural heritage features such as wetlands and significant woodlands where an Environmental Impact Study (EIS) is required.	For the purposes of the subject property, adjacent lands are defined based on the Official Plan as within 120 metres from a significant wetland and a significant woodland which are located on the property. As a result, an EIS is required to assess the impacts of development on the adjacent natural features. On this basis, the analysis and results of this EIS have demonstrated that there will be no negative impacts on these natural heritage features and their ecological function.
Section 7.3	Section 7.3 identifies that all new development is not permitted in provincially significant wetlands.	A significant wetland exists in the southern part of the property. All new development will be located outside this natural heritage feature sufficiently setback a minimum of 30 metres.
Section 7.4	This Section provides a policy framework for Significant woodlands.	A significant woodland exists on the property based on our assessment. It has been demonstrated that there will be no negative impacts on this natural heritage feature given the minor loss of forested area and the proposed restoration efforts through the proposed plantings (refer to Section 7.2).

Section 7.9	This Section provides policy direction on the protection of fish habitat.	A watercourse (James Foley Drain) exists in the southern part of the subject lands. No in-water works or alterations are proposed in association with this watercourse. Further, all new development will be setback a minimum of 30 metres from this watercourse and fish habitat (refer to Section 7.3).
Section 7.11	This policy section illustrates the criteria for the preparation and development of an EIS.	This EIS has been prepared in accordance with the Terms of Reference and the general requirements of this section.

Table 5: Township of Southgate Official Plan (2022)

Schedule/Section	Designation/Policy	Conformity
Map 2 (Dundalk) to Schedule A (Land Use)	The subject property is designated Provincially Significant wetland, Hazard Lands, and within a Special Policy Area based on Map 2 to Schedule A.	An Official Plan Amendment with associated studies including this EIS are intended to allow the proposed residential and commercial uses on the property. Further, all new development will be located outside the hazard lands and Provincially Significant Wetland per the Preliminary Functional Servicing & Stormwater Management Report (Tatham February 2026) and this EIS.
Schedule C (Natural Heritage Features)	This Schedule shows the constraints within the Township including ANSI and Significant Woodlands.	Based on this Schedule, the subject property contains a stream, Significant Woodland, and other wetland. All new development will be located outside the wetland area and watercourse corridor. While there will be a minor loss of significant woodland, it has been demonstrated that there will be no negative impacts on this natural heritage feature and its ecological function.
Schedule D (Natural Heritage Core and Linkages)	This Schedule shows the Township's Core features and Linkage areas.	The subject property is located outside any Core or Linkage area based on Schedule D.
Policy 6.2	This Section provides a policy framework for Significant woodlands.	A significant woodland exists on the property based on our assessment. It has been demonstrated that there will be no negative impacts on this natural heritage feature given the minor loss of forested area and the proposed restoration efforts through the

		proposed plantings (refer to Section 7.2 of this EIS).
Policy 6.7	This Section provides policy direction on the protection of fish habitat.	A watercourse (James Foley Drain) exists in the southern part of the subject lands. No in-water works or alterations are proposed in association with this watercourse. Further, all new development will be setback a minimum of 30 metres from this watercourse and fish habitat (refer to Section 7.3 of this EIS).
Policy 6.12	This policy section illustrates the criteria for the preparation and development of an EIS.	This EIS has been prepared in accordance with the Terms of Reference and the general requirements of this section.
Policy 6.13	This Section provides a framework for Conservation Authority Regulated Areas.	The flood plain and wetland area plus 30m is subject to Ontario Regulation 41/24 under the <i>Conservation Authorities Act</i> . A permit is required from the GRCA for any development in this Regulated area.

8.2 Endangered Species Act

A separate confidential addendum has been completed and included all information pertaining to species listed as threatened and/or endangered in the Ontario *Endangered Species Act* as required by the Township.

8.3 Migratory Birds Convention Act

Tree and shrub species found within the subject site can support nesting migratory birds as defined under the *Migratory Birds Convention Act*. Provided timing restrictions of April 1 – August 31st for any clearing of trees and/or shrubs is implemented, no contravention of the *Migratory Birds Convention Act* is anticipated.

9 CONCLUSIONS

Roots Environmental Inc. has been retained by 772082 Highway 10 Inc. to complete an Environmental Impact Study in support of applications for residential and commercial development on the property known at 772082 Hwy 10, Township of Southgate, County of Grey.

Three natural heritage features: Provincially Significant Wetlands, Significant Woodland and Fish Habitat were identified on the property and adjacent lands to the proposed development.

Provided development occurs as shown on the proposed draft/site plan and mitigation measures in this report are implemented, we anticipate no negative impacts to identified natural heritage features on the subject lands.

Respectively submitted by Roots Environmental Inc.:

A handwritten signature in blue ink that reads "Kyle Fleming". The signature is stylized and includes a large flourish at the end.

Kyle Fleming, BSc. (Wildlife)
Senior Ecologist

REFERENCES

Government of Ontario. 2024. Provincial Planning Statement. Queen's Printer of Ontario.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P.Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Natural Heritage Information Centre (NHIC) Database. 2021. Provincial Status of Plants, Wildlife and Vegetation Communities Database. Ministry of Natural Resources and Forestry, Peterborough.

Ontario Ministry of Natural Resources and Forestry. January 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.

Ontario Ministry of Natural Resources and Forestry. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005.

Tatham Engineering. Draft February 2026. Preliminary Functional Servicing & Stormwater Management Report.

APPENDIX A

Terms of Reference

April 8, 2025

Planning and Development
County of Grey
595 9th Avenue East
Owen Sound, ON N4K 3E3

RE: **Terms of Reference - Environmental Impact Study**
772082 Highway 10 (Roll # 420709000504101)
Township of Southgate
Grey County

1. Introduction/Background

Roots Environmental ('Roots') has been retained by 772082 Highway 10 Inc. to complete a Terms of Reference for an Environmental Impact Study (EIS) in support of an Official Plan Amendment (OPA), Zoning By-law Amendment (ZBA) and Draft Plan of Subdivision for the above-mentioned property. The location of the property is illustrated in Figure 1.

Grey County provided pre-submission comments in their letter of November 13, 2024. Those comments provided information on the subject property and natural heritage features/functions that must be considered through preparation of an EIS. The comments also requested the submission of a Terms of Reference for the EIS.

The Grand River Conservation Authority (GRCA) provided comments in their letter of October 30, 2024, in which they identified the presence of wetlands, and a flooding hazard and/or watercourse.

Based on comments from the County and GRCA, a desktop review of applicable information sources and mapping, and review of current aerial photography, the following natural heritage features may be present on site:

- Provincially Significant Wetlands (Melancthon Wetland Complex);
- Unevaluated Wetlands;
- Watercourse(s);
- Significant Woodlands;
- Significant Wildlife Habitat; and
- Habitat of Endangered and Threatened Species.

This Terms of Reference (TOR) is provided to address policies and requirements the County of Grey and GRCA. The TOR will be appended to the EIS.

Field investigations, analysis, and consultation with applicable agencies as part of the EIS will confirm the extent of existing mapped natural areas and any other unmapped natural areas/features within or adjacent to the property. Adjacent lands include 120 metres from the subject property.

The purpose of this EIS will be to identify all natural heritage features and ecological functions that could be impacted by the proposed development, assess those impacts and provide mitigation measures as necessary to ensure compliance with all policies in the applicable municipal and Provincial plans, and legislation.



Figure 1: Subject property

2. Work Plan

The following work plan is recommended based on requirements in the County of Grey Official Plan and comments, GRCA comments and a preliminary review of habitats and natural features present within the subject property and adjacent lands. For the purpose of this TOR, the work plan includes a summary of information to be reviewed as part of a Desktop Review, Field Investigations to be completed in 2025 and draft Table of Contents for the EIS.

1. Desktop Review:

- Current aerial photography.
- Land Information Ontario (LIO).
- Natural Heritage Information Centre.
- Department of Fisheries and Oceans (DFO) Aquatic Species at Risk (SAR) Map.
- Wildlife Atlases.
- Citizen Science Databases.
- Watershed and Natural Heritage Reports where available (e.g., Watershed Reports, EIS reports for the area, etc.).
- Grey County Official Plan.
- GRCA Regulation Mapping.

2. Field Investigations:

- *Botanical Surveys*: Three surveys to take place during spring (May to early June), summer (July to August) and fall (August to October) to identify any rare species or Species at Risk (SAR).
- *Breeding Birds*: Three surveys will be conducted (May 24 – July 10) during the breeding bird season at an appropriate time of day in appropriate weather conditions following generally accepted scientific protocols (i.e. the 2021 Ontario Breeding Bird Survey Guide for Participants).
- *Ecological Land Classification (ELC)*: The vegetation communities on the properties will be identified during the spring/summer using the Ecological Land Classification (ELC) for Southern Ontario (1st Approximation) to vegetation type, where possible.
- *SAR Bat Maternity Roost (Treed) Surveys*: Complete surveys per MECP protocols in the Species at Risk Bats Survey Note (2022).
- *Amphibian Breeding Surveys*: Three surveys will be completed in the spring season (April – June) (weather dependent) using general protocols in the Bird Studies Canada ‘Marsh Monitoring Program’ to identify Significant Wildlife Habitat (SWH) associated with any wetland and/or woodland vernal pool habitats.
- *Wetland Delineation*: delineate the boundaries of wetland within and/or adjacent to the subject property (where available) using protocols in the Ontario Wetland Evaluation System (OWES) (2022). Boundary to be confirmed by GRCA and the County.

- *Incidental Wildlife Observations*: Incidental observations for mammals and herptiles (amphibians and reptiles) during field investigations through observations of physical evidence (scats, tracks) and for shelter, feeding and breeding sites (e.g., wetlands, rock piles, etc.).

3. Table of Contents

1. Introduction
2. Policy and Legislation Overview
3. Methodology
4. Existing Conditions
 - 4.1. Desktop Review
 - 4.2. Physiography
 - 4.3. Vegetation
 - 4.3.1. Ecological Land Classification (ELC)
 - 4.3.2. Botanical Inventory
 - 4.4. Wildlife
 - 4.4.1. Breeding Birds
 - 4.4.2. Amphibians
 - 4.4.3. Incidental Observations
 - 4.5. Aquatic Habitats
 - 4.6. Species at Risk
5. Assessment of Natural Heritage Features/Areas
 - 5.1. Wetlands (Provincially Significant, Evaluated Non-Provincially Significant and Unevaluated)
 - 5.2. Significant Wildlife Habitat
 - 5.3. Significant Woodlands
 - 5.4. Areas of Natural and Scientific Interest (ANSI)
 - 5.5. Significant Valleylands
 - 5.6. Fish Habitat/Hydrological Features
 - 5.7. Significant Habitat of Endangered and Threatened Species
6. Impact Assessment
 - 6.1. Proposed Development
 - 6.2. Impact Assessment
 - 6.3. Summary of Recommendations
7. Policy Compliance
8. Conclusions

Technical studies beyond the EIS, such as but not limited to, the hydrogeological assessment, stormwater management and site water balance, grading plan, erosion and sediment control plans will be reviewed to identify any potential impacts and to ensure recommendations in those reports are consistent with those in the EIS.

We ask that you provide any comments that should be incorporated into this Terms of Reference or provide confirmation at your earliest convenience.

Sincerely,

A handwritten signature in blue ink that reads "Kyle Fleming". The signature is written in a cursive style with a large, stylized "F" and "M".

Kyle Fleming, BSc. (Wildlife)
Senior Ecologist

cc: 772082 Highway 10 Inc.
 Innovative Planning Solutions
 Township of Southgate
 Grand River Conservation Authority

APPENDIX B

Desktop Review

NHIC Data

To work further with this data select the content and copy it into your own word or excel documents.

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
958034	SPECIES	Eastern Meadowlark	Sturnella magna	S4B,S3N	THR	THR	17NJ5090	
958034	SPECIES	Bobolink	Dolichonyx oryzivorus	S4B	THR	SC	17NJ5090	
958034	SPECIES	Snapping Turtle	Chelydra serpentina	S4	SC	SC	17NJ5090	
947924	SPECIES	Eastern Meadowlark	Sturnella magna	S4B,S3N	THR	THR	17NJ4990	
947924	SPECIES	Bobolink	Dolichonyx oryzivorus	S4B	THR	SC	17NJ4990	
947924	SPECIES	Snapping Turtle	Chelydra serpentina	S4	SC	SC	17NJ4990	
958035	SPECIES	Eastern Meadowlark	Sturnella magna	S4B,S3N	THR	THR	17NJ5091	
958035	SPECIES	Snapping Turtle	Chelydra serpentina	S4	SC	SC	17NJ5091	
947925	SPECIES	Midland Painted Turtle	Chrysemys picta marginata	S4		SC	17NJ4991	
947925	SPECIES	Snapping Turtle	Chelydra serpentina	S4	SC	SC	17NJ4991	

Species list for square 17NJ59 (number of entries returned: 91)

Region	Square	Species	Breeding Evidence				Point Counts			
			Max BE	Categ	#Sq	Atlasser Name	#PC	%PC	Abun	#Sq
10	17NJ59	Canada Goose	FY	CONF	1	Mike Cadman				
10	17NJ59	Mallard	P	PROB	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Wild Turkey	FY	CONF	1					
10	17NJ59	American Bittern	H	POSS	1	Mike Cadman				
10	17NJ59	Great Blue Heron	H	POSS	1					
10	17NJ59	Turkey Vulture	T	PROB	1					
10	17NJ59	Northern Harrier	H	POSS	1		1	2.56	0.0256	1
10	17NJ59	Sharp-shinned Hawk	H	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Cooper's Hawk	A	PROB	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Red-tailed Hawk	T	PROB	1		1	2.56	0.0513	1
10	17NJ59	American Kestrel	P	PROB	1					
10	17NJ59	Sora	P	PROB	1					
10	17NJ59	Killdeer	P	PROB	1	Mike Cadman	2	5.13	0.0513	1
10	17NJ59	Rock Pigeon	T	PROB	1		2	5.13	0.4872	1
10	17NJ59	Spotted Sandpiper	FY	CONF	1	Mike Cadman				
10	17NJ59	Common Snipe	T	PROB	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Mourning Dove	T	PROB	1		7	17.95	0.2564	1
10	17NJ59	Black-billed Cuckoo	CF	CONF	1	Mike Cadman				
10	17NJ59	Eastern Screech-Owl	S	POSS	1	Mike Cadman				
10	17NJ59	Ruby-throated Hummingbird	H	POSS	1	Mike Cadman				
10	17NJ59	Belted Kingfisher	T	PROB	1	Mike Cadman				
10	17NJ59	Red-bellied Woodpecker	S	POSS	1	Mike Cadman				
10	17NJ59	Yellow-bellied Sapsucker	FY	CONF	1		2	5.13	0.0769	1
10	17NJ59	Downy Woodpecker	S	POSS	1	Mike Cadman	7	17.95	0.1795	1
10	17NJ59	Hairy Woodpecker	FY	CONF	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Northern Flicker	P	PROB	1	Mike Cadman	6	15.38	0.1538	1
10	17NJ59	Pileated Woodpecker	S	POSS	1	Mike Cadman				
10	17NJ59	Eastern Wood-Pewee	T	PROB	1	Mike Cadman	4	10.26	0.1282	1
10	17NJ59	Alder Flycatcher	T	PROB	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Least Flycatcher	S	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Eastern Phoebe	FY	CONF	1	Mike Cadman	3	7.69	0.1538	1
10	17NJ59	Great Crested Flycatcher	T	PROB	1	Mike Cadman	2	5.13	0.0513	1
10	17NJ59	Eastern Kingbird	FY	CONF	1		5	12.82	0.1282	1
10	17NJ59	Yellow-throated Vireo	H	POSS	1		1	2.56	0.0256	1
10	17NJ59	Blue-headed Vireo	T	PROB	1	Mike Cadman				
10	17NJ59	Warbling Vireo	S	POSS	1	Mike Cadman	2	5.13	0.0513	1
10	17NJ59	Red-eyed Vireo	A	PROB	1	Mike Cadman	10	25.64	0.359	1
10	17NJ59	Blue Jay	T	PROB	1		7	17.95	0.2051	1
10	17NJ59	American Crow	FY	CONF	1	Mike Cadman	29	74.36	1.7692	1
10	17NJ59	Common Raven	FY	CONF	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Horned Lark	S	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Tree Swallow	AE	CONF	1		6	15.38	0.1795	1
10	17NJ59	Bank Swallow	AE	CONF	1	Mike Cadman				
10	17NJ59	Cliff Swallow	AE	CONF	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Barn Swallow	AE	CONF	1		10	25.64	0.5641	1
10	17NJ59	Black-capped Chickadee	FY	CONF	1	Mike Cadman	10	25.64	0.3846	1
10	17NJ59	Red-breasted Nuthatch	CF	CONF	1	Mike Cadman	1	2.56	0.0513	1
10	17NJ59	House Wren	T	PROB	1	Mike Cadman	10	25.64	0.2821	1
10	17NJ59	Winter Wren	S	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Golden-crowned Kinglet	S	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Eastern Bluebird	P	PROB	1	Mike Cadman				
10	17NJ59	Veery	S	POSS	1	Mike Cadman	11	28.21	0.3333	1
10	17NJ59	Wood Thrush	NU	CONF	1	Mike Cadman	3	7.69	0.1538	1
10	17NJ59	American Robin	CF	CONF	1	Mike Cadman	26	66.67	1.0	1
10	17NJ59	Gray Catbird	S	POSS	1	Mike Cadman	4	10.26	0.1026	1
10	17NJ59	Brown Thrasher	P	PROB	1	Mike Cadman				
10	17NJ59	European Starling	FY	CONF	1	Mike Cadman	9	23.08	1.5641	1
10	17NJ59	Cedar Waxwing	NB	CONF	1	Mike Cadman	2	5.13	0.0513	1
10	17NJ59	Nashville Warbler	P	PROB	1	Mike Cadman	7	17.95	0.2051	1

10	17NJ59	Yellow Warbler	S	POSS	1	Mike Cadman	5	12.82	0.1282	1
10	17NJ59	Chestnut-sided Warbler	H	POSS	1	Mike Cadman	2	5.13	0.0513	1
10	17NJ59	Magnolia Warbler	S	POSS	1	Mike Cadman				
10	17NJ59	Yellow-rumped Warbler	T	PROB	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Black-throated Green Warbler	S	POSS	1	Mike Cadman				
10	17NJ59	Pine Warbler	T	PROB	1	Mike Cadman	5	12.82	0.1282	1
10	17NJ59	Black-and-white Warbler	S	POSS	1	Mike Cadman	1	2.56	0.0513	1
10	17NJ59	American Redstart	T	PROB	1	Mike Cadman	5	12.82	0.2308	1
10	17NJ59	Ovenbird	A	PROB	1	Mike Cadman	5	12.82	0.1795	1
10	17NJ59	Northern Waterthrush	S	POSS	1	Mike Cadman				
10	17NJ59	Mourning Warbler	S	POSS	1	Mike Cadman				
10	17NJ59	Common Yellowthroat	T	PROB	1		22	56.41	0.8718	1
10	17NJ59	Canada Warbler	S	POSS	1	Mike Cadman				
10	17NJ59	Chipping Sparrow	CF	CONF	1	Mike Cadman	5	12.82	0.1282	1
10	17NJ59	Vesper Sparrow	S	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Savannah Sparrow	CF	CONF	1		17	43.59	0.9231	1
10	17NJ59	Song Sparrow	CF	CONF	1	Mike Cadman	21	53.85	1.0513	1
10	17NJ59	Swamp Sparrow	CF	CONF	1	Mike Cadman	7	17.95	0.359	1
10	17NJ59	White-throated Sparrow	CF	CONF	1		15	38.46	0.6923	1
10	17NJ59	Scarlet Tanager	S	POSS	1	Mike Cadman	1	2.56	0.0256	1
10	17NJ59	Rose-breasted Grosbeak	T	PROB	1	Mike Cadman	7	17.95	0.2308	1
10	17NJ59	Indigo Bunting	S	POSS	1	Mike Cadman	2	5.13	0.0513	1
10	17NJ59	Dickcissel	P	PROB	1					
10	17NJ59	Bobolink	CF	CONF	1	Mike Cadman	10	25.64	0.3846	1
10	17NJ59	Red-winged Blackbird	CF	CONF	1	Mike Cadman	15	38.46	1.3333	1
10	17NJ59	Eastern Meadowlark	T	PROB	1		3	7.69	0.1538	1
10	17NJ59	Common Grackle	CF	CONF	1	Mike Cadman	15	38.46	2.9231	1
10	17NJ59	Brown-headed Cowbird	D	PROB	1	Mike Cadman	6	15.38	0.9231	1
10	17NJ59	Baltimore Oriole	S	POSS	1					
10	17NJ59	Purple Finch	S	POSS	1	Mike Cadman				
10	17NJ59	American Goldfinch	P	PROB	1	Mike Cadman	21	53.85	0.7692	1
10	17NJ59	House Sparrow	AE	CONF	1	Mike Cadman	2	5.13	0.0513	1

Species list for square 17NJ49 (number of entries returned: 93)

Region	Square	Species	Breeding Evidence				Point Counts			
			Max BE	Categ	#Sq	Atlasser Name	#PC	%PC	Abun	#Sq
9	17NJ49	Canada Goose	AE	CONF	1	Mike Cadman	1	3.85	0.2308	1
9	17NJ49	Wood Duck	P	PROB	1	Mike Cadman				
9	17NJ49	Mallard	P	PROB	1	Mike Cadman	1	3.85	0.0769	1
9	17NJ49	Blue-winged Teal	H	POSS	1	Mike Cadman				
9	17NJ49	Ruffed Grouse	H	POSS	1	Mike Cadman				
9	17NJ49	Wild Turkey	H	POSS	1	Mike Cadman				
9	17NJ49	Pied-billed Grebe	FY	CONF	1	Mike Cadman				
9	17NJ49	American Bittern	S	POSS	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Green Heron	P	PROB	1	Mike Cadman				
9	17NJ49	Turkey Vulture	H	POSS	1	Mike Cadman				
9	17NJ49	Northern Harrier	T	PROB	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Sharp-shinned Hawk	H	POSS	1	Mike Cadman				
9	17NJ49	Red-tailed Hawk	P	PROB	1	Mike Cadman				
9	17NJ49	American Kestrel	P	PROB	1	Mike Cadman				
9	17NJ49	Virginia Rail	T	PROB	1	Mike Cadman				
9	17NJ49	Sora	T	PROB	1	Mike Cadman				
9	17NJ49	Common Gallinule	FY	CONF	1	Mike Cadman				
9	17NJ49	American Coot	H	POSS	1	Mike Cadman				
9	17NJ49	Killdeer	DD	CONF	1	Mike Cadman	5	19.23	0.1923	1
9	17NJ49	Rock Pigeon	V	PROB	1	Mike Cadman				
9	17NJ49	Spotted Sandpiper	T	PROB	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Common Snipe	A	PROB	1	Mike Cadman	5	19.23	0.2308	1
9	17NJ49	Mourning Dove	FY	CONF	1	Mike Cadman	8	30.77	0.3077	1
9	17NJ49	Black-billed Cuckoo	T	PROB	1	Mike Cadman				
9	17NJ49	Eastern Screech-Owl	S	POSS	1	Glenn Coady				
9	17NJ49	Ruby-throated Hummingbird	H	POSS	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Belted Kingfisher	CF	CONF	1	Mike Cadman				
9	17NJ49	Yellow-bellied Sapsucker	FY	CONF	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	Downy Woodpecker	FY	CONF	1	Mike Cadman				
9	17NJ49	Hairy Woodpecker	A	PROB	1	Mike Cadman				
9	17NJ49	Northern Flicker	D	PROB	1	Mike Cadman				
9	17NJ49	Eastern Wood-Pewee	S	POSS	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	Alder Flycatcher	T	PROB	1	Mike Cadman	5	19.23	0.3077	1
9	17NJ49	Least Flycatcher	S	POSS	1	Mike Cadman				
9	17NJ49	Eastern Phoebe	S	POSS	1	Mike Cadman				
9	17NJ49	Great Crested Flycatcher	P	PROB	1	Mike Cadman	3	11.54	0.1538	1
9	17NJ49	Eastern Kingbird	CF	CONF	1	Mike Cadman	5	19.23	0.1923	1
9	17NJ49	Warbling Vireo	T	PROB	1	Mike Cadman	4	15.38	0.1538	1
9	17NJ49	Red-eyed Vireo	P	PROB	1	Mike Cadman	7	26.92	0.3846	1
9	17NJ49	Blue Jay	H	POSS	1	Mike Cadman	5	19.23	0.1923	1
9	17NJ49	American Crow	FY	CONF	1	Mike Cadman	20	76.92	1.2692	1
9	17NJ49	Common Raven	FY	CONF	1	Mike Cadman				
9	17NJ49	Horned Lark	S	POSS	1	Mike Cadman				
9	17NJ49	Tree Swallow	AE	CONF	1	Mike Cadman	4	15.38	0.1923	1
9	17NJ49	Northern Rough-winged Swallow	V	PROB	1	Mike Cadman				
9	17NJ49	Bank Swallow	H	POSS	1	Mike Cadman				
9	17NJ49	Cliff Swallow	AE	CONF	1	Mike Cadman				
9	17NJ49	Barn Swallow	FY	CONF	1	Mike Cadman	4	15.38	0.1538	1
9	17NJ49	Black-capped Chickadee	FY	CONF	1	Mike Cadman	2	7.69	0.1154	1
9	17NJ49	Red-breasted Nuthatch	S	POSS	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	House Wren	T	PROB	1	Mike Cadman	7	26.92	0.2692	1
9	17NJ49	Winter Wren	S	POSS	1	Mike Cadman	3	11.54	0.1154	1
9	17NJ49	Sedge Wren	T	PROB	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Marsh Wren	S	POSS	1	Mike Cadman				
9	17NJ49	Eastern Bluebird	H	POSS	1	Mike Cadman				
9	17NJ49	Veery	A	PROB	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	American Robin	CF	CONF	1	Mike Cadman	16	61.54	1.2308	1
9	17NJ49	Gray Catbird	D	PROB	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	European Starling	CF	CONF	1	Mike Cadman	10	38.46	0.5769	1

9	17NJ49	Cedar Waxwing	NB	CONF	1	Mike Cadman	6	23.08	0.4615	1
9	17NJ49	Nashville Warbler	FY	CONF	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Yellow Warbler	CF	CONF	1	Mike Cadman	7	26.92	0.3462	1
9	17NJ49	Chestnut-sided Warbler	S	POSS	1	Mike Cadman				
9	17NJ49	Magnolia Warbler	S	POSS	1	Mike Cadman				
9	17NJ49	Yellow-rumped Warbler	CF	CONF	1	Mike Cadman				
9	17NJ49	Black-throated Green Warbler	S	POSS	1	Mike Cadman				
9	17NJ49	Black-and-white Warbler	S	POSS	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	American Redstart	S	POSS	1	Mike Cadman	1	3.85	0.0385	1
9	17NJ49	Ovenbird	S	POSS	1	Mike Cadman	3	11.54	0.1923	1
9	17NJ49	Northern Waterthrush	S	POSS	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	Mourning Warbler	S	POSS	1	Mike Cadman				
9	17NJ49	Common Yellowthroat	CF	CONF	1	Mike Cadman	9	34.62	0.4615	1
9	17NJ49	Canada Warbler	S	POSS	1	Mike Cadman	1	3.85	0.0769	1
9	17NJ49	Chipping Sparrow	FY	CONF	1	Mike Cadman	10	38.46	0.4615	1
9	17NJ49	Field Sparrow	S	POSS	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	Savannah Sparrow	CF	CONF	1	Mike Cadman	9	34.62	0.6154	1
9	17NJ49	Grasshopper Sparrow	S	POSS	1	Mike Cadman				
9	17NJ49	Song Sparrow	CF	CONF	1	Mike Cadman	13	50.0	0.8077	1
9	17NJ49	Swamp Sparrow	CF	CONF	1	Mike Cadman	5	19.23	0.2308	1
9	17NJ49	White-throated Sparrow	CF	CONF	1	Mike Cadman	8	30.77	0.4231	1
9	17NJ49	Northern Cardinal	S	POSS	1	Mike Cadman				
9	17NJ49	Rose-breasted Grosbeak	S	POSS	1	Mike Cadman	6	23.08	0.2692	1
9	17NJ49	Indigo Bunting	S	POSS	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	Bobolink	CF	CONF	1	Mike Cadman	12	46.15	1.1154	1
9	17NJ49	Red-winged Blackbird	CF	CONF	1	Mike Cadman	14	53.85	0.7692	1
9	17NJ49	Eastern Meadowlark	CF	CONF	1	Mike Cadman	6	23.08	0.3462	1
9	17NJ49	Common Grackle	CF	CONF	1	Mike Cadman	14	53.85	1.1923	1
9	17NJ49	Brown-headed Cowbird	FY	CONF	1	Mike Cadman	11	42.31	0.4615	1
9	17NJ49	Baltimore Oriole	S	POSS	1	Mike Cadman	2	7.69	0.0769	1
9	17NJ49	Purple Finch	S	POSS	1	Mike Cadman				
9	17NJ49	House Finch	S	POSS	1	Mike Cadman				
9	17NJ49	American Goldfinch	P	PROB	1	Mike Cadman	9	34.62	0.4615	1
9	17NJ49	House Sparrow	NU	CONF	1	Mike Cadman				



Species list in taxonomic order for square 17NJ59

All species

Number of rows of data displayed below: 10.

Species #	Common Name	# of Records	Earliest Yr _____	Latest Yr
6	Snapping Turtle	4	1983	2018
12	Eastern Gartersnake	1	1986	1986
28	Gray Treefrog	2	2016	2016
29	Green Frog	4	1988	2018
30	Mink Frog	2	1983	1988
31	Northern Leopard Frog	4	1988	2018
32	Pickerel Frog	1	2016	2016
33	Spring Peeper	6	2015	2016
35	Wood Frog	4	2015	2017
36	American Toad	2	1986	2016

[TEA home page](#) | [Main atlas page](#)



Species list in taxonomic order for square 17NJ49

All species

Number of rows of data displayed below: 12.

Species #	Common Name	# of Records	Earliest Yr	Latest Yr
3	Midland Painted Turtle	2	1987	2017
6	Snapping Turtle	1	2019	2019
10	Dekay's Brownsnake	1	1996	1996
12	Eastern Gartersnake	1	1987	1987
25	American Bullfrog	1	1984	1984
28	Gray Treefrog	4	1987	2016
29	Green Frog	6	1986	2018
30	Mink Frog	1	1993	1993
31	Northern Leopard Frog	1	2016	2016
33	Spring Peeper	10	2015	2016
35	Wood Frog	4	2015	2016
36	American Toad	3	1987	2016

[TEA home page](#) | [Main atlas page](#)

APPENDIX C

Species Lists

Vascular Plant List (2025)

772082 Hwy 10 - Southgate (Grey)

SCIENTIFIC NAME	COMMON NAME	S RANK	SARO	SARA	G RANK
<i>Abies balsamea</i>	Balsam Fir	S5			G5
<i>Acer negundo</i>	Manitoba Maple	S5			G5
<i>Acer platanoides</i>	Norway Maple	SNA			GNR
<i>Acer rubrum</i>	Red Maple	S5			G5
<i>Acer saccharum</i>	Sugar Maple	S5			G5
<i>Aconitum napellus</i>	Monkshood	SNA			GNR
<i>Actaea pachypoda</i>	White Baneberry	S5			G5
<i>Agrostis gigantea</i>	Redtop	SNA			GNR
<i>Alliaria petiolata</i>	Garlic Mustard	SNA			GNR
<i>Ambrosia trifida</i>	Great Ragweed	S5			G5
<i>Anemonastrum canadense</i>	Canada Anemone	S5			G5
<i>Apocynum androsaemifolium</i>	Spreading Dogbane	S5			G5
<i>Arctium lappa</i>	Great Burdock	SNA			GNR
<i>Asclepias syriaca</i>	Common Milkweed	S5			G5
<i>Betula alleghaniensis</i>	Yellow birch	S5			G5
<i>Betula papyrifera</i>	Paper Birch	S5			G5
<i>Bromus arvensis</i>	Field Brome	SNA			GNR
<i>Carex arctata</i>	Drooping Woodland Sedge	S5			G5
<i>Carex communis</i>	Fibrous-root Sedge	S5			G5
<i>Carex gracillima</i>	Graceful Sedge	S5			G5
<i>Carex granularis</i>	Limestone Sedge	S5			G5
<i>Carex intumescens</i>	Bladder Sedge	S5			G5
<i>Carex pennsylvanica</i>	Pennsylvania Sedge	S5			G5
<i>Carex plantaginea</i>	Plantain-leaved Sedge	S5			G5
<i>Carex vulpinoidea</i>	Fox Sedge	S5			G5
<i>Cerastium arvense</i>	Field Chickweed	S4			G5
<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	S5			G5
<i>Convolvulus arvensis</i>	Field Bindweed	SNA			GNR
<i>Cornus sericea</i>	Red-osier Dogwood	S5			G5
<i>Crataegus spp.</i>	Hawthorn Species	S5			G5
<i>Dactylis glomerata</i>	Orchard Grass	SNA			GNR
<i>Daucus carota</i>	Wild Carrot	SNA			GNR
<i>Desmodium canadense</i>	Canada Tick-trefoil	S4			G5
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	S5			G5
<i>Elymus repens</i>	Quackgrass	SNA			GNR
<i>Epipactis helleborine</i>	Broad-leaved Helleborine	SNA			GNR
<i>Equisetum arvense</i>	Field Horsetail	S5			G5
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	S5			G5
<i>Eurybia macrophylla</i>	Large-leaved Aster	S5			G5
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	S5			G5
<i>Eutrochium maculatum</i>	Spotted Joe Pye Weed	S5			G5
<i>Fragaria virginiana</i>	Field Strawberry	S5			G5
<i>Fraxinus pennsylvanica</i>	Red Ash	S4			G5

SCIENTIFIC NAME	COMMON NAME	S RANK	SARO	SARA	G RANK
<i>Galium asprellum</i>	Rough Bedstraw	S5			G5
<i>Geranium robertianum</i>	Herb-Robert	S5			G5
<i>Geum aleppicum</i>	Yellow Avens	S5			G5
<i>Hylodesmum glutinosum</i>	Large Tick-trefoil	S4			G5
<i>Impatiens capensis</i>	Spotted Jewelweed	S5			G5
<i>Larix laricina</i>	Tamarack	S5			G5
<i>Lonicera tatarica</i>	Tatarian Honeysuckle	SNA			GNR
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	SNA			GNR
<i>Maianthemum canadense</i>	Wild Lily-of-the-valley	S5			G5
<i>Malus pumila</i>	Apple	SNA			GNR
<i>Matricaria discoidea</i>	Pineappleweed	SNA			G5
<i>Matteuccia struthiopteris</i>	Ostrich Fern	S5			G5
<i>Medicago sativa</i>	Alfalfa	SNA			GNR
<i>Melilotus albus</i>	White Sweet-clover	SNA			G5
<i>Monarda fistulosa</i>	Wild Bergamot	S5			G5
<i>Onoclea sensibilis</i>	Sensitive Fern	S5			G5
<i>Onoclea sensibilis</i>	Sensitive Fern	S5			G5
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	S4?			G5
<i>Phalaris arundinacea</i>	Reed Canary Grass	S5			G5
<i>Phleum pratense</i>	Common Timothy	SNA			GNR
<i>Phragmites australis</i>	European Reed	SNA			GNR
<i>Picea abies</i>	Norway Spruce	SNA			GNR
<i>Picea glauca</i>	White Spruce	S5			G5
<i>Pilosella aurantiaca</i>	Yellow Hawkweed	SNA			GNR
<i>Pinus strobus</i>	Eastern White Pine	S5			G5
<i>Pinus sylvestris</i>	Scots Pine	SNA			GNR
<i>Plantago major</i>	Common Plantain	SNA			G5
<i>Poa pratensis</i>	Kentucky Bluegrass	S5			G5
<i>Populus balsamifera</i>	Balsam Poplar	S5			G5
<i>Populus grandidentata</i>	Large-toothed Aspen	S5			G5
<i>Populus tremuloides</i>	Trembling Aspen	S5			G5
<i>Potentilla anserina</i>	Silverweed	S5			G5
<i>Prunella vulgaris</i>	Common Self-heal	S5			G5
<i>Prunus serotina</i>	Black Cherry	S5			G5
<i>Prunus virginiana</i>	Chokecherry	S5			G5
<i>Pteridium aquilinum</i>	Bracken Fern	S5			G5
<i>Ranunculus acris</i>	Common Buttercup	SNA			G5
<i>Rhamnus cathartica</i>	Common Buckthorn	SNA			GNR
<i>Rhus typhina</i>	Staghorn Sumac	S5			G5
<i>Robinia pseudoacacia</i>	Black Locust	SNA			GNR
<i>Rubus idaeus</i>	Red Raspberry	S5			G5
<i>Rubus odoratus</i>	Purple-flowering Raspberry	S5			G5
<i>Rudbeckia hirta</i>	Black-eyed Susan	S5			G5
<i>Rumex pseudonatronatus</i>	Field Dock	SNA			GNR
<i>Salix alba</i>	White Willow	SNA			G5
<i>Salix bebbiana</i>	Bebb's Willow	S5			G5

SCIENTIFIC NAME	COMMON NAME	S RANK	SARO	SARA	G RANK
<i>Salix discolor</i>	Pussy Willow	S5			G5
<i>Salix interior</i>	Sandbar Willow	S5			G5
<i>Salix nigra</i>	Black Willow	S4			G5
<i>Schoenoplectus acutus</i>	Hard-stemmed Bulrush	S5			G5
<i>Scirpus pendulus</i>	Nodding Bulrush	S5			G5
<i>Solidago canadensis</i>	Canada Goldenrod	S5			G5
<i>Sorbus aucuparia</i>	Mountain Ash	S5			G5
<i>Spiraea alba</i>	White Meadowsweet	S5			G5
<i>Symphotrichum lanceolatum</i>	Panicked Aster	S5			G5
<i>Symphotrichum lateriflorum</i>	Calico Aster	S5			G5
<i>Symphotrichum puniceum</i>	Purple-stemmed Aster	S5			G5
<i>Syringa vulgaris</i>	Common Lilac	SNA			GNR
<i>Taraxacum officinale</i>	Common Dandelion	SNA			G5
<i>Thalictrum dioicum</i>	Early Meadow-rue	S5			G5
<i>Thuja occidentalis</i>	Eastern White Cedar	S5			G5
<i>Tilia americana</i>	Basswood	S5			G5
<i>Toxicodendron radicans</i>	Poison Ivy	S5			G5
<i>Tragopogon dubius</i>	Yellow Goatsbeard	SNA			GNR
<i>Trifolium repens</i>	White Clover	SNA			GNR
<i>Ulmus americana</i>	White Elm	S5			G5
<i>Utricularia vulgaris</i>	Common Bladderwort	S5			G5
<i>Valeriana officinalis</i>	Common Valerian	SNA			GNR
<i>Verbascum thapsus</i>	Common Mullein	SNA			GNR
<i>Viburnum acerifolium</i>	Maple-leaved Viburnum	S5			G5
<i>Vicia americana</i>	American Vetch	S5			G5
<i>Viola canadensis</i>	Canada Violet	S5			G5
<i>Vitis riparia</i>	Riverbank Grape	S5			G5

Wildlife List (2025)

772082 Hwy 10 - Southgate (Grey)

SCIENTIFIC NAME	COMMON NAME	S RANK	SARO	SARA	G RANK
Breeding Birds					
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	S5			G5
<i>Cardinalis cardinalis</i>	Northern Cardinal	S5			G5
<i>Cathartes aura</i>	Turkey Vulture	S5B, S3N			G5
<i>Charadrius vociferus</i>	Killdeer	S4B			G5
<i>Colaptes auratus</i>	Northern Flicker	S4B			G5
<i>Corvus brachyrhynchos</i>	American Crow	S5B			G5
<i>Cyanocitta cristata</i>	Blue Jay	S5B			G5
<i>Empidonax alnorum</i>	Alder Flycatcher	S5B			G5
<i>Geothlypis trichas</i>	Common Yellowthroat	S5B, S3N			G5
<i>Larus delawarensis</i>	Ring-necked Gull	S5			G5
<i>Meleagris gallopavo</i>	Wild Turkey	S5			G5
<i>Melospiza melodia</i>	Song Sparrow	S5B			G5
<i>Molothrus ater</i>	Brown-headed Cowbird	S5			G5
<i>Myiarchus crinitus</i>	Great Crested Flycatcher	S5B			G5
<i>Passer domesticus</i>	House Sparrow	SNA			G5
<i>Passerculus sandwichensis</i>	Savannah Sparrow	S5B, S3N			G5
<i>Passerina cyanea</i>	Indigo Bunting	S5B			G5
<i>Poecile atricapillus</i>	Black-capped Chickadee	S5B			G5
<i>Quiscalus quiscula</i>	Common Grackle	S5			G5
<i>Setophaga petechia</i>	Yellow Warbler	S5B			G5
<i>Setophaga ruticilla</i>	American Redstart	S5B			G5
<i>Sitta canadensis</i>	Red-breasted Nuthatch	S5			G5
<i>Spinus tristis</i>	American Goldfinch	S5			G5
<i>Spizella pallida</i>	Clay-colored Sparrow	S4B			G5
<i>Spizella passerina</i>	Chipping Sparrow	S5B, S3N			G5
<i>Sturnus vulgaris</i>	European Starling	SNA			G5
<i>Turdus migratorius</i>	American Robin	S5B			G5
<i>Tyrannus tyrannus</i>	Eastern Kingbird	S4B			G5
<i>Vireo olivaceus</i>	Red-eyed Vireo	S5B			G5
<i>Zenaidura macroura</i>	Mourning Dove	S5			G5
<i>Zonotrichia albicollis</i>	White-throated Sparrow	S5			G5
Mammals					
<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	S5			G5
<i>Procyon lotor</i>	Northern Raccoon	S5			G5
<i>Odocoileus virginianus</i>	White-tailed Deer	S5			G5
<i>Canis latrans</i>	Coyote	S5			G5
<i>Mephitis mephitis</i>	Striped Skunk	S5			G5

APPENDIX D

Significant Wildlife Habitat Assessment

Seasonal Concentration of Areas of Animals				
Type	ELC Codes	Habitat Criteria	Defining Criteria	Presence/Absence of Candidate SWH?
Waterfowl Stopover and Staging Areas (Terrestrial)	CUM1 CUT1 *With evidence of annual flooding from melt water or run-off	Fields with sheet water during Spring (mid-March to May). Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available.	Any mixed species aggregations of 100 or more individuals required. The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat.	Absent – Ecosites not present in the development area or adjacent lands.
Waterfowl Stopover and Staging Areas (Aquatic)	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water)	Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. The combined area of the ELC ecosites and a 100m radius area is the SWH.	Absent – wetland ecosites are not flooded and would not provide food supply for large aggregations of waterfowl.
Shorebird Migratory Stopover Area	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH.	Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. Any site with >100 Whimbrel used for 3 years, or more is significant. The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area.	Absent – wetland ecosites are not flooded and are not part of large rivers, lakes or shoreline habitats.
Raptor Wintering Area	<u>Hawks/Owls</u> : Combination of ELC Community Series; need to have present one Community Series from each land class: Forest: FOD FOM FOC Upland: CUM CUT CUS CUW <u>Bald Eagle</u> : Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water, large trees and snags available for roosting.	One or more Short-eared Owls or one or more Bald Eagles or At least 10 individuals and two of the listed hawk/owl species. To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area.	Absent – cultural plantations within the development area are not large enough to support raptor nesting. No raptor nests observed during site investigations in 2025.
Bat Hibernacula	CCR1 CCR2 CCA1 CCA2 Buildings are not considered to be SWH.	Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered as SWH	All sites with confirmed hibernating bats are SWH. The habitat area includes a 200m radius around the entrance of the hibernaculum for most development types.	Absent – no hibernacula are found on site.
Bat Maternity Colonies	FOD FOM SWD SWM	Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).	Maternity Colonies with confirmed use by; >10 Big Brown Bats >5 Adult Female Silver- haired Bats	Absent – Ecosites within the development area did not contain suitable roost trees.

		<p>Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees.</p> <p>Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3.</p> <p>Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows.</p> <p>Older forest areas with at least 21 snags/ha are preferred.</p>	<p>The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Eco element containing the maternity colonies.</p>	
Turtle Wintering Areas	<p>Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO.</p> <p>Northern Map Turtle: Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.</p>	<p>For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates.</p> <p>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen.</p> <p>Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH.</p>	<p>Presence of 5 over-wintering Midland Painted Turtles is significant.</p> <p>One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant.</p> <p>The mapped ELC ecosite area with the over-wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over-wintering is the SWH.</p>	<p>Absent – wetland ecosites contained no flooded areas suitable for overwintering turtle species.</p>
Reptile Hibernaculum	<p>For all snakes, habitat may be found in any ecosite other than very wet ones.</p> <p>For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3</p>	<p>For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.</p> <p>Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</p> <p>Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures.</p>	<p>Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or individuals of two or more snake spp.</p> <p>Congregations of a minimum of five individuals of a snake sp. or individuals of two or more snake spp. near potential hibernacula (e.g. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)</p> <p>If there are Special Concern Species present, then site is SWH.</p> <p>The feature in which the hibernacula is located plus a 30 m radius area is the SWH.</p>	<p>Absent – No burrows, fissures, crevices or anthropogenic habitats (i.e., rock piles) were present.</p> <p>There are no records for five-lined skink in the immediate area and rock outcrops are not present.</p>
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	<p>Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles.</p> <p>Cliff faces, bridge abutments, silos, barns.</p> <p>Habitat found in the following ecosites: CUM1 CUT1 CUS BLO1 BLS1 BLT1 CLO1 CLS1 CLT1</p>	<p>Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.</p> <p>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</p> <p>Does not include a licensed/permitted Mineral Aggregate Operation.</p>	<p>Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season.</p> <p>A colony identified as SWH will include a 50m radius habitat area from the peripheral nests.</p>	<p>Absent – suitable habitats (ELC units) not present on site.</p>
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)	<p>SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1</p>	<p>Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.</p> <p>Most nests in trees are 11 to 15 m from ground, near the top of the tree.</p>	<p>Presence of 5 or more active nests of Great Blue Heron or other listed species.</p> <p>The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH.</p>	<p>Absent – Great Blue Heron and other listed species not detected in 2025.</p>

Colonially - Nesting Bird Breeding Habitat (Ground)	Any rocky island or peninsula (natural or artificial) within a lake or large river. Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6 MAS1 – 3 CUM CUT CUS	Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. Brewer's Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands.	Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. Presence of 5 or more pairs for Brewer's Blackbird. Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH.	Absent – islands and peninsulas not present.
Migratory Butterfly Stopover Areas	Combination of ELC Community Series; need to have present one Community Series from each land class: Field: CUM CUT CUS Forest: FOC FOD FOM CUP	Minimum of 10 ha in size with a combination of field and forest habitat present and will be located within 5 km of Lake Ontario. Habitat is typically a combination of field and forest. The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat.	The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.	Absent – site not within 5km of Lake Ontario.
Landbird Migratory Stopover Areas	FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH cxlviii.	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.	Absent - site not within 5 km of Lake Ontario.
Deer Yarding Areas	OMNRF to determine this habitat. FOM FOC SWM SWC CUP2 CUP3 FOD3 CUT	The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food.	Deer Yards are mapped by MNR District offices.	Absent – MNR does not identify this site as part of a Deer Yard.
Deer Winter Congregation Areas	FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNR studies or assessment.	Deer winter congregation areas considered significant will be mapped by MNR.	Absent – MNR does not identify this site as part of a Deer Yard.
Rare Vegetation Communities				
Cliffs and Talus Slopes	TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. Most cliff and talus slopes occur along the Niagara Escarpment.	ELC Vegetation Type for Cliffs or Talus Slopes.	Absent – applicable ELC units are not present on site.
Sand Barren	SBO1 SBS1 SBT1	A sand barren area >0.5ha in size	ELC Vegetation Type for Sand Barrens. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.)	Absent – applicable ELC units are not present on site.
Alvar	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2	An Alvar site > 0.5 ha in size.	Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant.	Absent – applicable ELC units are not present on site.

			Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.).	
Old Growth Forest	FOD FOC FOM SWD SWC SWM	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest .	If dominant trees species of the are >140 years old, then the Ecosite or eco-element within an ecosite containing these trees is SWH. The forested area containing the old growth characteristics will have experienced no recognizable forestry activities.	Absent – Adjacent woodlands Woodlands on site are not > 30ha and trees on site are not > 140 years in age.
Savannah	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.	Confirm one or more of the Savannah indicator species. Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.).	Absent – applicable ELC units are not present on site.
Tallgrass Prairie	TPO1 TPO2	An open Tallgrass Prairie habitat has < 25% tree cover. No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.	Field studies confirm one or more of the Prairie indicator species. Area of the ELC Ecosite is the SWH. Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.).	Absent – applicable ELC units are not present on site.
Other Rare Vegetation Communities	Provincially Rare S1, S2 and S3 vegetation communities.	The MNR/NHIC will have up to date listing for rare vegetation communities.	Area of the ELC Vegetation Type polygon is the SWH.	Absent – ELC units found on site are not provincially rare (S1-S3).
Specialized Habitat for Wildlife				
Waterfowl Nesting Area	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites.	Presence of 3 or more nesting pairs for listed species excluding Mallards, or; Presence of 10 or more nesting pairs for listed species including Mallards. Any active nesting site of an American Black Duck is considered significant.	Absent – no waterfowl were found during site investigations in 2025.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms).	For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH. For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m. To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant.	Absent – woodland communities on site are not adjacent to larger rivers, or lakes and wetlands. No detections were made for the Bald Eagle and Osprey.

Woodland Raptor Nesting Habitat	May be found in all forested ELC Ecosites.	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer.	Presence of 1 or more active nests from species list is considered significant. Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH. Barred Owl – A 200m radius around the nest is the SWH. Broad-winged Hawk and Coopers Hawk – A 100m radius around the nest is the SWH. Sharp-Shinned Hawk – A 50m radius around the nest is the SWH.	Absent – woodland communities on site do not contain older nesting trees. No raptor nests observed on site.
Turtle Nesting Areas	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	Must provide sand and gravel that turtles are able to dig in and are in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.	Presence of 5 or more nesting Midland Painted Turtles. One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. The area or collection of sites within an area of exposed mineral soils where the turtle’s nest, plus a radius of 30-100m around the nesting area is the SWH. Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat.	Absent – applicable ELC Units are not present within adjacent areas to the site.
Seeps and Springs	Seeps/Springs are areas where ground water comes to the surface. Often, they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system.	Presence of a site with 2 or more seeps/springs should be considered SWH. The area of a ELC forest ecosite or an Eco element within ecosite containing the seeps/springs is the SWH.	Absent – no seeps/springs were observed on site.
Amphibian Breeding Habitat (Woodland)	FOC FOM FOD SWC SWM SWD	Presence of a wetland, pond or woodland pool (including vernal pools) >500m2 within or adjacent (within 120m) to a woodland (no minimum size). Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat.	Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. The habitat is the wetland area plus a 230m radius of woodland area.	Absent – no vernal pools or flooded swamp communities found within the subject property or adjacent lands. No detections of breeding amphibians in 2025.
Amphibian Breeding Habitat (Wetlands)	Classes SW, MA, FE, BO, OA and SA.	Wetlands>500m2 (about 25m diameter). Bullfrogs require permanent water bodies with abundant emergent vegetation.	Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3; or; Wetland with confirmed breeding Bullfrogs are significant.	Absent – no detections of breeding amphibians in 2025.

			The ELC ecosite wetland area and the shoreline are the SWH.	
Area-Sensitive Bird Breeding Habitat	FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. Interior forest habitat is at least 200 m from forest edge habitat.	Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.	Absent – there is no interior habitat (>200m from edge) within the development area or adjacent lands.
Habitat for Species of Conservation Concern (not including Endangered or Threatened Species.)				
Marsh Breeding Bird Habitat	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees.	Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species. Any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. Area of the ELC ecosite is the SWH.	Absent – shallow water wetland habitat not present. Listed species were not detected in 2025.
Open Country Bird Breeding Habitat	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years).	Presence of nesting or breeding of 2 or more of the listed species. A field with 1 or more breeding Short-eared Owls is to be considered SWH.	Absent – ecosites not present within the subject property in large enough size (>30ha).
Shrub/Early Successional Bird Breeding Habitat	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2	Large field areas succeeding to shrub and thicket habitats >10ha in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years).	Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. Habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as SWH. The area of the SWH is the contiguous ELC ecosite field/thicket area.	Absent – ecosites not present in the subject property or adjacent lands.
Terrestrial Crayfish	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size).	Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. Area of ELC ecosite or an Eco element area of meadow marsh or swamp within the larger ecosite area is the SWH.	Absent – no chimneys/burrows were observed in wetlands or along edges in 2025.
Special Concern and Rare Wildlife Species	All plant and animal element occurrences (EO) within a 1 or 10km grid.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites.	The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH.	Absent – no Special Concern or rare wildlife species detected in 2025.
Animal Movement Corridors				
Amphibian Movement Corridors	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat.	Movement corridors between breeding habitat and summer habitat. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH.	Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant.	Absent – no Amphibian Breeding Habitat was identified within the subject property.

Significant Wildlife Habitat (Ecoregion 6E) Assessment
 772082 Hwy 10 – Southgate (Grey)

			Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m.	
Deer Movement Corridors	Corridors may be found in all forested ecosites.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH.	Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway.	Absent – no deer wintering habitat has been identified on site by MNRF.
Exceptions for EcoRegion 6E				
6E-14 Mast Producing Areas for Black Bear	FOM FOD	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech).	All woodlands > 30 ha with a 50% composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5	N/A
6E- 17 Lek for Sharp-tailed Grouse	CUM CUS CUT	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying).	Any site confirmed with sharp-tailed grouse courtship activities is considered significant. The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat.	N/A

APPENDIX E

Species at Risk Assessment

Species at Risk Assessment (THR, END and SCC)
 1260 Sundowner Road, Town of Midland

Species	Source	Status (SARO)	Habitat Preferences	Presence/Absence
Eastern Wood-Pewee (<i>Contopus virens</i>)	OBBA	SC	Found in forest clearings and edges of deciduous and mixed forests. Prefer intermediate-age mature forest stands with little understory vegetation.	Absent – No detections in 2025 within woodlands on site and adjacent lands.
Wood Thrush (<i>Hylocichla mustelina</i>)	OBBA	SC	Mature deciduous and mixed (conifer-deciduous) forests.	Absent – No detections in 2025 within woodlands on site and adjacent lands.
Eastern Meadowlark (<i>Sturnella magna</i>)	NHIC OBBA	THR	Breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas.	Absent – suitable grassland habitat not found within the site or adjacent lands. No detections in 2025.
Bobolink (<i>Dolichonyx oryzivorus</i>)	NHIC OBBA	THR	Tallgrass prairie and other open meadows, including hayfields.	Absent – suitable grassland habitat not found within the site or adjacent lands. No detections in 2025.
Bank Swallow (<i>Riparia riparia</i>)	OBBA	THR	Nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits, including banks of rivers and lakes, and active sand and gravel pits.	Absent – no vertical faces with silt/sand deposits are present on site or adjacent lands.
Barn Swallow (<i>Hirundo rustica</i>)	OBBA	SC	Build nests almost exclusively on human-made structures such as open barns, under bridges and in culverts.	Absent – no suitable structures are present on site or adjacent lands.
Canada Warbler (<i>Cardellina canadensis</i>)	OBBA	SC	Breeds in a range of deciduous and coniferous forests, usually wet forest types, all with a well-developed, dense shrub layer.	Absent – Forest types on site not suitable and no detections were made in 2025.

Species at Risk Assessment (THR, END and SCC)
 1260 Sundowner Road, Town of Midland

Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	NHIC OBBA	SC	Open grassland areas with well-drained, sandy soil. Hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley.	Absent – suitable grassland habitat not found within the site or adjacent lands. No detections in 2025.
Snapping Turtle (<i>Chelydra serpentina</i>)	ONRAA NHIC iNaturalist	SC	Found in aquatic habitats such as ponds, marsh wetlands, shallow bays, slow moving streams/rivers and anthropogenic habits including golf course and aggregate ponds, irrigation canals, etc.	Absent – wetland/aquatic habitats are not present on site or within adjacent lands.
Little Brown Myotis (<i>Myotis lucifugus</i>)	Distribution	END	Maternity roosts sites most often include buildings and large diameter trees with cracks, crevices, and/or exfoliating bark. Overwinters in caves and mines that maintain temperatures above 0°C.	Absent – suitable bat roost habitat not found within woodlands onsite.
Northern Myotis (<i>Myotis septentrionalis</i>)	Distribution	END	Maternity roosts most often include large diameter trees with cracks, crevices, and/or exfoliating bark. Overwinters in caves and mines that maintain temperatures above 0°C.	Absent – suitable bat roost habitat not found within woodlands onsite.
Tri-colored Bat (<i>Perimyotis subflavus</i>)	Distribution	END	Maternity roosts include Maple and Oak with dead/dying leaf clusters. Overwinters in caves and mines that maintain temperatures above 0°C.	Absent – suitable bat roost habitat not found within woodlands onsite.
Eastern Small-footed Myotis (<i>Myotis leibii</i>)	Distribution	END	Roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. Hibernate, most often in caves and abandoned mines that maintain temperatures above 0°C.	Absent – no suitable rock outcrop or talus slopes to support habitat for the species.

Species at Risk Assessment (THR, END and SCC)
 1260 Sundowner Road, Town of Midland

Hoary Bat (<i>Lasiurus cinereus</i>)	Distribution	END	Deciduous and coniferous forests, with a preference for deciduous stands that have larger diameter canopy trees. Forage in the open habitats that may include wetlands, grasslands and open fields with patchily distributed trees.	Absent – suitable bat roost habitat not found within woodlands onsite.
Eastern Red Bat (<i>Lasiurus borealis</i>)	Distribution	END	Deciduous and coniferous forests, with a preference for deciduous stands that have larger diameter canopy trees. Forage in the open habitats that may include wetlands, grasslands and open fields with patchily distributed trees.	Absent – suitable bat roost habitat not found within woodlands onsite.
Silver-haired Bat (<i>Lasionycteris noctivagans</i>)	Distribution	END	Deciduous and coniferous forests, with a preference on larger diameter decaying trees with cavities and/or peeling bark. Forage in young and old forests, openings and along the edges.	Absent – suitable bat roost habitat not found within woodlands onsite.
Monarch (<i>Danaus Plexippus</i>)	iNaturalist	SC	Caterpillars feed on milkweed plants and are confined to meadows and open areas. Adult butterflies can be found in more diverse habitats where they feed on nectar from a variety of wildflowers.	Absent – no Monarch were observed in 2025.

Species Status:

SC: Special Concern

THR: Threatened

END: Endangered

Source References:

NHIC: Natural Heritage Information Centre (NHIC) <https://www.ontario.ca/page/make-natural-heritage-area-map>

ONRAA: Ontario Nature Reptile and Amphibian Atlas <https://www.ontarioinsects.org/herp/>

OBBA: Ontario Breeding Bird Atlas <https://www.birdsontario.org/>

APPENDIX

CV – Kyle Fleming (Roots Environmental Inc.)



Kyle Fleming, BSc. (Wildlife) Senior Ecologist/President

Qualifications

Kyle has over 20 years experience as an ecologist where he has been responsible completing over 350 Environmental Impact Studies, Species at Risk Assessments, environmental monitoring, and related projects throughout Central, Southern and Eastern Ontario. He is a Qualified Wetland Evaluator & Certified Butternut Assessor by the MNRF, is trained and experienced in the use of Ecological Land Classification (ELC) and has been qualified as an expert at the Ontario Municipal Board/LPAT. His work is readily accepted by municipalities, conservation authorities and government agencies, and he is very familiar with provincial and federal policies and legislation.

Professional Experience

MAY 2019 - PRESENT

Senior Ecologist/President / Roots Environmental Inc., Barrie, ON

As the Senior Ecologist with Roots Environmental, Kyle is responsible the managing and implementation of environmental impact assessments, species at risk assessments and related studies for private and public sector clients throughout Ontario.

MAY 2004- MAY 2019

Senior Terrestrial Ecologist / Skelton, Brumwell & Associates, Barrie, ON

Responsible for completing Natural Environmental Reports, Environmental Impact Studies, Species at Risk Assessments for private and public sector clients throughout Ontario.



APRIL – AUGUST 2003

Project Supervisor/Field Biologist / Hamer Environmental L.P., Mt. Vernon, WA, USA

Responsible for supervising and managing a threatened seabird monitoring project on state lands.

NOVEMBER 2002 – JANUARY 2003

Environmental Technician / Aqua-Terre Solutions Inc., Toronto, ON

Responsible for data management of water and soil sampling for sites across the GTA.

APRIL – AUGUST 2002

Field Biologist / Hamer Environmental L.P., Mt. Vernon, WA, USA

Conducted threatened seabird surveys on state lands to determine presence/absence relative to forestry activities.

MAY – AUGUST 2001

Field Technician/ University of Washington, Forks, WA, USA

June-August 2001, Field Technician

Research project on nest predation of threatened seabirds and impacts of forestry practices on nesting sites.

Education

2002

Bachelor of Science in Wildlife Biology / University of Northern British Columbia, Prince George, BC

1998

Diploma in Fish and Wildlife Technology / Sir Sandford Fleming College, Lindsay, ON

Certifications/Courses

- Ontario Wetland Evaluation Training Course, 2004.
- Ecological Land Classification for Southern Ontario Training Course, 2005.
- Certificate of Participation: Wildlife Acoustics Bat Detector & Analysis Course, 2015.
- Ministry of Natural Resources (MNR) Butternut Assessment Course, 2009, 2014 & 2019.
- OPPI- The Planner at the Ontario Municipal Board Seminar, 2006.