Poppy South, Guelph

Scoped Environmental Impact Study

Prepared for:

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NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Poppy South, Guelph

Scoped Environmental Impact Study

Project Team

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Report dated June 26, 2025

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1.0 Introduction

Natural Resource Solutions Inc. (NRSI) was retained by Mattamy (Tru-Villa) Limited to complete a Scoped Environmental Impact Study (EIS) in support of a Draft Plan of Subdivision at 132 Clair Road West in Guelph, Ontario. Within this report, the proposed development area is identified as the 'Poppy South lands' to distinguish it from the Draft Plan Approved (DPA) lands at 132 Clair Road West that are north of the Poppy Drive extension, as well as from the broader future development lands south of the Neumann Pond (Map 1). The proposed development at the Poppy South lands will encompass 7 blocks, with 4 of these being low-density residential, 1 multiple density residential, and 2 open space.

The Poppy South lands are located within the Clair-Maltby area of Guelph, immediately south of Poppy Drive and north of the Neumann Pond Provincially Significant Wetland (PSW) (Map 1).

NRSI has undertaken extensive ecological surveys in 2024 in support of a future EIS for the broader 132 Clair Road West subject property which encompasses the Poppy South lands. In addition, the Poppy South lands continue to be studied and monitored through the ongoing program associated with the Environmental Implementation Report (EIR) for the DPA lands. Based on the completion of these detailed surveys, which include the proposed Poppy South Draft Plan area, a Scoped EIS was deemed to be sufficient in order to assess potential impacts to natural heritage features. As such, the additional field program to address the Poppy South development was limited to the completion of a tree inventory, which is further detailed within the *Poppy South Tree Inventory & Preservation Plan* (TIPP) (NRSI 2025) submitted under a separate cover.

NRSI has worked closely with other members of the project team to evaluate the conditions within the study area, including Mattamy Homes, MTE (engineering), and MacNaughton, Hermsen, Britton, Clarkson (MHBC) Planning Ltd.

This EIS report provides details on the scoping of the project study requirements, collection of background information, characterization of pertinent natural heritage features through completion of original field surveys, an assessment of the significance and sensitivity of these features, an evaluation of potential impacts and mitigation/enhancement measures, and a detailed enhancement and monitoring plan.

1.1 Project Scoping & Terms of Reference

NRSI prepared a Terms of Reference (TOR) which was distributed to the City and Grand River Conservation Authority (GRCA) on March 25th, 2025, and was considered to be approved by the City staff on May 29th, 2025 following some minor edits. The final TOR is included in Appendix I.

Given the extensive and lengthy field surveys completed on the 132 Clair Road West property over the years, the project scoping for this EIS primarily involved reviewing recent survey data, reports and compiled information that included identification of significant species and habitat occurrences within the study area for the Poppy South lands. This information was then summarized in the Species at Risk (SAR) and Species of Conservation Concern (SCC) and Significant Wildlife Habitat (SWH) screenings for the Poppy South study area, as described below.

1.1.1 Species and Risk and Species of Conservation Concern Screening

Based on the initial species lists, a number of SAR and SCC were identified as having records near the study area. SAR are those species listed on the Species at Risk in Ontario List (MECP 2024). These include species identified by the Committee on the Status of Species at Risk in Ontario (COSSARO) as provincially Endangered, Threatened, or Special Concern. Species listed as Endangered or Threatened are protected under the Endangered Species Act (ESA) 2007, which includes protection to their habitat, and are referred to herein as “regulated SAR”.

SCC include:

- Species designated provincially as Special Concern;
- Species that have been assigned a conservation status (S-Rank) of S1 to S3 or SH by the NHIC; and,
- Species that are designated federally as Threatened or Endangered by the Committee for the Status of Endangered Wildlife in Canada (COSEWIC) but not provincially by the COSSARO. These species may be protected by the federal Species at Risk Act (SARA) if they are listed as Threatened or Endangered on Schedule 1 of the SARA, but not provincially by the *ESA*.

Habitat for SCC is considered Significant Wildlife Habitat (SWH) (OMNR 2010), which is afforded protection under the Provincial Policy Statement (PPS, OMMAH 2020) and municipal

natural heritage protection policies. For the purposes of this report, the term “SAR” will refer to provincially Threatened and Endangered species regulated under the *ESA* while provincial species of Special Concern will be considered SCC.

Based on the results of the project scoping which identified SAR and SCC with the potential to occur within the study area, assessments of habitat suitability were made by cross-referencing each species’ known habitat preferences or requirements (e.g., OMNR 2000) with habitat known to be present based on the existing vegetation communities (Map 2). A complete list of these species is provided in Appendix II.

1.1.2 Significant Wildlife Habitat Screening

A screening for the presence of SWH was also completed for the study area. The Significant Wildlife Habitat Technical Guide (SWHTG) outlines the types of habitats that the MNRF considers significant in Ontario as well as criteria to identify these habitats for Ecoregion 6E, in which the study area is located (OMNR 2000, MNRF 2015a). The SWHTG groups SWH into four broad categories: seasonal concentration areas, rare vegetation communities and specialized wildlife habitat, habitats of SCC, and animal movement corridors. A number of SWH types were confirmed within the study area. Final results of the SWH screening exercise based on original field surveys are provided in Appendix III.

Relevant Policies, Legislation and Planning Studies

Table 1 provides an overview of natural heritage-based policies, regulations and legislation that were considered and which informed the field program and analysis. Where applicable, these policies are reviewed within the discussion of natural heritage features within Section 5 and will be further assessed as part of the Scoped EIS report in order to inform development plans.

Table 1. Relevant Policies, Legislation, Planning Studies, and Guidelines

Policy/Legislation/Study	Description	Project Relevance

Provincial Planning Statement (OMMAH 2024).	• Issued under the authority of Section 3 of the Planning Act and came into effect October 20, 2024, replacing the 2020 Provincial Policy Statement.
	• Section 4.1 of the PPS – Natural Heritage establishes clear direction on the adoption of an ecosystem approach and the protection of resources that have been identified as 'significant'.
	
	The Natural Heritage Reference Manual (OMNR 2010) and the Significant Wildlife Habitat Technical Guide (OMNR 2000) were prepared by the MNRF to provide guidance on identifying natural features and in interpreting the Natural Heritage sections of the PPS.
		• The following natural features, afforded consideration within the PPS, were identified within the study area:
		  ○ Significant Wetland, and
		  ○ Significant Wildlife Habitat.
		• The development area is located outside of these natural heritage features.
		• Several significant natural heritage resources, as identified in the PPS, are present within and adjacent to the development area.
		• The Neumann Pond PSW is located to the southeast of the proposed development area, a 30m vegetated buffer will be provided between the PSW and proposed development area.
		• No habitats of Endangered or Threatened species have been identified within development area, although candidate habitat for some species is present in the study area.

Endangered Species Act (ESA 2007)	• The ESA prohibits killing, harming, harassing, or capturing SAR and protects their habitats from damage and destruction. • Ontario Regulation 242/088 under the ESA applies to all species on the Species at Risk in Ontario List, as of June 2, 2017. • Ontario Regulation 829/21 and 830/21 may apply depending on which SAR are confirmed to be present within the Subject Property where harm to those species and their habitat may be proposed. • The original ESA, written in 1971, underwent a year-long review which resulted in a number of changes which came into force in 2007.	• Based on the background review and SAR/SCC screening, candidate habitat for several SAR were identified as occurring within the study area, although this habitat was not confirmed to be present. • These SAR are described and considered throughout this report.

Policy/Legislation/Study	Description	Project Relevance
	• The ESA prohibits killing, harming, harassing or capturing SAR and protects their habitats from damage and destruction	
Species at Risk Act (SARA), 2002	• The SARA is a federal piece of legislation that protects species listed as Endangered, Threatened or Special Concern on Schedule 1 of the *Act*. • SARA prohibits killing, harming, harassing, capturing, or taking of individuals. • Under SARA, prohibitions regarding individuals and residences for migratory birds and aquatic species at risk apply wherever they occur in Canada (including private lands). • For terrestrial species at risk, these prohibitions only apply on federal lands. • In the case of a migratory bird species listed under the *Migratory Birds Convention Act*, certain SARA prohibitions protecting individuals and residences (e.g., nests or dens) of endangered, threatened and extirpated species apply automatically. Additionally, Critical Habitat for these species, where identified, is protected. • In the case of aquatic species at risk, SARA prohibitions protect individuals, residence (e.g., fish spawning areas, mussel beds or burrows) and identified critical habitat.	• Several species protected by SARA were identified as potentially occurring in the vicinity of the study area, based on the background review. However, none of these species were identified as being present within the study area. • The provisions and requirements of SARA are considered throughout this report in addition to those for the provincial ESA.
Migratory Birds Convention Act (MBCA), 1994 and Migratory Birds Regulations (MBR), 2022	• The federal Migratory Birds Convention Act (MBCA) is applied through The Regulations Respecting the Protection of Migratory Birds that states that "[…] no person shall disturb, destroy or take a nest, egg […] of a migratory bird." • The MBCA protects migratory game birds, insectivorous birds, and several other migratory non-game birds from persecution in the form of harassment.	• Birds protected by the Migratory Birds Convention Act have the potential to be impacted during site alteration and construction; • The schedule of construction activities, especially vegetation clearing and site grading must have consideration for the nesting period of breeding birds in Canada as defined under the MBCA. Tree removal within the prime bird nesting period (April 1

Policy/Legislation/Study	Description	Project Relevance
	• Bird nests that are destroyed during the course of construction and other related activities are referred to as “incidental take” and this is illegal except under the authority of a permit obtained through the Canadian Wildlife Service • Schedule 1 of the MBR 2022 provides year-round nest protection for 18 species that are known to re-use nests annually. • The schedule of on-site work must consider MBCA windows, with timing of breeding bird season typically occurring between May 1 and July 31; however, this is a guideline, since the MBCA applies anytime a migratory bird is nesting. •	-August 31), should be avoided where possible, although this is a general guideline since the Act applies to nesting birds at any time of the year.
Fish and Wildlife Conservation Act 1997 (Government of Ontario 1997)	• The FWCA provides protection for certain bird species, not protected under the MBCA (e.g., raptors), as well as furbearing mammals and their dens or habitual dwellings, aside from the Red Fox (*Vulpes vulpes*) and Striped Skunk (*Mephitis mephitis*).	• A number of species protected under the FWCA are present within the study area and are considered throughout this report in terms of recommended mitigation measures during construction.
City of Guelph Official Plan (2024)	• The City of Guelph’s consolidated OP (2022) outlines constraints and opportunities for development within the Natural Heritage System and land use characteristics. • Exceptions to encroachment within Significant Natural Areas are described under general policies, however, it must be demonstrated that no negative impacts to the natural system or ecological functions occur.	• The OPA’s Natural Heritage System (City of Guelph 2022a) identifies Significant Natural Area (representing the Neumann Pond PSW) and Natural Area (representing confirmed Habitat for (Locally) Significant Species) located within and adjacent to the proposed development area. • Minimum buffer for a PSW is 30m from the wetland boundary.
Conservation Authorities Act (O.Reg. 41/24) (Government of Ontario 2024a)	• Regulation issued under *Conservation Authorities Act,* 2024. • Through this regulation, the conservation authority has the responsibility to regulate	• Regulated features including wetland (Neumann Pond) are present in the study area.

Policy/Legislation/Study	Description	Project Relevance
	activities in natural and hazardous areas (i.e., areas in and near rivers, streams, floodplains, wetlands, and slopes). • Regulation limit extends 30m from wetlands and 15m from watercourses.	• A permit under Section 28.1 of the Conservation Authorities Act is required for any development within the regulation limits to these features. Permits must demonstrate that the undertaking is not likely to affect the control of flooding, erosion, dynamic beaches, or pollution, or the conservation of lands.
City of Guelph Private Tree Protection By-law (City of Guelph 2025 & Tree Technical Manual (City of Guelph 2025)	• The City of Guelph Tree By-Law (2025)-21059 repealed By-law (2010)-19058 • The by-law states […] "*no person may destroy or injure, or cause or permit the destruction or injuring of a regulated tree* […]". • A regulated tree is defined as "*a) a Tree of at least 10 cm DBH located on any Private Lot larger than 0.2 hectares (0.5 acres); and b) a Tree of at least 30 cm DBH located on any Private Lot;"* • The City of Guelph's OP also requires that a Vegetation Compensation Plan be required for the replacement of all healthy non-invasive trees measuring over 10cm Diameter at Breast Height (DBH).	• A tree inventory was completed by NRSI in 2024, and a Tree Inventory and Preservation Plan (TIPP) prepared (NRSI 2025) in accordance with the requirements of the in-force bylaw.

Hanlon Creek Watershed Plan (City of Guelph 1993)	• The Hanlon Creek Watershed Plan (HCWP) was initiated by the City of Guelph to "develop a watershed plan that allows sustainable development aimed at maximizing benefits to the natural and human environments on a watershed basis".
	• Three goals are listed in the HCWP:
	  ○ Minimize threats to life, property and natural resources from flooding and to preserve or reeastablish natural flood plain function;
	  ○ Restore, protect and enhance water quality, aquatic resources and water supplies; and
		• The proposed development is located within the Hanlon Creek Watershed. The EIS Addendum (NRSI 2018) identifies management and mitigation measures to ensure the goals of the HCWP are met, these include:
		  ○ Infiltration of runoff within the development area through the use of infiltration galleries and a bio-retention pond, as described in the SWM plan;
		  ○ Preparation of a Salt Management Plan;
		  ○ Implementation of a 30m buffer from the Neumann Pond PSW; and
		  ○ Establishment of restoration planting areas with the buffer area.

Policy/Legislation/Study	Description	Project Relevance
	○ Restore, protect, develop and enhance the historic, cultural, recreational and visual amenities of rural and urban stream corridors. • Management options that are intended to guide developments within the Hanlon Creek Watershed are provided in the HCWP.	

2.0 Field Methods

A comprehensive, multi-season field program was undertaken by NRSI in 2024 that encompassed the entire 132 Clair Road West property, including the Poppy South lands. In total, 39 field visits were carried out between February 21st and November 5th, 2024 to characterize the natural features within the subject property (Table 2). This is in addition to the previous extensive monitoring on these lands completed by NRSI as detailed within the EIS for the DPA lands (NRSI 2018) as well as for the EIR (NRSI 2023).

During the field program, all observations of birds, reptiles, amphibians, mammals, butterflies, dragonflies, and damselflies were documented on all field visits. This included actual direct observations of individuals, as well as signs of wildlife presence (i.e., tracks, scat, dens, nests, etc.).

Detailed field methods are not provided in this report, although the reader is referred to the aforementioned EIS and EIR. In addition, the field methodologies for the surveys listed within Table 2 have also been detailed within the comprehensive TOR for the EISs that encompass the properties at 132 Clair Road West, 2021/2093 Gordon Street, and 2187 Gordon Street, which was approved by the City (NRSI 2024a).

Table 2. Field Survey Summary

Survey Type	Protocol	Date	Start and End Time (24 hrs)	Temp. (°C)	Wind Speed (Beaufort Scale)	Precipitation
Winter Wildlife Surveys	Systematic area searches throughout all habitats	February 21st, 2024	0900-1105	0-5	3	Snowfall within 48hrs. Snow base: 5cm
		March 21st, 2024	0930-1200	-5-0	1	Snowfall within 24hrs. Snow base: 5cm
		March 25th, 2024	0900-1100	0	1	Snowfall within 48hrs. Mostly bare ground. With minimal patches of snow.
Vascular Flora Inventories	Systematic area search by ELC polygon	May 13th, 2024	0930 -Unknown	-	-	-
		May 31st, 2024	1330- Unknown	-	-	-
		July 22nd. 2024	0940-1415	19-27	1	None
		September 23rd, 2024	1030-1630	-	-	Light Rain
		October 7th, 2022	1000-1845	7	4	None
Breeding Bird Surveys	Ontario Breeding Bird Atlas Protocol (OBBA 2001)	May 31st, 2024	0557-0916	7-14	1	None
		June 14th, 2024	0557-0922	16-20	2-3	None
		June 27th, 2024	0610-0926	12-15	2-3	None
Common Nighthawk	Canadian Nightjar survey Protocol (ECCC 2021)	June 17th, 2024	2043-2125	28	1-2	None
		July 4th, 2024	2120-2200	24	1	None
Marsh Breeding Bird Monitoring	Marsh Monitoring Protocol (BSC 2009a)	June 17th, 2024	2055-2110	27	1	None
		July 4th, 2024	1956-2011	24	1	None

Survey Type	Protocol	Date	Start and End Time (24 hrs)	Temp. (°C)	Wind Speed (Beaufort Scale)	Precipitation
Anuran Call Surveys	Marsh Monitoring Protocol (BSC 2009b)	April 10th, 2024	2306-2320	11	1	None
		May 15th, 2024	2308-2328	12-13	0	None
		June 17th, 2024	2138-2200	24.5	0-1	None
Turtle Emergence and Basking Surveys	MNRF 2015b	March 13th, 2024	1255-1627	18-20	2-3	None
		April 1st, 2024	1357-1550	12-16	2	None
		April 7th, 2024	1555-1630	11-21	1-2	None
		April 10th, 2024	1555-1636	11-21	1-2	None
		April 15th, 2024	1540-1625	13-15	2-3	None
Turtle Nesting Surveys	MNRF 2016a	May 28th, 2024	1818-2105	17-18	1-3	Hailed Earlier, Storm Approaching
		June 3rd, 2024	1805-2145 2120-2145	18-24	2-3	None
		June 4th, 2024	1806-2150	19-26	2-3	None
		June 6th, 2024	1805-2020	17-20	3	None, Storm Approaching
		June 7th, 2024	1400-1545	18-19	4	Rained Earlier
		June 17th, 2024	2015-2102	28	3	None
Snake Visual Encounter Surveys*	MNRF 2016b (completed on all surveys in spring, summer, and fall of 2024 where weather permitted)	-	-	-	-	-
Snake Board Placement		April 16th, 2024	1300-1645	20	2	None
Snake Emergence Surveys	Area searches of suitable hibernacula during emergence period	March 13th, 2024	1215-1711	17-18	3	None
		April 26th, 2024	1410-1626	10-13	4-5	None
		May 13th, 2024	1300-1550	20-25	2	Rained Earlier
		May 15th, 2024	1955-2111	14-18	1-2	None
		June 3rd, 2024	1840-1940	24-25	1-2	None

Survey Type	Protocol	Date	Start and End Time (24 hrs)	Temp. (°C)	Wind Speed (Beaufort Scale)	Precipitation
		June 4th, 2024	1855-2040	20-24	1-3	None
		June 6th, 2024	1848-1956	18-22	2-4	Storm Approaching
		June 7th, 2024	1400-1545	18-19	4	Rained Earlier
		June 12th, 2024	1004-1352	19-28	1-2	None
			1806-2222	19-27	2-4	None
		June 17th, 2024	0913-1302	20-24	2	None
		June 22nd, 2024	0940-1700	19-27	1	None
Aquatic Habitat Assessments	Modified Ontario Stream Assessment Protocol (Stanfield 2013)	October 4th, 2024	1510-1605	14-15	1-3	Mist
Insect Surveys	Systematic area search of suitable habitat.	June 2nd, 2024	1004-1159 1235-1406	19	2	None
		July 17th, 2024	0913-Unknown	21	2	None
		August 22nd, 2024	1020-1230	18-25	2	None
Salamander Trap Setting	Jefferson Salamander Recovery Team (2013)	March 11th, 2024	1952-2040	9	-	None
		March 12th, 2024	1717-1814	13	2	None
		March 14th, 2024	1717-1725	7	1	Rain
		March 18th, 2024	1816-1824	3	3	Light Snow
		March 26th, 2024	1843-1910	9	1	Light Rain
Salamander Trap Checks	Jefferson Salamander Recovery Team (2013)	March 12th, 2024	0853-0928	3	-	None
		March 13th, 2024	1055-1200	12-17	-	None
		March 15th, 2024	1226-1240	10	-	None

Survey Type	Protocol	Date	Start and End Time (24 hrs)	Temp. (°C)	Wind Speed (Beaufort Scale)	Precipitation
		March 19th, 2024	0915-1100	-5	-	Light Snow
		March 27th, 2024	1100-1140	5	-	None
Tree Inventory	Inventory of all trees within or adjacent to development area. Tree Technical Manual (City of Guelph 2025)	November 5th, 2024	--	--	--	--

*Snake Visual Encounter Surveys were completed during all surveys when suitable weather was present

3.0 Existing Conditions

As specified in the approved TOR for the Scoped EIS, this report does not provide a comprehensive review of all of the results from the 2024 field surveys undertaken as part of the future EIS for the broader 132 Clair Road West property. Rather, this report summarizes new information where it applies to the Poppy South lands, particularly where it may impact the previous conclusions related to significant species habitats established through the earlier EIS (NRSI 2018) and EIR (NRSI 2023).

Vegetation communities have been updated based on recent field work and are shown on Map 2 and described below. Relevant changes to significant features, wildlife and their habitats has been integrated into Section 4 '*Significance and Sensitivity*'.

3.1 Vegetation

3.1.1 Vegetation Communities

Vegetation communities within 132 Clair Road West (including the study area) were initially characterized by NRSI through the previous EIS (NRSI 2018). The vegetation communities were refined and mapped by NRSI during the preparation of the EIS Addendum (2018), and are described in detail in the EIR (NRSI 2023). These vegetation communities have been further refined through surveys completed in 2024, as shown on Map 2. The lands have continued to succeed over the years and areas that were previously identified as meadow have matured to thicket communities within the study area, in many places.

The vegetation communities known to be present on the Poppy South lands based on the most recent information are listed and described in Table 3.

Table 3. Vegetation Communities within the Study Area

ELC Ecosite Type	ELC Description	Environmental Characteristics
Wetland		
SWD4-1	Willow Mineral Deciduous Swamp Type	This swamp community comprises the western portion of the Neumann Pond PSW. It floods seasonally in the spring and early summer. Woody species include Crack Willow and Red-Osier Dogwood (*Cornus sericea*). Invasive plant species including Common Buckthorn is abundant throughout the community.
SAF1-3 (inclusion)	Duckweed Floating-leaved Shallow Aquatic Type	This inclusion is located within the SWD4-1 polygon to the south of the Poppy South lands and comprises a small area of shallow water habitat with floating vegetation.
MAS2-1	Cattail Mineral Shallow Marsh Type	This small wetland community is located at the southern end of the Neumann Pond PSW and partially overlaps the subject property. It floods seasonally in the spring and early summer and is dominated by the non-native Narrow-leaved Cattail (*Typha angustifolia*). The edges of the marsh contain Riverbank Grape (*Vitis riparia*), Willow sp. (*Salix sp*.) and Common Buckthorn (*Rhamnus cathartica*).
SA	Shallow Water	This community forms the eastern portion of the Neumann Pond PSW. Water in the shallow aquatic community is generally less than 2m deep and a marsh extends along the edges of the open water. The pond contains water throughout the year but water levels decrease from spring to summer. Crack Willow (*Salix fragilis*) overhang the pond and Reed Canary Grass (*Phalaris arundinacea*) borders the open water.
OA	Open Water	The open water portion of the Neumann Pond is located within the eastern lobe of the PSW feature.
Cultural		
CUT1	Mineral Cultural Thicket Ecosite	This community contains a sparse sub-canopy with Scot's Pine, Pear, and Black Cherry with a denser understorey of Common Buckthorn, Perfumed Cherry (*Prunus mahaleb*), and honeysuckle (*Lonicera x bella*). Groundcover is dominated by non-native grass species such as Smooth Brome (*Bromus inermis*), Orchard Grass (*Dactylis glomerata*), Quack grass (*Apropyron repens*), and Timothy (*Phleum pratense*). Other vegetation species that are present and typical of old field habitats include Bird's-foot Trefoil (*Lotus corniculatis*), Wild Carrot (*Daucus carota*), Crown Vetch (*Securigera varia*) and goldenrods (*Solidago spp.*) This community was previously identified partially as Cultural Meadow (CUM1) but has since been updated to CUT1 given that total shrub cover exceeding 25%.

4.0 Significance and Sensitivity of Natural Features

The identification of significant and sensitive natural features is required to understand what areas need to be protected and what areas present opportunities for development. Natural features that are sensitive to disturbance are identified based on the rarity or significance of the feature in the context of the natural heritage policies governing their protection.

As previously mentioned, this Scoped EIS will focus on identifying new significant features or habitats as well as updating any changes to previously identified significant features based on more recent field surveys carried out in 2024.

For the Poppy South lands, the most significant ecological feature within the study area is the Neumann Pond PSW and the associated wildlife habitats.

The City of Guelph provides minimum buffers for SNAs and NAs within the NHS that are established through an EIS. These buffers are considered minimum widths that may be expanded on depending on the sensitivity of the habitats and species within these features, as well as based on the details of proposed development and the site-specific characteristics. Necessary buffer widths for natural heritage features are provided in Section 4.6 below.

Natural heritage features are discussed below in terms of their presence within the study area as well as within the Poppy South lands in order to assist in framing potential impacts and mitigation measures to be assessed throughout this Scoped EIS.

4.1 Significant Wetlands

Wetlands provide valuable ecological functions within the landscape because of their ability to collect and store surface water and groundwater, as well as for their provision of habitat for wildlife, plants, and fish.

The Neumann Pond, located southeast of the development area, is a Provincially Significant Wetland (PSW) (Map 2). Map 2 shows the extent of the surveyed wetland, as well as wetlands identified through ELC mapping throughout the study area. NRSI carried out a review of this wetland to consider significance under the current *Ontario Wetland Evaluation System* guidelines (Government of Ontario 2022). Based on this review, it is our assessment that the Neumann Pond remains a PSW.

4.2 Significant Woodlands

Woodlands can provide a variety of benefits including soil erosion prevention, nutrient and hydrological cycling, the long-term storage of carbon, and the provision of wildlife habitat (OMNR 2010). The protection of woodlands, especially those deemed Significant, is important because the loss of habitat can pose a serious threat to biodiversity (OMNR 2010) and valuable ecological benefits may be lost within the landscape.

As per Section 4.1.3.6 of the City of Guelph Official Plan, woodlands are assessed for significance based on the following criteria:

1. *Woodlands (not identified as cultural woodlands or plantations) of 1 hectare or greater in size, and a 10 metre minimum buffer.*
2. *Woodlands 0.5 hectare in size or greater consisting of Dry-Fresh Sugar Maple Deciduous Forest and a 10 metre minimum buffer, or*
3. *Woodland types ranked as S1 (Critically Imperiled), S2 (Imperiled) or S3 (Vulnerable) by the MNR Natural Heritage Information Centre, and a 10 metre minimum buffer.*

In addition, the definition of Significant Woodlands applies to woodlands that are:

> *Ecologically important in terms of features such as species composition, age of trees and stand history, functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of remaining forest cover in the city* (City of Guelph 2022).

There are no Significant Woodlands within the Poppy South lands or study area.

4.3 Habitat of Endangered and Threatened Species

Confirmed Habitat for SAR is not present within the Poppy South lands or the study area. Candidate habitat for bat SAR has the potential to occur based on the recent bat habitat assessments completed on the property in 2024 that identified 3 potential bat roost trees within the study area, of which, only 2 are anticipated to be removed, as shown on Map 3. The most recent guidance from MECP identifies that in situations where small numbers of isolated candidate trees are identified, avoiding removals during the bat active period from March 15-November 30th is sufficient to avoid impacts to these species. This is further discussed in Section 5.3.3 below.

As detailed within Appendix II, no other habitat for SAR has the potential to occur within the study area. SCC are discussed below under SWH.

4.4 Significant Wildlife Habitat

A number of SWH types were identified as being confirmed within the subject property based on the original EIS completed for the DPA lands (NRSI 2018). These habitats are described below along with any necessary updates based on the most recent surveys completed in 2024 (Table 2), in addition to monitoring associated with the EIR (NRSI 2023). Conclusions related to significance pertain to the Poppy South lands study area and do not exclude the possibility of these habitats being present elsewhere at 132 Clair Road West. The presence of SWH will be further assessed within these other areas through completion of the future EIS for those lands further south.

Appendix III provides a complete overview of SWH within the Poppy South lands study area.

Turtle Wintering (Confirmed)

The Neumann Pond was confirmed to be SWH for turtle wintering through completion of the earlier EIS (NRSI 2018). Field surveys during 2024 confirmed the continued significance of this feature with the identification of a total of 19 Midland Painted Turtles (*Chrysemys picta marginata*) and a single Snapping Turtle (*Chelydra serpentina*) observed during basking surveys.

Amphibian Breeding (Wetland) (Confirmed)

The Neumann Pond is located within 120m of other woodland habitat, and would typically be assessed as 'woodland' breeding. However, given the species assemblage present and the low tree cover surrounding the pond, it is likely more applicable to consider this habitat 'wetland' breeding. Anuran call surveys completed through the EIS (NRSI 2018) and EIR (NRSI 2023) did not identify sufficient amphibian breeding to be considered 'significant'. Similarly low numbers of calling anurans were noted in 2024, although 2 American Bullfrog (*Lithobates catesbeianus*) were identified within the pond during 2024 surveys at ANR-001. This is an 'indicator' of significance for amphibian wetland breeding (MNRF 2015a), and as such, this habitat would be considered significant, particularly given that the Neumann Pond is a prominent open water feature within the Clair-Maltby area which enhances the significance for species such as American Bullfrog.

Table 4. Anuran Species Recorded During Call Count Surveys (Neumann Pond)

Scientific Name	Common Name	ANR-001			ANR-002		
		2016	2022	2024	2016	2022	2024
Anaxyrus americanus	American Toad	2(10)	-	-	-	-	-
Hyla versicolor	Gray Treefrog	1(2)	1(1)	-	-	-	-
Lithobates catesbeianus	American Bullfrog	-	-	1(2)	-	-	-
Lithobates clamitans	Green Frog	2(6)	1(1)	2(8)	1(1)	-	-
Lithobates pipiens	Northern Leopard Frog	-	-	-	1(1)	-	-
Pseudacris crucifer crucifer	Spring Peeper	1(3)	1(1)	2(2)	-	1(1)	2(5)

First # indicates call code/level, 2nd # in brackets indicates number of individuals

Reptile Hibernaculum (Snakes) (Not Significant)

The old barn foundation present on the northern edge of the Neumann Pond within the 30m PSW buffer was previously identified as significant based on the presence of multiple snake species utilizing this feature (NRSI 2018; NRSI 2023). Based on recent field surveys in 2024, only 2 Eastern Gartersnake (*Thamnophis sirtalis sirtalis*) were observed during snake emergence surveys. This habitat has been degraded through use of this area by members of the public, and considerable amounts of refuse and garbage were observed within the vicinity to this feature in 2024. As such, this habitat is no longer considered 'significant', however, it is still likely to be utilized by lower numbers of snakes for a hibernation site. As such, considerable mitigation measures are to be undertaken through the removal and restoration of this area, as described in Section 5 below.

Waterfowl Nesting (Not Significant)

Waterfowl nesting was previously identified as being associated with the upland areas surrounding the Neumann Pond based on the presence of as many as 20 Mallard (*Anas platyrhynchos*). Surveys in 2024 did not confirm the presence of similarly large numbers of Mallards or other waterfowl species that would warrant consideration as significant. Low numbers of waterfowl were observed utilizing the site as a stopover site during the early spring period including Wood Duck (*Aix sponsa*) and Hooded Merganser (*Lophodytes cucullatus*) (in addition to Mallard and Canada Goose), however, these species did not persist on the site through the breeding bird period. As such, this habitat type is no longer considered to be 'significant'.

Raptor Wintering (Not Significant)

Candidate Raptor Wintering was previously identified within the open thicket and meadow habitats south of the Neumann Pond (NRSI 2018). This habitat type was mapped to include open country habitat in combination with the broader woodlands to the south of the study area. Despite extensive winter wildlife and other surveys during the winter period in 2024, wintering raptors were not observed.

As such, it is unlikely that the study area is being utilized as Raptor Wintering habitat.

Shrub/Early Successional Bird Breeding Habitat (Not Significant)

Although not found to be present within the Poppy South lands north of the Neumann Pond, this habitat type was previously identified within the study area further south (NRSI 2018). NRSI carried out extensive breeding bird surveys across 3 survey dates in 2024, including transects through suitable thicket habitat. Despite this, sufficient abundance and diversity of thicket bird species were not observed. The results of these surveys will be further discussed as part of the impending EIS for the 132 Clair West lands further south, where this habitat type would be of greater consequence.

Habitat of Species of Conservation Concern

Habitat for two SCC was previously identified as being present within the Poppy South lands study area, for Monarch and Eastern Ribbonsnake. These species are discussed below in relation to the most recent field surveys carried out in 2024.

Monarch (Not Significant)

Monarch were observed within the 132 Clair Road West subject property in conjunction with milkweed (*Asclepias* spp.), resulting in the identification of SWH for this species including within thicket habitat (CUT1) overlapping with the proposed Poppy South lands (Map 2). During insect surveys carried out in 2024, 2 observations of Monarch occurred within the study area to the south and east of the Neumann Pond. No observations were recorded within the Poppy South development area. Only sporadic milkweed was observed within the vegetation communities overlapping with the Poppy South lands, and as such, this habitat is not considered to be 'significant'.

Eastern Ribbonsnake (Not Significant)

Eastern Ribbonsnake habitat was previously identified within the Poppy South study area including in areas north of the Neumann Pond (NRSI 2018). Through extensive field surveys across the Clair-Maltby properties west of Gordon Street, NRSI has a more comprehensive understanding of significant habitats for this species, including for wintering, foraging, and movement corridors. No observations of Eastern Ribbonsnake were observed within the Poppy South lands study area. Nonetheless, maintaining movement corridors for herpetofauna species between the Neumann Pond and the broader NHS further south will be critical for ensuring the integrity of such habitats. This will be further detailed within the ongoing Street A Environmental Assessment and the EIS for 132 Clair Road West lands to the south.

4.5 Locally Significant Species

Habitat for species considered to be (Locally) Significant Species (LSS) has been previously identified within the132 Clair West property including in areas that overlap with the Poppy South lands (City of Guelph 2012; NRSI 2018). This assessment has been revised based on the completion of the recent surveys in 2024. Species with habitat that has been confirmed within the Poppy South lands study area are described in Table 5 below, with habitats delineated on Map 3.

A number of LSS were previously identified as occurring within the Poppy South lands (NRSI 2018). However, based on the more recent comprehensive field surveys carried out, these species were not identified as occurring within this area and as such have been excluded from Table 5 and Map 3. These species include Savannah Sparrow (*Passerculus sandwichensis*), Willow Flycatcher (*Empidonax traillii*), and Red-bellied Snake (*Storeria occipitomaculata*).

No plant LSS were located within the study area, although a number of species were recorded elsewhere on the 132 Clair Road West property.

All other LSS recorded in the species lists (Appendix IV) were either located outside of the Poppy South lands study area (within the broader 132 Clair Road West property) or were species that although recorded within the study area did not have suitable habitat identified.

Table 5: Habitat for Locally Significant Species and Respective Habitat Guilds within the Study Area

Guild	Species	Habitat Requirements	HSS Confirmed Within Study Area?	HSS Confirmed Within Development Area?	Habitat Protected Within the NHS?
Meadow/Open Country	Eastern Kingbird (*Tyrannus tyrannus*)	Open environments such as fields with scattered shrubs and trees, orchards, along woodland edges in forested regions, savannahs, among others (Hespenheide 1971; Johnston 1971; Graber et al. 1974).	**Yes.** Suitable habitat is widely present within the open meadow and thicket habitat on the site.	**Yes.** A small portion of this habitat at 132 Clair Road West is located within the development area outside of the wetland buffers.	**Yes.** The vast majority of habitat for this species is located outside of the study area within other NHS features.
	Field Sparrow (*Spizella pusilla*)	Old fields, woodland openings and edges, roadsides and railroads near open fields. Does not breed close to human habitation; occasionally found in Christmas tree farms, orchards, and nurseries (Peterjohn and Rice 1991).	**Yes.** Suitable habitat for this species extends into the southern portion of the study area.	**No.** Breeding bird surveys in 2024 did not confirm this species within the development area.	**Yes.** The vast majority of habitat for this species is located outside of the study area within other NHS features.
	Wild Indigo Duskywing (*Erynnis baptisiae*)	Old fields, meadow, open habitats. Larval foodplant includes Wild Indigo and Crown Vetch (BMNA 2022)	**Yes.** Suitable habitat is present for this species within the buffers to the Neumann Pond where crown vetch occurs.	**Yes.** A small portion of this habitat extends into the development area north of the Neumann Pond.	**Yes.** Suitable open habitat will remain within the buffer areas as well as further south within the 132 Clair Road West NHS.
Pond/Wetland	American Bullfrog (Lithobates catesbeianus)	Live in deep, permanent water with abundant emergent plants; requires stable water levels, particularly during winter hibernation and summer	**Yes.** Species was confirmed within the Neumann Pond during	**No.** The species was not observed to be located away from the pond.	**Yes.** The Neumann Pond PSW will be buffered and

Guild	Species	Habitat Requirements	HSS Confirmed Within Study Area?	HSS Confirmed Within Development Area?	Habitat Protected Within the NHS?
		spawning periods (OMNR 2000).	anuran call surveys.		protected from development.
	Eastern Amberwing (*Perithemis tenera*)	Sunny, still waters of ponds and wetlands (iNaturalist 2022c).	**Yes.** Species was confirmed in the DPA lands to the north of Poppy Drive, although the breeding habitat would likely be associated with the Neumann Pond.	**No.**	**Yes.** The only suitable breeding habitat for this species would be the Neumann Pond that will be protected. Foraging habitat will also be protected within the buffer and NHS to the south.
	Halloween Pennant (*Celithemis eponina*)	Wet habitats such as ponds, marshes and lakes, where it perches on vegetation. (iNaturalist 2022c).	**Yes.** The species may be breeding within the Neumann Pond or other bodies of water. It was noted foraging nearby within thicket habitat.	**No.** The breeding habitat for this species within the study area would be restricted to the Neumann Pond.	**Yes.** The Neumann Pond PSW will be buffered and protected from development. Foraging habitat will remain within buffer areas as well as broader NHS to the south.
Woodland	American Redstart (*Setophaga ruticilla*)	Breeds in moist, deciduous, second-growth woodlands with abundant shrubs. (Peck and James 1987, Sallabanks 1993).	**Yes.** Suitable habitat is present within the deciduous portions of the	**No.** Habitat for this species is largely restricted to the woodlands that are	**Yes.** The entire woodland habitat in the subject property is

Guild	Species	Habitat Requirements	HSS Confirmed Within Study Area?	HSS Confirmed Within Development Area?	Habitat Protected Within the NHS?
			Significant Woodland.	located outside of the development area.	contained within the NHS.
	Baltimore Oriole (*Icterus galbula*)	Deciduous forests or small clumps of deciduous trees, often along woodland edges or riparian areas (Brewer et al. 1991).	**Yes.** Suitable habitat is present within the deciduous portions of the Significant Woodland.	**No.** Habitat for this species is largely restricted to the woodlands that are located outside of the development area.	**Yes.** The entire woodland habitat in the subject property is contained within the NHS.
	Northern Flicker (*Colaptes auratus*)	Open forests, woodlots, groves, towns, semi-open country, can be found in almost any habitat with trees. Tends to avoid dense unbroken forest, requiring some open ground for foraging. (NAS 2022b).	**No.** Although potentially suitable habitat is present within treed areas of the study area, breeding was not confirmed for this species nor were suitable nest cavities identified.	**No.** Suitable cavity trees were not identified during field surveys.	**Yes.** Treed areas will remain protected both within the swamp component of the PSW and in locations of NHS further south.
Thicket	Brown Thrasher (*Toxostoma rufum*)	Thickets, brush, shrubbery, thorn scrub. Breeds in areas of dense low growth, especially thickets around edges of deciduous or mixed woods, shrubby edges of swamps, or undergrowth in open pine woods. Can also be found in in suburban neighborhoods with many shrubs and hedges (NAS 2022e).	**Yes.** Suitable habitat is present within the thickets that extend into the southern edge of the study area.	**No.** This species was not identified as utilizing the development area during breeding bird surveys.	**Yes.** Suitable habitat for this species is found in the thicket communities within the NHS.

Guild	Species	Habitat Requirements	HSS Confirmed Within Study Area?	HSS Confirmed Within Development Area?	Habitat Protected Within the NHS?
	Orchard Oriole (*Icterus spurius*)	Wood edges, orchards, shade trees. Breeds in semi-open habitats with deciduous trees and open space, including riverside trees, orchards, suburbs, forest edges and clearings, prairie groves. Usually avoids unbroken forest. Winters in brushy areas and woodland edges in lowlands of the tropics. (NAS 2022f).	**Yes.** Suitable habitat is present within the thickets that extend into the southern portion of the study area where this species was observed during breeding bird surveys.	**No.** This species was not observed north of the Neumann Pond, and the habitat is not considered suitable in this area.	**Yes.** Suitable habitat for this species is found in the thickets that will be protected partially within the NHS.
Other	Cliff Swallow (*Petrochelidon pyrrhonota*)	Open to semi-open land, farms, cliffs, river bluffs, lakes. Widespread in all kinds of semi-open country, especially near water, from prairies to desert rivers to clearings in northern forest. Breeds where it can find sheltered vertical cliffs or other surfaces for nesting and a supply of mud for nest building. (NAS 2022h).	**Yes.** This species is nesting on the south side of the Clair Road Emergency Services Centre building	**No.** Nesting is not present within the development area.	**N/A**

4.6 Buffers

The Neumann Pond PSW will be afforded a 30m buffer in accordance with the minimum recommended buffers for PSWs identified within Table 4.1 of the City of Guelph Official Plan (2024). This wetland feature and associated vegetation communities were also found to provide SWH and habitat for LSS, as identified in the preceding report sections. The original EIS had confirmed that the recommended 30m wetland buffer was sufficient to safeguard these habitats. Based on the more recent field surveys carried out in 2024, a number of these habitats are no longer considered to be 'significant'. The addition of other SWH (e.g. Anuran breeding) is not expected to require a larger buffer than the planned 30m, providing that the mitigation and enhancement measures described throughout Sections 5 and 6 of this report are adhered to.

5.0 Impact Analysis

5.1 Proposed Undertaking

A Draft Plan of Subdivision has been prepared by MHBC (2025) that details the proposed development within Poppy South. The proposed development will encompass 7 blocks, with 4 of these being low-density residential, 1 multiple density residential, and 2 open space (Map 4). Based on this Draft Plan, MTE has prepared detailed engineering plans which have been integrated into the impact analysis provided within the EIS report. This includes the *Functional Servicing & Stormwater Management (SWM) Report* (MTE 2025a) as well as the *Hydrogeological Characterization Study* (MTE 2025b). A water balance analysis has been provided within the SWM Report (MTE 2025a).

The proposed approach to SWM for the subject lands at Poppy South will involve directing the majority of surface flows to the Stormwater Management Facility (SWMF) in Block 3 of the DPA lands north of Poppy Drive. The inclusion of this drainage area has been accounted for within the design and capacity of the SWMF (MTE 2025a). For Blocks 1-4, single family units and end units of town homes will direct clean runoff from rooftops to infiltration galleries via front roof leaders, with overflow directed to the wetland where possible. Block 5 will have a split drainage, with treated and clean runoff directed to infiltration galleries and overflow directed northwards to the SWMF as well as south towards the wetland. Buffer areas will continue to drain towards the Neumann Pond PSW (MTE 2025a).

The limits of development detailed within the plans prepared by MTE have been informed by the natural heritage features described within this report and associated buffers. Proposed grading for the development will be located outside of the buffer for the Neumann Pond PSW with the exception of grading associated with installation of the permanent exclusion fencing. Any works within the 30m Regulated Area for this wetland will require a GRCA permit under Ontario Regulation 41/24.

In addition to the aforementioned works within buffer areas, the old barn foundation that was formerly identified as SWH (snake hibernaculum) is proposed to be removed as part of the buffer enhancement program as well as for safety concerns. The proposed approach for removing and rehabilitating this area is further described in Section 5.3.3 below.

5.2 Approach to Impact Analysis

Potential impacts arising from the proposed undertaking were determined by comparing the details of the proposed development for Poppy South, including the grading details, SWM and water balance, with the characteristics of the existing natural features and their functions; in particular the Neumann Pond PSW and associated habitats. Where the development proposal overlaps with or is in close proximity to the natural features, impacts may arise. The boundaries of the Neumann Pond and the recommended 30m buffer was provided to the study team to guide the development proposal. This information was combined with other physical and planning constraints to come up with a suitable development plan for the property which respects the natural environment.

The following is a description of the types of impacts which will be discussed:

- **Direct** impacts to the natural features on the subject property associated with the actual proposed 'footprint' of the undertaking.
- **Indirect** impacts associated with changes in site conditions such as drainage and water quantity/quality or impacts to nearby habitats.
- **Induced** impacts associated with impacts after the development is constructed such as subsequent demand on the resources created by increased habitation/use of the area and vicinity.
- **Cumulative** impacts associated with continued development within the subwatershed and broader study area. This site is assessed in the broader context of the nearby DPA lands and the development expected within the Clair-Maltby area in general.

5.3 Direct Impacts

5.3.1 Tree and Vegetation Removal

The entire development area is located within agricultural fields or sparsely vegetated areas along the southern edge of Poppy Drive. The anticipated development area will require the removal of a portion of the thicket area (CUT1) on site (approximately 0.9ha). This thicket is largely comprised of abundant Common Buckthorn with occasional trees that will require removal.

The TIPP has been undertaken by NRSI which identifies that a total of 73 trees requiring compensation are planned to be removed in order to facilitate the development plan (NRSI

2025). As per the *City of Guelph Tree Technical Manual*, compensation will be required for an equivalent of 65 caliper trees (6cm) (City of Guelph 2025).

A landscape plan was prepared by Hill Design (2025) in support of the DPA lands to the north. The proposed plantings for this plan encompassed the buffer areas surrounding the Neumann Pond, with the understanding that these plans would need to be revised subject to the Poppy South and broader development plans for 132 Clair Road West. The TIPP provides further guidance on necessary compensation for proposed tree removal associated with Poppy South and necessary updates to the landscape plans (NRSI 2025).

Mitigations

- *A TIPP has been prepared by NRSI (2025) and includes a number of mitigation measures;*
- *Trees removed as a result of the proposed development shall be compensated according to the City of Guelph Tree Technical Manual;*
- *The limit of development and associated grading should be clearly delineated in the field with Heavy-Duty Erosion and Sediment Control (ESC) fencing prior to any on-site works, including vegetation clearing and grubbing;*
- *Tree protection fencing should be installed at retained woodland buffers and at the limit of construction in the vicinity of trees to be retained;*
- *Fencing must be inspected by a Certified Arborist/Registered Professional Forester or qualified other prior to construction and maintained during construction; and*
- *Any limbs or roots of trees to be retained which are damaged during construction should be pruned using appropriate arboricultural techniques. Hazard trees should be identified by a Certified Arborist/Registered Professional Forester or tree professional and removed as warranted.*

5.3.2 Site Grading

The proposed grading plan for the site has been prepared by MTE (2025) and is shown on Map 4 relative to the existing natural heritage features. The proposed grading has been restricted to areas outside of the 30m PSW buffer, with the exception of minor grading within the outer edge of this buffer necessary to install the permanent reptile and amphibian exclusion fencing. MTE has identified that the grades along the 30m buffer edge are steep and irregular, requiring

cutting and feathering of the grade to properly install the permanent exclusion fencing, which is rigid and does not fit well to highly variable topography. This is not expected to be a negative impact to the topography or buffer area since all areas of disturbed soil will be restored in accordance with a final landscape buffer planting plan.

It is planned that the Erosion and Sediment Control (ESC) fencing will be installed approximately 2m internal to the outer 30m PSW buffer to allow for the aforementioned earth works necessary to install the permanent exclusion fencing.

Mitigations

- *A double layer of Heavy-duty ESC fencing is to be installed at the 30m buffer edge, with an internal offset of 2m to accommodate installation of the permanent exclusion fencing; and*
- *Grading areas are to be revegetated as soon as possible, or within 30 days of the site work being inactive, to minimize erosion and should comprise an herbaceous seed mix that is complementary to the surrounding vegetation communities and an annual cover crop. Native seed mixes and a non-invasive annual cover crop are to be used in areas adjacent to the Neumann Pond.*

5.3.3 Impacts to Wildlife and Their Habitats

As shown on Map 3, a number of wildlife habitats were identified within the development area as well as the Neumann Pond PSW and associated buffer. These habitats have the potential to be directly impacted where there is overlap with development activities. These wildlife habitats are further described below pertaining to SAR, SWH/SCC, and Locally Significant Species.

Species at Risk

Candidate bat SAR habitat was identified within the development area in the form of 5 potential roosting trees that will require removal. Based on NRSI's assessment of these trees relative to the broader woodlands within Clair-Maltby, direct impacts to SAR bats are not expected providing that trees are removed between December 1-March 14, which is outside of the bat active period that generally extends from March 15-November 30.

No additional SAR were identified that require consideration within this report.

Mitigations:

- *Vegetation removal should occur between October 1-March 31 in order to be outside of the bat (April 1-September 30) and the bird (April 1-August 31) active nesting periods;*
- *Tree Protection Fencing and Erosion & Sediment Control Fencing is to be installed at the limit of construction to protect retained habitats that may protect bat species.*
- *The limit of construction activities should be clearly delineated to avoid unnecessary encroachment into natural features and habitats.*
- *Any habitats of SAR are to be addressed through the applicable regulations under the ESA.*

Significant Wildlife Habitat

Direct impacts are not expected to SWH as a result of this undertaking. All SWH that was confirmed within the study area is associated with the Neumann Pond (i.e. Turtle Wintering, Amphibian Breeding). Mitigation measures to prevent direct mortality of herpetofauna is further described below in relation to the installation of temporary and permanent exclusion fencing.

Due to the potential for herpetofauna to be located within the construction area, a wildlife salvage will be required, which is further described below in relation to the former snake hibernaculum associated with the barn foundation.

Locally Significant Species

As described in Section 4.5 and delineated on Map 3, habitat of LSS is present within the study area. Of the identified LSS, only two species have habitat that overlaps with the Poppy South lands development area including Eastern Kingbird and Wild Indigo Duskywing, both of which were located within the thicket habitat north of the Neumann Pond.

Based on the proposed removal of habitat for LSS identified through the DPA lands, a landscape planting plan was prepared within the buffer areas that would assist in creating habitat for these species, primarily to offset the loss of open country and thicket habitat. This was to be achieved with the application of a native meadow seed mix to areas that are currently agricultural field as well as to install native shrub plantings in various areas. These planting plans prepared by Hill Design (2024) remain suitable for mitigating the loss of habitat for LSS such as those identified above.

Old Barn Foundation/Snake Hibernaculum

The old barn foundation located at the north end of the Neumann Pond PSW buffer was previously identified as SWH for snake hibernation (NRSI 2018; NRSI 2023) but has since been found to be non-significant based on the more recent surveys completed in 2024. Although the number of individuals and species did not meet the threshold for significance, it is likely that some snakes are still utilizing this feature as a wintering site.

The feature is comprised of an old barn foundation with a wall on the northwest side that is approximately 2-3m high (Figure 1). A concrete pad extends eastwards from this wall covering an area of approximately 0.1ha (1,000m^2) (Map 2).

Figure 1. Old barn foundation formerly identified as a snake hibernaculum SWH (looking northwest towards Poppy Drive).

The removal of this structure is proposed as part of the buffer enhancement plan for the wetland. The working area for this remediation will be isolated through the installation of ESC fencing/temporary exclusion fencing. The temporary fencing will extend into the 30m wetland buffer to within 10m of the wetland boundary in order to isolate the working area for removal of the foundation from the wetlands to the south (Map 4). Following installation of the temporary fencing, removal of the barn foundation and all concrete in the isolated area will occur (during summer months from June-September to avoid the snake hibernation period). A wildlife

salvage will be undertaken prior to remediation works. Following removal of this feature and all debris, the area will be re-seeded and ESC fencing re-instated to be in line with the rest of the fencing near the buffer edge (Map 4).

Mitigations:

- *ESC/temporary exclusion fencing is to be installed such that the entire area of the barn foundation and associated concrete pad will be isolated prior to any remediation;*
- *A biologist is to undertake a wildlife salvage prior to the remediation activities in this area in order to relocate any snakes or other reptiles that have become isolated in the construction zone;*
- *Remediation works are to be carried out between June-September to avoid the wintering and emergence periods;*
- *Following removal, the area will be seeded with a native seed mix and fencing returned to the wetland buffer following stabilization of this area; and*
- *The TIPP will need to be updated at the EIR stage to ensure no additional tree removal is required within this area.*

Other Wildlife Species

Vegetation clearing has the potential to directly impact bird breeding activity through damage and destruction of nests, eggs, and young, or avoidance of the area by breeding adults. According to the Canadian Wildlife Service (CWS), the peak breeding period for migratory birds that nest in treed habitat in southern Ontario is between April 1 and August 31 (Environment and Climate Change Canada (ECCC) 2024). During this period the CWS recommends that no clearing of vegetation within simple and/or complex habitats occur. The *Migratory Birds Convention Act* (MBCA, Government of Canada 2017) protects migratory birds, their eggs and nests from being harmed or destroyed at any time of the year. However, nest searches, as a means of mitigation during the core breeding period, may be undertaken in “simple” habitats such as hedgerows, isolated trees, or constructed features (e.g., bridges, barns, etc.) where the potential to observe all active nests is relatively high. It is therefore recommended that tree and vegetation removal occur outside the peak breeding bird period, where possible.

The following mitigations are proposed to avoid negative impacts to wildlife:

Mitigations:

- *Vegetation removal should occur between December 1-March 14 in order to be outside of the bat (March 15-November 30) and the bird (April 1-August 31) active periods.*
- *Should vegetation removal be required during the breeding and nesting season for migratory birds, surveys for nesting birds in "simple habitats" may be undertaken by a qualified biologist to permit vegetation removal should breeding bird absence be confirmed.*
- *A clearance letter is to be prepared by the qualified biologist that undertook the nest searches and submitted to the Developer for their files in the event a record of due diligence is requested by CWS. Areas identified as having no bird nesting activity* can be cleared; however, clearing must occur within 48 hours of nest searching.
- *ESC fencing is to be erected along the limit of development prior to any on-site works to ensure that construction activities and equipment are maintained outside of the protected areas and their buffers.*

5.4 Indirect Impacts

Indirect impacts may include sedimentation/erosion, impacts to water flow patterns/quantity and water quality, and impacts to wildlife. These potential impacts are described below along with recommended mitigation measures. A 30m wetland buffer has been established in addition to the recommendations below, in order to mitigate the indirect impacts.

5.4.1 Sedimentation and Erosion

During construction, areas of bare soil will be exposed which have the potential to erode during precipitation and melt events and impact adjacent natural features. In the event of a heavy rain or seasonal thaws, sediment-laden runoff can enter adjacent natural areas by way of overland flow. In order to protect the Neumann Pond PSW from potential impacts due to sediment, an Erosion and Sediment Control (ESC) Plan is to be implemented prior to any construction activities on the site. A preliminary ESC plan has been prepared within the SWM report (MTE 2025a), which will be further detailed at the EIR stage of development. NRSI has provided the anticipated location of ESC fencing on Map 4.

During the site grading work, suitable sedimentation controls will also be required to help control and reduce the turbidity of run-off water which may flow towards the PSW. As construction work progresses at the site, regular maintenance and additional sedimentation measures may be required to limit the effect of siltation of run-off water in localized areas.

Mitigations:

- *Implement an Erosion and Sediment Control Plan prior to construction;*
- *Temporary ESC fencing that will intrude into the 30m wetland buffer in order to facilitate the removal of the old barn foundation will be removed and re-installed at the buffer limit following remediation of this area (which is to include stabilization of soils through establishment of a native seed mix);*
- *Clearing, grubbing, and grading activities should be timed to avoid seasonally wet periods (i.e. spring), whenever possible. Construction should avoid high volume rain events (≥15mm in 24 hours or ≥5mm/hr with at least 10mm received) and significant snow melts/thaws, resuming once soils have stabilized as to not increase risk of erosion, soil compaction, or the potential for sediment release into nearby natural features;*
- *Disturbed soils that are in finished areas should be kept to a minimum and re-vegetated in a reasonable timeframe in order to minimize dust. Any areas adjacent to natural features with disturbed soils are to be stabilized with an approved native seed mix and non-invasive annual cover crop;*
- *Inspection and maintenance of the installed Erosion and Sediment measures throughout the duration of construction, to ensure they are functioning as originally intended;*
- *An environmental monitoring program is recommended to ensure that the sediment and erosion control measures are installed, maintained and functioning as intended as identified in the monitoring Section 8.*

5.4.2 Management of Stormwater Quantity

The proposed approach to SWM is detailed within the *Functional Servicing & Stormwater Management Report* (MTE 2025a). The proposed approach to SWM has been designed to mimic existing flow patterns where possible and to maintain a water balance to the Neumann Pond PSW. The majority of the site will service runoff by directing drainage towards the SWMF within Block 3 of the DPA lands to the north of Poppy Drive, which has been appropriately sized to accommodate these flows. This includes Blocks 1-4 Low Density Residential as well as Blocks 6-7 (Open Space). Rooftop drainage from Block 1-4 single lots and end units will be directed to infiltration galleries sized to store 30mm rainfall volume. Overflow will be directed towards the wetlands to the south (MTE 2025a). All parking lots will have runoff pre-treated with an Oil & Grit Separator (OGS) that will treat 90% of runoff volume to remove 60% total suspended solids (TSS). Block 5 (Multiple Residential) will have a detailed SWM strategy

completed as part of the Site Plan Approval (SPA) process for this block. However, it is planned that this block will have a split drainage, with the northern portion draining north towards the Block 3 SWMF before being infiltrated. The southern portion of this block will be directed south towards the wetlands, with 20mm retained for a period of 24hrs as per the Clair-Maltby MESP requirements (MTE 2025a). Rooftop drainage will be directed to infiltration galleries, with an overflow outlet directed to the surface and ultimately the wetlands. Drainage from parking lots will have the same pretreatment as mentioned above for Blocks 1-4.

5.4.3 Water Balance

A water balance analysis has been prepared for the Neumann Pond PSW that has the potential to be impacted by the proposed alterations to runoff and infiltration (MTE 2025a). This feature is predominantly sustained by direct rainfall and minor overland flow contributions (MTE 2025a). Based on the water balance prepared by MTE, the changes the patterns of runoff and infiltration directed to this feature will be largely maintained.

Annual runoff is expected to increase by 7.5% (929m^3). During the growing season (April-August) when vegetation is most sensitive to hydrological changes, runoff is projected to range from an increase of between 3.6% (66m^3) in April to 29.3% (149m^3) in August, with an average increase of 16.86% across this period. Given that much of this wetland feature is a pond, it is expected that any minor volumetric increases would be spread out across the pond surface. An approximate assessment of increases in ponded depth can be estimated. During the month with the highest percentile increase in runoff (August), an additional volume of 80m^3 would be added to this feature resulting in a maximum monthly increase in water depth of 0.5cm (assuming the pond/wetland surface area is approximately 1.7ha). After including factors such as evapotranspiration, evaporation, micro-topography, and the uptake by tree/shrub buffer plantings, such increases are likely to be negligible. Although much of the PSW is comprised of an open water pond, a number of wetland vegetation communities are found surrounding the feature, particularly on the western lobe of the wetland. This includes deciduous swamp (SWD4-1), shallow aquatic (SAF1-3), and shallow marsh (MAS2-1). All of these communities are considered to have low to medium sensitivity to hydrological changes, meaning they are somewhat tolerant to variability in water levels (TRCA 2017).

Annual infiltration is expected to increase by 9.7% (1,193m^3). Given that this feature is considered to be perched above the groundwater table, changes in infiltration on the broader landscape are unlikely to affect this feature (BGE 2017).

As such, it is not expected that the proposed development will negatively impact the Neumann Pond PSW in terms of changes to the water balance.

5.4.4 Management of Stormwater Quality

All water exiting the site will be treated with an OGS prior to infiltration at the Block 3 SWMF or within the infiltration galleries at proposed at Poppy South. The only exception to this will be areas of clean runoff from rooftops and other buffer areas that will drain towards the wetland.

A Salt Management Plan was previously prepared by MTE for the DPA lands and included the Poppy South subject lands (MTE 2025a).

The Neumann Pond likely provides fish habitat for warm water species which are tolerant of higher water temperatures. Nonetheless, it is expected that thermal impacts to the pond will be reduced as vegetative buffer plantings mature and provide shade to this feature.

Mitigations

- *A Salt Management Plan is to be implemented for Poppy South;*
- *Snow storage should be located well away from natural features or areas that will drain into the Neumann Pond and wetlands; and*
- *Silt fencing should be installed along the construction limits. ESC measures are to be regularly inspected and repaired or replaced in a timely manner. Accumulated sediment must be removed as needed.*

5.4.5 Wildlife Habitat

Indirect disturbances can stress natural features and weaken their ecological integrity, particularly during the construction period. Potential indirect impacts to wildlife in the retained natural areas may arise from noise and dust associated with construction activities and unnatural lighting resulting from the development. Indirect impacts associated with construction is anticipated to be minimized, localized, and temporary, and it is expected that displaced wildlife species will return to the vicinity of the subject property following construction. Therefore, significant impacts to wildlife from noise and dust are not expected.

The Neumann Pond PSW has been found to contain habitat for a wide range of herpetofauna species and includes SWH for Turtle Wintering. In addition, it is likely that some snakes

continue to utilize the old barn foundation (formerly identified as SWH) for a hibernation site, despite not meeting the threshold for significance. In order to avoid indirect mortality to reptiles and amphibians that may attempt to disperse away from the Neumann Pond and associated wildlife habitats south of Poppy Drive, a permanent exclusion fence is proposed that will be installed at the edge of the 30m wetland buffer in conjunction with a chain-link fence. The location and extent of this fencing is shown on Map 4. This fencing will need to be integrated with development further south within 132 Clair Road West, but is dependent on the final Street A Environmental Assessment and other Draft Plans. For this development, the fencing will be installed along the northern fringe of the 30m wetland buffer.

The following mitigation measures are recommended to avoid unintended indirect impacts to wildlife:

Mitigations:

- *In order to suppress dust, areas of bare soil should be moistened with water during construction activities to ensure that the amount of dust within the subject property is reduced. Topsoil stockpile locations should be in areas of lesser wind exposure and away from natural features and their buffers. ESC measures are to be installed around temporary topsoil stockpiles;*
- *All machinery, storage and refueling is to be maintained outside of the wetland and the 30m buffer;*
- *Daily timing of construction activities should be limited to between 0700hrs and 1900hrs to avoid noise-related impacts during construction;*
- *Any lighting equipment associated with construction activities should be turned off following cessation of daily construction activities, or at least turned away from the adjacent natural features so as to prevent 'light wash' of these areas; and*
- *Installation of permanent exclusion fencing as shown on Map 4.*

5.5 Induced Impacts

Induced impacts are described as those that are not directly related to the construction or operation of the facilities in question, but rather arise from the use of the natural areas as a result of the development. The simplest example is increased use of a natural area by users of the property, feral domestic wildlife, and unauthorized trail/pathway construction. The

aforementioned mitigation measures related to exclusion fencing and permanent fencing are designed to mitigate induced impacts. In addition to these measures, signage and educational materials will also be a key tool to instruct residents and users to respect wildlife and natural features. Locations of signage and content suggestions should be provided within the EIR and associated mapping.

If the mitigations listed below are followed, induced impacts are anticipated to be minimized:

Mitigations:

- *Control of access to the NHS on the subject property and adjacent lands through the use of fencing;*
- *Signage should be developed at the detailed design stage and will direct community members or other recreational users not to trespass into sensitive natural areas or restoration areas; and*
- *Educational materials should be distributed to residents living in Poppy South (Guelph Resident's Environmental Handbook).*

5.6 Cumulative Impacts

The subject lands at Poppy South are part of the broader development at 132 Clair Road West and the Clair-Maltby area in general. The lands north of Poppy Drive (DPA lands) are currently undergoing construction, and it is anticipated that the Poppy South lands will be built out along a similar time frame in the near future. In addition to this, the lands further south within 132 Clair Road West are currently undergoing studies in support of an impending Draft Plan application, in conjunction with the EA for Street A that will run from Clair Road south to Maltby Road. As such, it is important that any mitigation and monitoring recommendations consider the broader development on these lands. The recommendations provided within this Scoped EIS have been designed to provide effective mitigation and monitoring assuming the full build out of 132 Clair Road West and the broader lands, with the understanding that certain details will need to be finalized at a later stage (e.g. connectivity of the permanent exclusion fencing with lands to the south). The monitoring program below has been integrated with the monitoring plan already identified and ongoing for the DPA lands, which already encompassed the areas south of Poppy Drive (with some minor modifications in areas where monitoring locations overlap with newly proposed development at Poppy South).

6.0 Enhancement Plan

An enhancement plan was previously identified for the lands south of Poppy Drive, as part of the approved EIR for the DPA lands (NRSI 2023; NRSI 2024b). As mentioned within the EIR addendum letter prepared by NRSI in September 2024 (NRSI 2024b), minor modifications to the enhancement plan were to be carried out as part of this Scoped EIS, in particular in relation to locations of invasive species management, enhancement planting plans, and fencing. Necessary updates to the aforementioned enhancement plan prepared as part of the earlier EIR are detailed below.

6.1 Invasive Species Management

Invasive species management was previously specified for the natural areas south of Poppy Drive (Section 5.2 of EIR - NRSI 2023). The areas of management activities will encompass the same areas as identified within the EIR (NRSI 2023), with the exception that areas outside of the 30m wetland buffer will no longer be included given that these are within the development footprint (Map 5). As previously detailed, a 3-year management plan for herbicide application is to be implemented following completion of area grading with the goal of suppressing buckthorn growth sufficiently in order to allow native enhancement plantings to become established in these areas. Monitoring for the effectiveness of the invasive species management will be undertaken in Years 1, 3, and 5 of the post-construction monitoring period as described below.

6.2 Enhancement Plantings

Detailed enhancement planting plans have been prepared by Hill Design (2024) that include the areas south of Poppy Drive within the wetland buffer. These planting plans are to be reviewed and updated at the detailed design stage in order to ensure that they provide sufficient planting densities to account for any additional tree removal on the Poppy South lands through detailed design.

6.3 Educational Signage and Materials

Educational signage is recommended to be developed and placed along the edge of Open Space blocks near the NHS to educate residents about the significance and sensitivity of these natural features and what measures they can take to avoid impacting these areas. Signage should bring awareness to the presence of significant habitats for reptiles and amphibians, wetlands and buffers, as well as the established enhancement plantings/restoration areas.

The Guelph Resident's Environmental Handbook has been prepared by City of Guelph and should be distributed to residents of Poppy South.

6.4 Fencing

As described within the impact analysis section of this report, a fencing plan has been prepared that includes both temporary exclusion fencing to prevent wildlife from entering the Poppy South lands during construction as well as the location of the permanent exclusion fencing. This fencing plan is shown on Map 4.

The phasing plan for removal of existing ESC/exclusion fencing at Poppy Drive as well as placement of a new fencing for Poppy South is described in Section 9 below.

7.0 Policy Conformity

The proposed undertaking described within Sections 5 and 6 of this report are required to adhere to the relevant policy framework that is currently in place, including those policies identified within the City's Official Plan that apply on a City-wide basis (City of Guelph 2024). The City has established a NHS and associated policies that provide permanent protection to SNAs and their established buffers as well as for Natural Areas, and Wildlife Crossings, as identified in Section 4.1 of the Official Plan. Development within or adjacent to these features is only permitted in accordance with the policies of Section 4.1.3 to 4.1.5 of the Official Plan.

The proposed development limits are located outside of the limits of SNAs including the PSW boundary which was previously established in consultation with GRCA staff. The only works currently proposed within this limit are restoration and enhancement measures associated with site remediation (removal of the old barn foundation, enhancement plantings, and installation of the permanent exclusion fencing). These activities are considered a 'permitted use' as per policy 4.1.2.1 of the Official Plan.

Tree removal and necessary compensation that is proposed within the subject property is in accordance with the Tree Technical Manual (City of Guelph 2025) as well as the City of Guelph (2025) – 21059, as detailed within NRSI's TIPP (2025). Enhancement planting plans have been prepared by Hill Design (2024). These plans will need to be updated to accommodate the planned tree removal on the Poppy South lands, including any additional tree removal that may be identified through remediation works in the buffer areas.

8.0 Monitoring

The monitoring program for the Poppy South lands will be integrated into the broader DPA lands monitoring program established through the EIR (NRSI 2023), which already included this area. The planned monitoring locations are shown on Map 5. Minor modifications to post-construction monitoring station locations have been made where the previous station overlapped with what will now be the Poppy South development area (BMB-001, ANR-002, removal of the snake hibernaculum station). During construction and post-construction monitoring for both the DPA lands and Poppy South are described below; specific details related to the post-construction mitigation effectiveness monitoring are included within the previously completed EIR (NRSI 2023).

1. **Pre-Construction Monitoring:** This includes monitoring of ESC/Tree Protection Fencing prior to the start of earth works as well as completion of a wildlife salvage within the isolated areas.
2. **Construction Monitoring:** Monitoring of construction activities and associated mitigation measures during construction to ensure construction activities are compliant with recommendations set out in this Scoped EIS. Should construction occur over a protracted period, it is recommended that additional baseline monitoring be completed every third year during the period in which construction takes place (i.e. years 3, 6, 9, etc.). This recommendation will help ensure that 'baseline' data is current when post-construction monitoring commences.
3. **Success of Restoration Plantings:** This includes monitoring the successful establishment and survival of any newly planted species and restoration plantings, within the subject property arising from EIS recommendations and restoration planting warranty.
4. **Mitigation Effectiveness Monitoring:** Post-construction monitoring of road mortality, vegetation and wildlife will take place in years 1, 3 and 5 following 90% build-out of the entire development that includes the DPA lands north of Poppy Drive and the Poppy South lands described within this Scoped EIS. This will allow the monitoring program for both the DPA lands and Poppy South to be coordinated and will also ensure that the monitoring program captures the period of maximum potential impacts (i.e. full buildout of the lands north of the Neumann Pond). The monitoring plans prepared for the future EIS for the 132 Clair Road West lands further south will integrate the monitoring program and stations established as part of the lands north of the Neumann Pond.

8.1 Pre-Construction Monitoring

Prior to completion of any construction or earth works on the site, the following monitoring will need to be undertaken:

- Inspection of ESC/exclusion fencing along the limits of wetland buffer to ensure proper installation; and
- Following installation of the ESC/temporary exclusion fencing near the wetland buffer limit (Map 4), a wildlife salvage of the isolated area between Poppy Drive and the newly installed fencing will be completed by a biologist and any wildlife will be relocated to a suitable area near the wetland/buffer.

8.2 Construction Monitoring

Construction monitoring will follow the same program established through the EIR for the DPA lands, with a number of necessary modifications. This will include the following components:

- Compliance with the ESC Plan through completion of monitoring consistent with *the Erosion & Sediment Control Guideline for Urban Construction* (Greater Golden Horseshoe Area Conservation Authorities 2006). Monitor after significant rainfall events of ≥13 mm, and accumulated sediment will be removed when it amounts to 1/3 of the silt fence height. Monitor sediment and erosion control measures a minimum of once per month to ensure that silt fencing remains properly keyed-in. Any necessary repairs should be completed within 48 hours;
- During removal of the old barn foundation and associated debris, a biologist will be on-site to complete a check of the area for snakes or other herpetofauna immediately prior to any work with heavy equipment;
- Environment Canada provides approximate nesting periods for migratory birds by region in order to assist developers in avoiding contravention of the Migratory Bird Convention Act (1994). The City of Guelph is located within Region C2, and as such, nesting can be initiated as early as the beginning of April and extends until the end of August (Environment Canada 2016). Tree removal within this period (April 1-August 31), should be avoided where possible, with the understanding that nesting of avian species can occur throughout the calendar year and construction workers should be vigilant when carrying out work for nesting bird species. If removal of vegetation is unavoidable, a

nest search of simple habitats such as hedgerows, small rows of trees, may be carried out by a qualified biologist. Each nest search will remain valid for a period of 48 hours after which an additional nest search will be required;

- Monitor for areas of bare soil that present a risk of erosion hazards to natural features, and recommend that they be re-vegetated with a suitable seed mix within 30 days of being cleared and/or inactive to prevent erosion of soils; and
- Additional baseline vegetation and wildlife monitoring is to be completed every third year during the period in which construction takes place, if construction occurs over a protracted period (i.e. years 3, 6, 9, etc.).

8.3 Success of Restoration Plantings

Native tree species installed throughout the planting areas, as per the detailed landscape plans (Hill Design 2024) will be inspected during the fall of each year of the 2-year warranty period. Each planted tree will be assessed by an Ontario Association of Landscape Architects (OALA) or Certified Arborist for health condition and success of establishment.

Any planted trees that die within the warranty period will be replaced at a 1:1 ratio.

8.4 Mitigation Effectiveness Monitoring (Post-construction)

Post-construction mitigation effectiveness monitoring is necessary to gather information on the ecological health of the NHS, which can be compared to the baseline conditions in order to assess potential impacts.

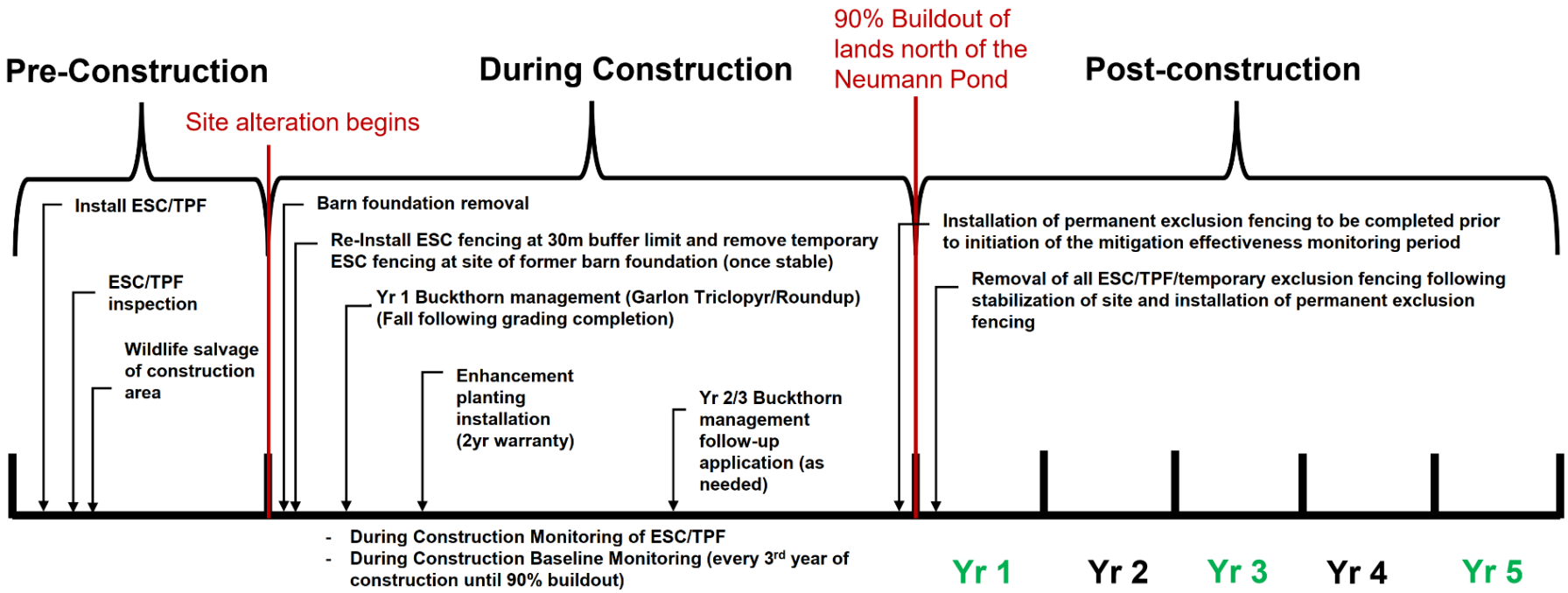
A mitigation effectiveness monitoring plan has been established through the previously completed EIR for the DPA lands (including the Poppy South study area) and will be initiated at 90% buildout of all lands north of the Neumann Pond (NRSI 2023). The program will continue for a 5-year period (Years 1, 3, and 5). The only changes to this program are the aforementioned modifications to the locations of a number of post-construction monitoring stations (Map 5) and removal of monitoring requirements for the previously identified snake hibernaculum.

As previously identified, the same monitoring program detailed within the earlier EIR will be implemented and will include monitoring for the following ecological components (in addition to the monitoring necessary for ongoing groundwater):

- Breeding bird surveys (BMB-01-04);
- Vegetation plot monitoring (VEG-01-04)
- Anuran call surveys (ANR-01-02)
- Buffer disturbance monitoring (within the 30m wetland buffer)
- Road mortality monitoring (along Poppy Drive)

9.0 Sequencing of Enhancement & Monitoring Measures

The proposed sequencing of the aforementioned enhancement and monitoring measures is anticipated to proceed as detailed below on Figure 3. This will be further detailed and refined, as needed, at the EIR stage.



Yr 1, 3, 5 – Mitigation Effectiveness monitoring years (vegetation plots, road mortality, breeding birds, anuran call surveys, buffer disturbance, and invasive species. Annual monitoring reports submitted to City staff in these years.

Figure 2. Sequencing plan of enhancement measures and monitoring for the Poppy South lands.

10.0 Environmental Implementation Report Recommendations

Given that the earlier EIR provided an assessment which included the Poppy South lands, a Scoped EIR is recommended that will address issues specific to Poppy South. At a minimum it is expected this will include the following:

- Tree Inventory and Preservation Plan updates in relation to any additional tree removal associated with the planned removal of the old barn foundation or through detailed design;
- Final confirmed fencing plan (ESC, temporary/permanent exclusion, chain-link). Details on any additional mitigation measures and timing of all necessary works related to fencing will be provided;
- Review of final development details (e.g. final SWM report, grading plans, ESC) and an updated impact analysis, where necessary;
- Enhancement plans will be finalized with any additional details on planting plans, invasive species management, and timing of enhancement works; and
- Monitoring program, with any necessary updates to the plans identified within this Scoped EIS.

11.0 Summary

Natural Resource Solutions Inc. was retained by Mattamy (Tru-Villa) Limited to complete a Scoped EIS in support of a Draft Plan of Subdivision at the 'Poppy South lands' at 132 Clair Road West in Guelph, Ontario. This report provides an update based on extensive field surveys and studies that have previously been completed on this property with an emphasis on characterizing features within the study area that have the potential to be impacted by the proposed undertaking.

The proposed development of the Poppy South lands is planned to be located outside of the Neumann Pond 30m PSW buffer. No habitats for SAR or SWH were found to overlap with the project footprint. Due to the presence of herpetofauna species and associated SWH for amphibians and turtles within the Neumann Pond, extensive mitigation and enhancement measures have been recommended to avoid potential impacts. This includes the installation of a permanent exclusion fence that will help prevent direct mortality of herpetofauna on Poppy Drive. In addition, the removal of the old barn foundation within the wetland buffer will require considerable mitigation measures, which have been described within this report.

A scoped EIR will be required to address detailed design and any necessary refinements to the recommendations and mitigation measures.

The monitoring program for this Scoped EIS is recommended to be integrated with the post-construction monitoring for the DPA lands north of Poppy Drive.

Providing the identified mitigation and enhancement measures are implemented, negative impacts to the NHS are not expected.

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Appendix I
EIS Terms of Reference

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

May 29, 2025 Project No. 3460

Leah Lefler
City of Guelph

CC: Jessica Conroy
Grand River Conservation Authority

Dear Ms. Lefler,

RE: 'Poppy South' Scoped Environmental Impact Study for Draft Plan Application - Terms of Reference

On behalf of Natural Resource Solutions Inc. (NRSI), I am pleased to provide the following Terms of Reference (TOR) for the completion of a Scoped Environmental Impact Study (EIS) and associated Tree Inventory and Preservation Plan (TIPP) that will support a Draft Plan application at 132 Clair Road West in Guelph. The site is known as 'Poppy South' to distinguish it from the Draft Plan Approved (DPA) lands at 132 Clair Road West that are north of the Poppy Drive extension as well as from the broader future development lands south of the Neumann Pond.

The subject property is located within the Clair-Maltby area of Guelph, immediately south of Poppy Drive and north of the Neumann Pond Provincially Significant Wetland (PSW).

NRSI has undertaken extensive ecological surveys in 2024 in support of an EIS for the broader 132 Clair Road West subject property. In addition, the Poppy South lands also continue to be studied and monitored through the ongoing program associated with the Environmental Implementation Report (EIR) for the DPA lands. Based on the completion of these detailed surveys, which include the proposed Poppy South Draft Plan area, a scoped EIS was deemed to be sufficient in order to assess potential impacts to natural heritage features. This was confirmed by City of Guelph and Grand River Conservation Authority (GRCA) staff in a meeting with NRSI on September 6, 2024. As such, additional field surveys are not proposed to inform this scoped EIS, with the exception of a tree inventory and provisional surveys related to Species at Risk (SAR), as described below. As discussed within the September 6, 2024 meeting, the characterization portion of the scoped EIS will focus on identifying and updating findings related to significant features and any key results from the 2024 surveys which may differ from the original EIS findings of the Draft Plan Approved lands north of Poppy Drive.

The work for the Scoped EIS is to be completed across three Phases, as described below.

This TOR was updated based on minor comments provided by City staff (Leah Lefler) dated May 8, 2025.

Phase 1. Natural Heritage Background Information Review

A detailed background review was completed in 2024 for the broader 132 Clair Road West EIS which will be utilized to inform the Poppy Drive Scoped EIS. The background review data will be updated with the detailed findings of the EIS field surveys completed in 2024. This will help

inform the SAR and Significant Wildlife Habitat (SWH) screenings with the most recent information, as described below.

Species at Risk and Species of Conservation Concern Screening

Wildlife species lists have been compiled for the Poppy South scoped EIS based on the extensive field surveys completed at 132 Clair Road West during 2024, as well as findings from the original EIS for the DPA lands north of Poppy Drive. Results of these surveys will be used to further refine the potential for Species at Risk (SAR) and Species of Conservation Concern (SCC) to occur within the Poppy South development area as well as the broader 120m study area based on the most up-to-date information. Full results of the SAR and SCC screening will be provided within the scoped EIS.

Significant Wildlife Habitat Screening

Similarly, the aforementioned extensive field surveys will be utilized to further inform and refine the potential presence of both candidate and confirmed SWH that may be present within the study area (MNR 2000, MNRF 2015). The final SWH screening will be provided in within the scoped EIS.

Phase 2. Field Surveys and Characterization

Comprehensive field surveys and characterization of the natural heritage features within 132 Clair Road have been completed through the aforementioned studies. The proposed Draft Plan lands for Poppy South are located within largely agricultural fields and are outside of the established 30m wetland buffers. The wetland boundary for the Neumann Pond was staked and approved with GRCA staff for the EIS north of Poppy Drive.

The only field surveys proposed as part of this scoped EIS for Poppy South is a tree inventory and provisional SAR surveys (for bat habitat). These are further described below.

Tree Inventory

A tree inventory will be required to assess necessary tree compensation as identified by the City's Tree Technical Manual (2025) and Tree Bylaw (2025) – 21059. A comprehensive tree inventory will be completed by Certified Arborists/Registered Forester, accounting for trees ≥ 10cm Diameter-at-Breast-Height (DBH) that have the potential to be impacted by the proposed developments. Each inventoried tree will be marked with a numbered aluminum forestry tag and its location will be recorded along with the following information:

- Tree tag number,
- Species,
- DBH measurement (cm),
- Crown radius (m),
- Number of stems,
- Overall health (excellent, good, fair, poor, very poor, dead),
- Potential for structural failure (improbable, possible, probable, imminent),
- Tree location (on-site, off-site, boundary), and
- General comments (i.e., disease, aesthetic quality, development constraints, sensitivity to development).

All information gathered during the tree inventory will be used to prepare a TIPP that will be submitted along with the associated EIS, summarizing the findings of the tree inventory, and

comparing the tree layout to the proposed development plan. The ownership of trees will also be identified for trees within 6m of property lines.

Bat Habitat Assessments

Following confirmation of tree removal that may be proposed, NRSI will assess the need for completing bat habitat assessments, in accordance with provincial guidance.

In the event that suitable bat habitat is identified in areas that will be affected by anticipated development, further monitoring may be required in 2025 to address bat species protected under the *Endangered Species Act*, 2007.

Phase 3. Reporting

Reporting will be divided into a Scoped EIS and the associated TIPP, as described below.

Scoped Environmental Impact Study Report

In general, the materials included within the EIS will follow Section 4 of the *Guidelines for the Preparation of Environmental Impact Studies* (City of Guelph 2020), with necessary modifications given the scoped nature of this work:

1. **Introduction** – details on the development land and study area will be provided in addition to information on the proposed undertaking. An overview of the project history completed at 132 Clair Road West will also be provided as it pertains to the previously completed and ongoing studies on the subject property.

2. **Background Information and Project Scoping** – information collected during the background review process will be provided including all pertinent details related to significant species, habitats and features. Screening exercises for Significant Wildlife Habitat (SWH) and Species at Risk (SAR) will also be included as part of this report component.

3. **Characterization of Natural Features** – the characterization section of this report will be scoped to focus on new findings related to the natural heritage features, with a focus on the Neumann Pond and associated habitats, but also extending to the broader study area. NRSI will not provide a comprehensive description of all surveys that have been completed or findings, but will rather highlight pertinent information related to the Poppy South development, understanding that the EIS for the broader 132 Clair Road West site will comprehensively address such findings. Any new findings related to significant features, habitats, or species will be highlighted.

4. **Significance and Sensitivity Analysis** – a scoped evaluation of significance for the natural heritage features identified on or adjacent to the Poppy South development area will be undertaken in the context of relevant natural heritage policies (municipal, provincial, federal). Mapping will be prepared that identifies these sensitive features and necessary buffers and/or enhancements. As mentioned above, this analysis will be generally scoped to the Poppy South development area and the associated study area.

5. **Impact Analysis and Mitigation/Enhancement Measures** – The proposed development, including impacts associated with any proposed trail network will be discussed in relation to relevant current policies and regulations, including the

Conservation Authorities Act, the GRCA (2024), the City of Guelph Official Plan (2024 Consolidation), OPA 79 (City of Guelph 2024), City of Guelph Tree By-law (2025)-21059, and the PPS, 2024 (OMMAH 2024). Recommendations from relevant Clair-Maltby Secondary Plan (CMSP) studies will also be assessed and incorporated as needed.

Minimum buffers previously established will be reviewed to ensure they do not require modifications based on the findings of the recent field surveys/studies, and will be determined in accordance with Official Plan policy for any identified natural features or habitats on the property. These buffers will be mapped and shared with the project team. Candidate and confirmed SWH identified within and adjacent to the development land will also be mapped.

Anticipated impacts and associated mitigation measures will be discussed where there are any areas of conflict between significant features or ecological functions and the proposed development, in accordance with Official Plan policies. The analysis of impacts will be divided into:

a. **Direct impacts** associated with disruption or displacement caused by the actual proposed 'footprint' of the proposed development, direct impacts to vegetation, wildlife and/or their habitats. The proposed grading plans will be integrated into the analysis of direct impacts, as well as the actual proposed development footprint.

b. **Indirect impacts** associated with changes in site conditions. This will include an analysis of potential impacts of salt use; a salt management plan will be prepared as part of the studies associated with the proposed Draft Plan. The findings of the Stormwater Management (SWM) plan will be integrated into the indirect impact section of the Scoped EIS. In addition, as mentioned during the scoping call with agency staff, a monthly, feature-based water balance analysis will be provided for the Neumann Pond in order to ensure no negative impacts as a result of changes to hydrology. Infiltration targets are to be provided as part of this analysis.

   Furthermore, impacts to the identified natural heritage system and water resource system will be evaluated based on updated groundwater - surface water model results reflective of proposed development conditions. The results of the evaluation will be assessed based on the policies of the secondary plan and guidance provided in the MESP and CEIS prepared for the secondary plan area. An erosion and sediment control plan will be prepared by others that will ensure the prevention of sediment laden runoff to receivers. This section will also include potential disturbances to vegetation and wildlife arising from the proposed development such as noise, vibration, and dust. Any updated recommendations for restoration and enhancement will be provided and will include areas of surface water and fish habitat within riparian areas.

   A focus of the Indirect Impacts section will also be implementation of wildlife exclusion measures to ensure that herpetofauna associated with the Neumann Pond are prevented from moving into the development area and Poppy Drive, where impacts could occur. The locations of temporary and permanent exclusion

fencing will be established, in accordance with recommendations from the previously completed EIR for the DPA lands north of Poppy Drive. This will be considered in conjunction with any findings of the ongoing Street A Municipal Class Environmental Assessment (EA) and the broader development plans for 132 Clair Road West.

c. **Induced impacts** associated with increased use of, or pressure on the natural heritage features will be assessed as well as necessary mitigation measures (education, signage, fencing, etc.).

d. **Cumulative impacts** will also be assessed in terms of the overall pressure on the natural heritage features from incremental development within adjacent lands throughout the CMSP area.

6. **Policy Analysis** – an analysis will be undertaken throughout the scoped EIS to review the proposed proposal and how it conforms with GRCA, City, provincial, and federal policies.

7. **Recommendations & Monitoring** – recommendations will be made to avoid, minimize or mitigate any potential impacts on the significant natural features. A summary will be provided at the end of the EIS report listing all recommendations that are to be integrated at future project stages. Measures for avoidance and mitigation of construction, and all identified impacts will be provided along with details of timing, duration, and location.

   A detailed monitoring plan will be provided as part of the Scoped EIS that will be integrated with the ongoing monitoring program already established as part of the EIR for DPA lands north of Poppy Drive. This will include information related to pre, during and post-construction (mitigation effectiveness) monitoring. Details on objectives, methodology/timing, locations, monitoring parameters, analysis, thresholds, and contingency measures will be provided as part of this plan. The details provided in the Scoped EIS will form the basis for the monitoring program recommendations to be implemented at the Environmental Implementation Report (EIR) stage of development.

   Details on the timing and implementation of **buffer enhancement plantings** previously identified through the DPA lands north of Poppy Drive will be included as part of the scoped EIS and will include an assessment related to integration and timing of this work in relation to the installation of the exclusion fencing. The previously identified **invasive species management** program will also be further elucidated in terms of the locations, extent, and timing of invasive species management.

8. **Conclusions** – a brief summary will be provided that will include a list of all steps to completed as part of the mitigation, enhancement, and monitoring plan, including materials to be provided in the EIR.

<u>Tree Inventory and Preservation Plan (TIPP)</u>

It is anticipated that the completion of a Tree Inventory and Preservation Plan (TIPP) will be required as part of the Draft Plan of Subdivision. The report will be drafted per the following specifications:

A TIPP report, mapping and summary table will be prepared for the proposed development area, with an effort to retain a maximum number of trees throughout the development. NRSI Certified Arborists will identify any significant trees that warrant retention or special consideration. The plan will identify individual trees to be retained, removed or relocated, including their dripline, location and type of tree protection fencing and location of information signs along the tree protection fencing. The TIPP report will be prepared by a Certified Arborist or Registered Professional Forester and appended to the EIS, and will provide a summary of tree inventory results and recommendations for tree management, mitigation and compensation. It is expected that, at the detailed design stage, tree retention analysis will be completed again based on final grading plans.

Should you have any questions or comments regarding this letter, please do not hesitate to contact the undersigned.

Sincerely,
Natural Resource Solutions Inc.

Nathan Miller, M.Sc., P.Biol
Senior Biologist

References

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Appendix II
Species at Risk and Species of Conservation Concern Screening Table

#3460 - Poppy South (132 Clair Road West, Guelph)
Species at Risk (SAR) and Species of Conservation Concern (SCC) Screening Table

Legend: Provincial Species at Risk
Provincial Species of Conservation Concern

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?
Vascular Plants										
Honey-locust	*Gleditsia triacanthos*	S2?					Mesic to wet forests and forest edges on rich bottomlands. Also found on stabilized sand pits and dunes. Frequently planted.[4]	Possible	Possible	**No.** Wetlands may provide suitable habitat, but this species was not documented within the study area during botanical surveys.
Butternut	*Juglans cinerea*	S2?	END	E	E	Schedule 1	Stream banks and swamps; upland beech-maple, oak-hickory, and mixed hardwood stands.[5]	Possible	Possible	**No.** Deciduous swamps may provide suitable habitat, however this species was not observed during botanical surveys.
Black Ash	*Fraxinus nigra*	S4	END	T	NS	No Schedule	Usually on mucky or peaty soils in swamps, such as river floodplains.[5]	Possible	Possible	**No.** Swamps may provide suitable habitat, however this species was not observed during botanical surveys.
Bristly Buttercup	*Ranunculus hispidus*	S3					Dry upland oak forest (var. *hispidus*), ravines in deciduous or cedar swamps, or wet forest and thickets near water bodies (var. *caricetorum/nitidus*)[5]	Possible	Possible	**No.** This species was observed by NRSI on an adjacent properties to the south, but not within the Poppy South study area. however this species was not observed during botanical surveys.
Hairy-fruited Sedge	*Carex trichocarpa*						Riverbanks.[4]	Possible	Possible	**No.** Shorelines of wetlands may provide suitable habitat, however this species was not observed during botanical surveys.
Smith's Bulrush	*Schoenoplectiella smithii*	S2S3					Sandy, mucky, or boggy shores[5]	Possible	Possible	**No.** There is potential for the shorelines of the wetlands within the subject lands and study area to provide suitable habitat for this species, however this species was not observed during botanical surveys.
Birds										
Horned Grebe	*Podiceps auritus*	S1B,S3N, S4M	SC	SC	SC	Schedule 1	Usually nests in small ponds, marshes and shallow bays that contain areas of open water and emergent vegetation. Generally found in natural habitat but also occasionally in man-made reservoirs and artificial ponds.[2]	No	No	**No.** This species does not breed within southern Ontario. This species was not observed during field surveys.
Common Nighthawk	*Chordeiles minor*	S4B	SC	SC	SC	Schedule 1	Open ground; clearings in dense forests (including burns and logged areas); rock barrens; peat bogs; ploughed fields; gravel beaches or barren areas with rocky soils; open woodlands; flat gravel roofs. They tend to prefer natural habitats.[4]	No	No	**No.** Flat gravel roofs are not present. Open woodlands or locations with bare ground may be suitable. This species was not observed during field surveys.
Chimney Swift	*Chaetura pelagica*	S3B	THR	T	T	Schedule 1	Commonly found in urban areas near buildings; nests in chimneys, and crevices of rock cliffs in Southern Ontario. Feeds over open water.[4]	No	No	**No.** No suitable chimneys or other suitable roosting habitat is present in the study area. This species was not observed during field surveys.

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?
Common Gallinule	*Gallinula galeata*	S3B					Freshwater wetlands, both still and flowing. Easy access to open water. Waters sheltered by woodland, bushes, or tall emergent vegetation. Slow-flowing rivers, oxbow lakes, streams, canals, ditches, lakes, reservoirs, small pools and ponds, swamps, marshes, seasonally flooded sites (i.e., flood-plains, disused gravel pits, rice-fields). Occasionally found in sewage ponds and mangroves.[6]	No	No	**No.** The wetlands within the study area do not provide suitable emergent vegetative habitat for this species and it was not observed during field surveys.
Golden Eagle	*Aquila chrysaetos*	S1B,S4N	END	NAR	NS	No schedule	Live in wild, arid plateaus, deeply cut by streams and canyons or sparsely treed slopes and rock crags.[4]	No	No	**No.** This species does not breed in southern Ontario.
Short-eared Owl	*Asio flammeus*	S4?B,S2S3N	THR	T	SC	Schedule 1	Grasslands, open areas or meadows that are grassy or bushy; marshes, bogs or tundra. Nests on the ground and requires 75-100 ha of contiguous open habitat.[4]	No	No	**No.** Suitable expansive open country habitat is not present in the study area.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	S3	END	E	E	Schedule 1	Open, deciduous forest with little understory; fields, parks or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees. Requires cavity trees with at least 40 cm dbh.[4]	No	No	**No.** Suitable habitat with large cavity trees are not present in the study area. This species was not observed during field surveys.
Olive-sided Flycatcher	*Contopus cooperi*	S4B	SC	SC	SC	Schedule 1	Semi-open, conifer or mixed forest, usually adjacent to rivers or wetlands. Prefers spruce, Jack Pine and Balsam Fir for nesting. Will use burned or logged areas with ample tall snags and trees for nests, singing and foraging perches.[2]	No	No	**No.** This species does not breed in southern Ontario.
Eastern Wood-Pewee	*Contopus virens*	S4B	SC	SC	SC	Schedule 1	Mid-canopy layer of forest clearings and edges of deciduous and mixed forest. Abundant in intermediate-age mature forest stands with little understory vegetation[2]	No	No	**No.** Suitable woodland habitat is not present in the study area. The species was observed incidentally further south on the 132 Clair Road West property but was not located within the Poppy South study area.
Barn Swallow	*Hirundo rustica*	S4B	SC	SC	T	Schedule 1	Farmlands, rural areas and other open or semi-open areas near body of water. Nests almost exclusively on human-made structures such as open barns, buildings, bridges and culverts.[4]	Possible	Possible	**No.** Suitable foraging habitat is present within the subject property and study area. The species was observed foraging within the property at 132 Clair West, but in areas further south from the study area and no evidence of breeding or suitable nest sites were noted.
Bank Swallow	*Riparia riparia*	S4B	THR	T	T	Schedule 1	Nests in burrows in natural and human-made settings with vertical faces in silt and sand deposits. Usually on banks of river and lakes, but also found in sand and gravel pits.[7]	No	No	**No.** No known banks or soil stockpiles suitable for nesting are present within the subject property or study area.
Wood Thrush	*Hylocichla mustelina*	S4B	SC	T	T	Schedule 1	Carolinian and Great Lakes-St. Lawrence forest zones. Undisturbed moist mature deciduous or mixed forest with deciduous sapling growth. Near pond or swamp. Must have some trees higher than 12 m.[4]	No	No	**No.** Woodlands of sufficient size and composition are not present in the Poppy South study area.

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?
Evening Grosbeak	*Coccothraustes vespertinus*	S4	SC	SC	SC	Schedule 1	Open, mature mixed-wood forests dominated by fir species, White Spruce and/or Trembling Aspen.[2]	No	No	**No.** Species does not generally breed in southern Ontario.
Grasshopper Sparrow	*Ammodramus savannarum*	S4B	SC	SC	SC	Schedule 1	Well-drained grassland or prairie with low cover of grasses, taller weeds or sandy soil; hayfields or weedy fallow fields; uplands with ground vegetation of various densities. Requires perches for singing and tracts of grassland generally >5ha.[4]	No	No	**No.** Suitable grassland habitat is not present within the subject lands or study area.
Yellow-breasted Chat	*Icteria virens*	S1B	END	E	E	Schedule 1	Thickets and scrub, tall tangles of shrubbery beside streams and ponds, overgrown bushy clearings with deciduous thickets.[4]	Yes	No	**No.** Thicket habitat is present in the study area but this species was not observed during breeding bird surveys.
Bobolink	*Dolichonyx oryzivorus*	S4B	THR	SC	T	Schedule 1	Large (>10 ha), open expansive grasslands, pastures, hayfields, meadows or fallow fields with dense ground cover. Occasionally nest in large (>50 ha) fields of winter wheat and rye in southwestern Ontario.[8]	No	No	**No.** Expansive meadow and open country habitat is not present in the study area.
Rusty Blackbird	*Euphagus carolinus*	S4B,S3N	SC	SC	SC	Schedule 1	Breeds in habitats dominated by coniferous forest with wetlands including bogs, marshes, swamps and beaver ponds.[4]	No	No	**No.** Woodlands on the study area are primarily plantation.
Brewer's Blackbird	*Euphagus cyanocephalus*	S2					Grassy prairie with trees or shrubs, marsh edges, bogs, dry open fields, roadside ditches with water. Forages extensively in fields and pastures (often associated with cattle or sheep).[4]	No	No	**No.** Suitable open habitats not present.
Eastern Meadowlark	*Sturnella magna*	S4B,S3N	THR	T	T	Schedule 1	Open pastures, hayfields, grasslands or grassy meadows with elevated singing perches (small trees, shrubs or fence posts). Also weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields or other open areas. Generally prefers larger tracts of habitat >10 ha, but will sometimes use smaller tracts.[4]	No	No	**No.** Thicket habitat was found to have too high shrub density to be utilized by this species.
Prairie Warbler	*Setophaga discolor*	S2B	NAR	NAR	NS	No schedule	Scrubland, mixed pine-oak barrens, old pastures, and hillsides with scattered red cedars. Avoids thick woods and benefits from cutting and burning of forests.[4]	No	No	**No.** Suitable open habitats not present.
Golden-winged Warbler	*Vermivora chrysoptera*	S3B	SC	T	T	Schedule 1	Areas with young shrubs surrounded by mature forest, including locations that have recently been disturbed, such as abandoned fields, field edges, hydro or utility right-of-ways, or logged areas with saplings and grasses.[4]	Possible	Possible	**No.** Despite marginally suitable habitat, this species was not observed during breeding bird surveys.

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?
Reptiles and Amphibians										
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	SC	Schedule 1	Slow-flowing rivers and streams, lakes, and permanent or semi-permanent wetlands with soft substrates and vegetation. Key habitat requirements: open areas with structures for basking, open sand or gravel areas for nesting, shallow areas with soft substrates to bury in, soft banks or substrates for hibernation.[2]	Yes	Yes	**Yes.** This species was observed basking within the Neumann Pond. Nesting for this species was not confirmed within the study area.
Blanding's Turtle (Great Lakes / St. Lawrence population)	*Emydoidea blandingii*	S3	THR	E	E	Schedule 1	Eutrophic, shallow wetlands such as marshes, ponds, swamps, bogs, fens, or coastal wetlands, with soft, muddy substrates, abundant aquatic vegetation, and basking structures (logs, stumps, hummocks). Large overland movements occur between aquatic habitats and to open sandy or gravelly areas for nesting. Forest habitat is important for upland movements. Overwintering typically occurs in permanent wetlands.[9]	No	No	**No.** Although wetland habitat is present, the Neumann Pond is not generally considered suitable.
Northern Map Turtle	*Graptemys geographica*	S3	SC	SC	SC	Schedule 1	Large bodies of water such as rivers and lakes with soft bottoms, aquatic vegetation, abundant mollusc prey, and basking structures such as logs or rocks. Nesting occurs in open areas with soft substrates such as sand or gravel. Hibernate on the bottom of deep areas of lakes or deep, slow-moving sections of rivers.[2]	No	No	**No.** There are no water bodies within the subject property or study area that are large enough to support this species.
Northern Ribbonsnake	*Thamnophis sauritus septentrionalis*	S4	SC	SC	SC	Schedule 1	Sunny grassy areas with low dense vegetation near bodies of shallow permanent quiet water; wet meadows grassy marshes or sphagnum bogs; borders of ponds, lakes or streams; hibernates in groups.[4]	No	No	**No.** This species was not observed within the Poppy South study area.
Jefferson Salamander	*Ambystoma jeffersonianum*	S2	END	E	E	Schedule 1	Large deciduous or mixed forest containing, or in close proximity to, suitable breeding ponds which include fishless vernal pools or wetlands with suitable hydroperiod for larval development (was present until Aug/Sept). Habitats must contain shelter features including leaf litter, woody debris, rocks, logs, or stumps. Hibernation sites are underground in mammal burrows, root systems, or crevices or fissures in rocks.[10]	No	No	**No.** Comprehensive surveys in the study area have ruled out Jefferson Salamander so it is assumed that this species is not present. This species was not captured during salamander trapping in the study area.
Unisexual Ambystoma (Jefferson Salamander-dependent population)	*Ambystoma laterale - (2) jeffersonianum*	S2	END	E	E	Schedule 1	Found in leaf litter, under logs and in underground cavities in deciduous and mixed forests, typically within close proximity to breeding habitats. Adults breeds in vernal pools (temporary woodland ponds) or fish-free permanent wetlands. Unisexual Ambystoma salamanders spend the winter underground where they can get below the frost line and avoid freezing temperatures, such as in mammal burrows, rock crevices or other underground cavities.[2]	No	No	**No.** Comprehensive surveys in the study area have ruled out Jefferson Salamander so it is assumed that this species is not present. This species was not captured during salamander trapping in the study area.

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?
Western Chorus Frog (Great Lakes / St. Lawrence - Canadian Shield population)	*Pseudacris triseriata pop. 2*	S4	NAR	T	T	Schedule 1	Roadside ditches or temporary ponds in fields; swamps or wet meadows; woodland or open country with cover and moisture; small ponds and temporary pools ponds and temporary pools.[4]	Possible	Possible	**No.** Variety of suitable habitat for this species is present within the subject property and study area. However, this species was not observed during field surveys.
Mammals										
Eastern Small-footed Myotis	*Myotis leibii*	S2S3	END				Primarily roosts in open, sunny, rocky habitats, including cracks and crevices in cliffs and boulders, in talus slopes, beneath stones on rock barrens and in rock outcrops containing crevices. Occasionally roosts in buildings (including barns, sheds, and exterior walls). Maternity roosts have been documented in rocky habitats, on bridge structures, and in or on buildings. Overwinters in caves and abandoned mines.[11]	Possible	Possible	This species is known from the study area based on surveys done on nearby properties.
Little Brown Myotis	*Myotis lucifugus*	S3	END	E	E	Schedule 1	Uses caves, quarries, tunnels, hollow trees or buildings for roosting. Winters in humid caves. Maternity sites in dark warm areas such as attics and barns. Feeds primarily in wetlands and forest edges.[12]	Possible	Possible	This species is known from the study area based on surveys done on nearby properties. Treed habitats have the potential to provide roosting habitat for this species.
Northern Myotis	*Myotis septentrionalis*	S3	END	E	E	Schedule 1	Roosts in houses and man-made structures but prefers hollow trees or under loose bark. Hibernates in mines or caves. Hunts within forest, below the canopy.[12]	Possible	Possible	This species has not been documented by NRSI in the broader study area, however, there are suitable habitats present.Treed habitats within the study area have the potential to provide roosting habitat for this species.
Tri-colored Bat	*Perimyotis subflavus*	S3?	END	E	E	Schedule 1	Roosts and maternity colonies in older forests and occasionally in barns or other structures. Forage over water and along streams in the forest. Hibernate in caves.[12]	Possible	Possible	Suitable habitat for this species may be present within the treed areas in the subject property and study area, depending on the availability of bat habitat trees.
Woodland Vole	*Microtus pinetorum*	S3?	SC	SC	SC	Schedule 1	Mature deciduous forest in the Carolinian region where there is a deep litter layer that allows it to burrow.[2]	No	No	**No.** Study area is not in the Carolinian region.
American Badger (Southwestern Ontario population)	*Taxidea taxus jacksoni*	S1	END	E	E	Schedule 1	Open grasslands and oak savannahs; dens in new hole or enlarged existing hole; sometimes makes food caches[4]	No	No	**No.** Open grasslands and Oak savannah habitat are not present within the subject property and study area.
Butterflies										
Tawny Emperor	*Asterocampa clyton*	S3					Found in most habitats where hackberries and other Celtis species grow. Various forest types including hardwood, mixedwood, conifer woodland. Other terrestrial habitats are savannah, shrubland, suburban/orchard.[13]	No	No	**No.** Hackberry was not identified in the study area.

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?
Monarch	*Danaus plexippus*	S2N,S4B	SC	E	SC	Schedule 1	Adults found in a diversity of habitats with a variety of wildflowers. Caterpillars are confined to meadows and open areas where milkweeds grow (larval food plants).[2]	Yes	Yes	**Yes.** This species was observed within the study area, but was not recorded within the Poppy South subject lands. Significant concentrations of milkweed were not noted within the study area.
Odonates										
Spatterdock Darner	*Rhionaeschna mutata*	S3					Shallow fishless ponds with abundant water lilies and spatterdock.[14]	Possible	Possible	**No.** Species was not observed during insect surveys.
Unicorn Clubtail	*Arigomphus villosipes*	S3					Found in ponds, lake inlets, and slow streams with muddy bottoms and little to no submerged vegetation.[14]	Possible	Possible	**No.** Species was not observed during insect surveys.
Pronghorn Clubtail	*Phanogomphus graslinellus*	S3					Ponds, lakes and slow streams.[14]	Possible	Possible	**No.** Species was not observed during insect surveys.
Clamp-tipped Emerald	*Somatochlora tenebrosa*	S3					Prefers water bodies in shaded forests, thicket streams, and occasionally bogs.[14]	No	No	**No.** Suitable ponds in shaded forest are not present in the study area. Species was not observed during insect surveys.

Common Name	Scientific Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA[3]	SARA Schedule[3]	Habitat Preference	Suitable Habitats within Study Area	Suitable Habitats within Subject Lands	Observed within Study Area?

Reference List

[1]Ministry of Natural Resources and Forestry (MNRF). 2023. Natural Heritage Information Centre (NHIC): Species List for Ontario. Published: 2014-07-17. All Species List Updated: 2023-05-17. Available: https://www.ontario.ca/page/get-natural-heritage-information

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Appendix III
Significant Wildlife Habitat Screening Table

#3328 - Mattamy North Lands EIS (132 Clair Road East, Guelph)

Significant Wildlife Habitat Assessment Tables - Summary

Significant Wildlife Habitat Type	Presence Within Study Area	Presence Within Subject Property	Assessment Details
Seasonal Concentration Areas			
Waterfowl Stopover and Staging Areas (Terrestrial)	Not Present	Not Present	No seasonal flooding observed in historical aerial imagery in existing meadow, agricultural, or thicket communities.
Waterfowl Stopover and Staging Areas (Aquatic)	Not Present	Not Present	The Neumann Pond although large enough, was not found to contain suitable concentrations of waterfowl during field surveys in the spring migration period.
Shorebird Migratory Stopover Area	Not Present	Not Present	Shoreline habitat of substantial size to accommodate the number of listed species not present.
Raptor Wintering Area	Not Present	Not Present	Contiguous woodlands in the Subject Property and Study Area are adjacent to large open habitats, however, concentrations of wintering raptors were not noted during winter field surveys.
Bat Hibernacula	Not Present	Not Present	There are no mine shafts, caves, or Karts within the Subject property or Study area.
Bat Maternity Colonies	Not Present	Not Present	Suitable woodland habitat with suitable snag densities are not present in the study area.
Turtle Wintering Area	Confirmed	Confirmed	Snapping Turtle and large numbers of painted turtle were noted within the Neumann Pond during basking surveys.
Reptile Hibernaculum	Not Present	Not Present	The previously identified snake hibernaculum associated with the old barn foundation north of the Neumann Pond was not found to contain suitable concentrations of the noted snake species during surveys in 2024. The habitat has been degraded by frequent human intrusion into this area and associated garbage.
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	Not Present	Not Present	There are no suitable banks or slopes present.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)	Not Present	Not Present	Stick nests for the identified species were not recorded during field surveys in 2024.
Colonially - Nesting Bird Breeding Habitat (Ground)	Not Present	Not Present	The Study Area and Subject Property do not contain islands or peninsulas in open water or marshy areas.
Migratory Butterfly Stopover Areas	Not Present	Not Present	The Study Area and Subject Property are not within 5km of Lake Ontario.
Landbird Migratory Stopover Areas	Not Present	Not Present	The Study Area and Subject Property are not within 5km of Lake Ontario.
Deer Yarding Areas	Not Present	Not Present	Deer do not yard in Southern Ontario and MNRF has not identified any suitable habitats.
Deer Winter Congregation Areas	Not Present	Not Present	Woodlands in the Study Area are not >100ha in size. MNRF has not identified any deer habitat in the Study Area.
Rare Vegetation Communities			
Cliff and Talus Slopes	Not Present	Not Present	Exposed bedrock/cliffs are not present.
Sand Barrens	Not Present	Not Present	No sand barrens are present.
Alvar	Not Present	Not Present	No alvars are present.
Old Growth Forest	Not Present	Not Present	Woodlands in the Study Area are not large enough to contain 10ha of interior habitat.
Savannah	Not Present	Not Present	Natural savannah habitats not present.
Tallgrass Prairie	Not Present	Not Present	No tallgrass prairie habitats present.
Other Rare Vegetation Communities	Not Present	Not Present	One rare vegetation commnutiy (SWT2-4) is known from just outside the Study Area, on an adjacent property. No other rare vegetation communities were documented during the Secondary Plan studies by Beacon.
Specialized Wildlife Habitat			
Waterfowl Nesting Area	Not Present	Not Present	Suitable numbers of waterfowl species were not identified near the Neumann Pond during field surveys in 2024.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Not Present	Not Present	No nesting or perching areas for these species were identified. There is a known nest at an artificial nest site near the Dragonfly Park on lands to the southwest.
Woodland Raptor Nesting Habitat	Not Present	Not Present	Contiguous woodlands/plantations in the Study Area are <30ha and do not contain >10ha of interior habitat.
Turtle Nesting Areas	Possible	Not Present	Turtle nesting habitat was not identifed in the subject lands but may be present in the broader study area.
Seeps and Springs	Not Present	Not Present	None of the forested areas in the Study Area are within the headwaters of a stream or river system.
Amphibian Breeding Habitat (Woodland)	Not Present	Not Present	Not present. The Neumann Pond is consdered to be functionally a 'wetland' breeding habitat given the low tree cover and presence of American Bullfrog.
Amphibian Breeding Habitat (Wetland)	Confirmed	Confirmed	American Bullfrog was confirmed within the Neumann Pond during 2024 field surveys.
Woodland Area-Sensitive Bird Breeding Habitat	Not Present	Not Present	Contiguous suitable woodland habitats are <30ha in size.
Habitat for Species of Conservation Concern			
Marsh Bird Breeding Habitat	Not Present	Not Present	Marsh breeding bird species were not identified during the marsh bird surveys.

Significant Wildlife Habitat Type	Presence Within Study Area	Presence Within Subject Property	Assessment Details
Open Country Bird Breeding Habitat	Not Present	Not Present	Suitable meadow or other open country habitat is not present.
Shrub/Early Successional Bird Breeding Habitat	Not Present	Not Present	Despite the presence of extensive thicket habitat, breeding bird surveys did not identify the presence of sufficient indicator species.
Terrestrial Crayfish	Not Present	Not Present	No crayfish chimney were identified in the study area during field surveys.
Special Concern and Rare Wildlife Species	Candidate	Not Present	Suitable habitat for Eastern Ribbonsnake is present south of the Neumann Pond, but is not located within the Poppy South lands.
Animal Movement Corridors			
Amphibian Movement Corridors	Candidate	Candidate	Candidate Amphibian Breeding Habitat (Wetland) has been identified in the Study Area, which would require movement habitats be identified.
Deer Movement Corridors	Not Present	Not Present	No significant deer habitats have been identified.

Appendix IV
Species Lists (132 Clair Road West Property)

Plant Species Reported from the Study Area - Poppy South Scoped EIS (Project #3460)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Plant List	NHIC Data*	NRSI Observed	CUT1	SWD4-1	SWD4-1	CUT1	MAS2-1	SA
		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	MNRF 2023b	NRSI Results From 2024	Subject Property	South of Subject Property	East of Subject Property	Study Area	Study Area	Study Area
Pteridophytes	**Ferns & Allies**																
Dryopteridaceae	**Wood Fern Family**																
Athyrium filix-femina var. angustum	Northeastern Lady Fern	S5							X								
Cystopteris bulbifera	Bulblet Fern	S5							X								
Dryopteris carthusiana	Spinulose Wood Fern	S5							X								
Dryopteris cristata	Crested Wood Fern	S5							X								
Dryopteris marginalis	Marginal Wood Fern	S5							X								
Dryopteris x uliginosa	*(Dryopteris carthusiana X Dryopteris crist*	SNA							X								
Matteuccia struthiopteris	Ostrich Fern	S5						X									
Matteuccia struthiopteris var. pensylvanica	Ostrich Fern	S5							X								
Onoclea sensibilis	Sensitive Fern	S5						X	X		X		X				X
Polystichum acrostichoides	Christmas Fern	S5						X	X								
Equisetaceae	**Horsetail Family**																
Equisetum arvense	Field Horsetail	S5						X	X		X					X	X
Equisetum fluviatile	Water Horsetail	S5							X								
Equisetum palustre	Marsh Horsetail	S5					X		X								
Equisetum pratense	Meadow Horsetail	S5					X		X								
Osmundaceae	**Royal Fern Family**																
Claytosmunda claytoniana	Interrupted Fern	S5					X		X								
Osmunda regalis var. spectabilis	Royal Fern	S5							X								
Osmundastrum cinnamomeum	Cinnamon Fern	S5							X								
Thelypteris palustris var. pubescens	Eastern Marsh Fern	S5							X								
Gymnosperms	**Conifers**																
Cupressaceae	**Cypress Family**																
Juniperus communis	Common Juniper	S5						X	X		X				X		
Juniperus virginiana	Eastern Red Cedar	S5							X								
Thuja occidentalis	Eastern White Cedar	S5							X		X						
Pinaceae	**Pine Family**																
Abies balsamea	Balsam Fir	S5							X								
Larix decidua	European Larch	SE2							X								
Larix laricina	Tamarack	S5							X								
Picea abies	Norway Spruce	SE3							X								
Picea glauca	White Spruce	S5							X								
Picea pungens	Blue Spruce	SE1							X								
Pinus banksiana	Jack Pine	S5							X								
Pinus nigra	Black Pine	SE3							X								
Pinus resinosa	Red Pine	S5							X								
Pinus strobus	Eastern White Pine	S5							X								
Pinus sylvestris	Scots Pine	SE5							X		X	X			X		
Tsuga canadensis	Eastern Hemlock	S5						X	X								
Dicotyledons	**Dicots**																
Aceraceae	**Maple Family**																
Acer negundo	Manitoba Maple	S5							X		X	X	X				X
Acer nigrum	Black Maple	S4?					X		X								
Acer platanoides	Norway Maple	SE5							X								
Acer pseudoplatanus	Sycamore Maple	SE1							X								
Acer rubrum	Red Maple	S5							X								
Acer saccharinum	Silver Maple	S5							X		X	X					
Acer saccharum	Sugar Maple	S5									X	X					
Acer x freemanii	Freeman's Maple	SNA							X		X		X				
Amaranthaceae	**Amaranth Family**																
Amaranthus retroflexus	Red-root Amaranth	SE5							X								
Anacardiaceae	**Sumac or Cashew Family**																
Rhus glabra	Smooth Sumac	S5						X									
Rhus typhina	Staghorn Sumac	S5						X	X								
Rhus x borealis	*(Rhus glabra X Rhus typhina)*	SNA						X									
Toxicodendron radicans var. rydbergii	Western Poison Ivy	S5							X								
Apiaceae	**Carrot or Parsley Family**																
Cicuta bulbifera	Bulb-bearing Water-hemlock	S5							X		X		X			X	X
Cicuta maculata	Spotted Water-hemlock	S5							X								
Daucus carota	Wild Carrot	SE5							X		X	X			X		
Pastinaca sativa	Wild Parsnip	SE5									X		X				
Sium suave	Hemlock Water-parsnip	S5						X	X		X		X			X	
Apocynaceae	**Dogbane Family**																
Apocynum androsaemifolium	Spreading Dogbane	S5							X								
Apocynum cannabinum	Hemp Dogbane	S5							X		X	X			X		
Vinca minor	Periwinkle	SE5							X								

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Plant List	NHIC Data*	NRSI Observed	CUT1	SWD4-1	SWD4-1	CUT1	MAS2-1	SA
		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	MNRF 2023b	NRSI Results From 2024	Subject Property	South of Subject Property	East of Subject Property	Study Area	Study Area	Study Area
Aquifoliaceae	**Holly Family**																
Ilex verticillata	Common Winterberry	S5						X	X								
Araliaceae	**Ginseng Family**																
Aralia nudicaulis	Wild Sarsaparilla	S5							X								
Aristolochiaceae	**Duchman's-pipe Family**																
Asarum canadense	Canada Wild-ginger	S5							X								
Asclepiadaceae	**Milkweed Family**																
Asclepias incarnata	Swamp Milkweed	S5							X		X		X				
Asclepias syriaca	Common Milkweed	S5							X		X	X			X	X	
Asclepias tuberosa	Butterfly Milkweed	S4					X	X			X				X		
Asteraceae	**Composite or Aster Family**																
Achillea millefolium	Common Yarrow	SE5?							X		X				X		
Ambrosia artemisiifolia	Common Ragweed	S5							X		X	X					
Antennaria howellii	Howell's Pussytoes	S5									X				X		
Antennaria neglecta	Field Pussytoes	S5						X	X								
Arctium lappa	Great Burdock	SE5							X								
Arctium minus	Common Burdock	SE5							X		X		X				
Bidens sp.	Beggarticks sp.								X								
Bidens cernua	Nodding Beggarticks	S5							X								
Bidens connata	Purple-stemmed Beggarticks	S4?							X								
Bidens frondosa	Devil's Beggarticks	S5							X								
Bidens tripartita	Three-parted Beggarticks	S5							X								
Carduus nutans	Nodding Thistle	SE5						X									
Carduus nutans ssp. leiophyllus	Smooth-leaved Nodding Thistle	SE1?							X								
Centaurea sp.	Knapweed sp.								X								
Centaurea jacea	Brown Knapweed	SE5							X		X	X			X		
Centaurea stoebe ssp. micranthos	Spotted Knapweed	SE5							X								
Cichorium intybus	Chicory	SE5						X	X		X	X					
Cirsium arvense	Creeping Thistle	SE5							X		X		X			X	X
Cirsium vulgare	Bull Thistle	SE5							X		X	X					
Coreopsis lanceolata	Lance-leaved Tickseed	S4						X			X				X		
Echinacea purpurea	Eastern Purple Coneflower	SE1									X				X		
Erigeron annuus	Annual Fleabane	S5							X		X	X					X
Erigeron canadensis	Canada Horseweed	S5							X		X	X			X		
Erigeron philadelphicus	Philadelphia Fleabane	S5									X				X		
Erigeron philadelphicus var. philadelphicus	Philadelphia Fleabane	S5							X								
Erigeron pulchellus	Robin's-plantain Fleabane	S5						X	X		X				X		
Eupatorium perfoliatum	Common Boneset	S5							X		X						
Eurybia macrophylla	Large-leaved Aster	S5							X								
Euthamia graminifolia	Grass-leaved Goldenrod	S5							X								
Eutrochium maculatum	Spotted Joe Pye Weed	S5									X		X			X	
Eutrochium maculatum var. maculatum	Spotted Joe Pye Weed	S5							X								
Heliopsis helianthoides	False Sunflower	S4S5									X				X		
Hieracium lachenalii	Common Hawkweed	SE2?							X								
Inula helenium	Elecampane	SE5							X								
Jacobaea vulgaris	Tansy Ragwort	SE1							X								
Lactuca canadensis	Canada Lettuce	S5						X									
Leucanthemum vulgare	Oxeye Daisy	SE5							X		X	X			X		
Matricaria chamomilla	Wild Chamomile	SE3									X	X					
Matricaria discoidea	Pineappleweed	SE5							X								
Nabalus altissimus	Tall Rattlesnakeroot	S5							X								
Onopordum acanthium	Scotch Cotton-thistle	SE4							X								
Pilosella caespitosa	Meadow Hawkweed	SE5							X		X	X					
Pilosella piloselloides	Tall Hawkweed	SE5							X		X	X			X		
Rudbeckia hirta	Black-eyed Susan	S5							X		X				X		
Rudbeckia laciniata	Cut-leaved Coneflower	S5					X				X				X		
Silphium perfoliatum	Cup Plant	S2									X	X					
Solidago sp.	Goldenrod sp.								X		X		X				X
Solidago altissima var. altissima	Eastern Tall Goldenrod	S5							X								
Solidago caesia	Blue-stemmed Goldenrod	S5						X	X								
Solidago canadensis	Canada Goldenrod	S5							X		X				X		
Solidago flexicaulis	Zigzag Goldenrod	S5							X								
Solidago gigantea	Giant Goldenrod	S5							X								
Solidago juncea	Early Goldenrod	S5							X								
Solidago nemoralis	Gray-stemmed Goldenrod	S5						X			X				X		
Solidago nemoralis ssp. nemoralis	Gray-stemmed Goldenrod	S5							X								
Solidago patula	Round-leaved Goldenrod	S4					X		X								
Solidago rugosa	Rough-stemmed Goldenrod	S5									X		X				
Solidago rugosa ssp. rugosa	Northern Rough-stemmed Goldenrod	S5							X								
Sonchus arvensis ssp. arvensis	Glandular Field Sow-thistle	SE5							X								
Sonchus asper	Prickly Sow-thistle	SE5							X		X	X					

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		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	MNRF 2023b	NRSI Results From 2024	Subject Property	South of Subject Property	East of Subject Property	Study Area	Study Area	Study Area
Sonchus oleraceus	Common Sow-thistle	SE5							X								
Symphyotrichum cordifolium	Heart-leaved Aster	S5					X	X	X								
Symphyotrichum ericoides	White Heath Aster	S5						X									
Symphyotrichum ericoides var. ericoides	White Heath Aster	S5							X								
Symphyotrichum firmum	Glossy-leaved Aster	S4?						X									
Symphyotrichum lanceolatum	Panicled Aster	S5									X		X			X	X
Symphyotrichum lanceolatum ssp. lanceo	Panicled Aster	S5							X								
Symphyotrichum lateriflorum var. lateriflor	Calico Aster	S5							X								
Symphyotrichum novae-angliae	New England Aster	S5							X		X	X			X		
Symphyotrichum oolentangiense	Sky-blue Aster	S4					X		X								
Symphyotrichum pilosum var. pilosum	Old Field Aster	S5						X	X								
Symphyotrichum puniceum var. puniceum	Swamp Aster	S5							X								
Symphyotrichum urophyllum	Arrow-leaved Aster	S4						X	X		X				X		
Symphyotrichum x amethystinum	*(Symphyotrichum ericoides X Symphyotri*	SNA						X									
Tanacetum vulgare	Common Tansy	SE5							X		X	X					
Taraxacum officinale	Common Dandelion	SE5							X		X	X			X		
Tetraneuris herbacea	Lakeside Daisy	S3	SC	SC	T	Schedule 1					X	X					
Tragopogon dubius	Yellow Goat's-beard	SE5							X		X	X					
Tragopogon pratensis	Meadow Goat's-beard	SE5							X		X	X					
Tussilago farfara	Colt's-foot	SE5							X								
Balsaminaceae	**Touch-me-not Family**																
Impatiens sp.	Jewelweed sp.										X						X
Impatiens capensis	Spotted Jewelweed	S5							X		X		X			X	
Berberidaceae	**Barberry Family**																
Berberis vulgaris	European Barberry	SE5							X								
Caulophyllum thalictroides	Blue Cohosh	S5							X								
Podophyllum peltatum	May-apple	S5							X								
Betulaceae	**Birch Family**																
Alnus incana ssp. rugosa	Speckled Alder	S5							X								
Betula alleghaniensis	Yellow Birch	S5							X								
Betula papyrifera	Paper Birch	S5							X								
Carpinus caroliniana ssp. virginiana	Blue-beech	S5							X								
Ostrya virginiana	Eastern Hop-hornbeam	S5							X								
Boraginaceae	**Borage Family**																
Echium vulgare	Common Viper's Bugloss	SE5						X	X		X	X			X		
Hackelia virginiana	Virginia Stickseed	S5							X								
Brassicaceae	**Mustard Family**																
Alliaria petiolata	Garlic Mustard	SE5							X		X						X
Barbarea vulgaris	Bitter Wintercress	SE5							X								
Cardamine concatenata	Cut-leaved Toothwort	S5						X	X								
Cardamine diphylla	Two-leaved Toothwort	S5							X								
Cardamine pensylvanica	Pennsylvania Bittercress	S5							X								
Draba verna	Spring Draba	SE5						X									
Erysimum cheiranthoides	Wormseed Wallflower	S5?							X		X	X					
Hesperis matronalis	Dame's Rocket	SE5							X		X	X					X
Lepidium densiflorum	Dense-flowered Peppergrass	SE5							X								
Rorippa palustris ssp. hispida	Hispid Marsh Yellowcress	S5							X								
Sinapis arvensis	Corn Mustard	SE5							X								
Thlaspi arvense	Field Penny-cress	SE5							X								
Cabombaceae	**Water-shield Family**																
Brasenia schreberi	Watershield	S5					X	X									
Campanulaceae	**Bellflower Family**																
Lobelia siphilitica	Great Blue Lobelia	S5						X									
Cannabaceae	**Hemp Family**																
Humulus japonicus	Japanese Hop	SE3							X								
Caprifoliaceae	**Honeysuckle Family**																
Lonicera dioica	Limber Honeysuckle	S5							X								
Lonicera morrowii	Morrow's Honeysuckle	SE3							X								
Lonicera tatarica	Tatarian Honeysuckle	SE5							X								
Lonicera x bella	*(Lonicera morrowii X Lonicera tatarica)*	SNA									X	X	X		X		
Sambucus canadensis	Common Elderberry	S5							X								
Sambucus racemosa	Red Elderberry	S5						X	X								
Symphoricarpos albus	Common Snowberry	S5							X								
Triosteum aurantiacum	Orange-fruited Horse-gentian	S4S5							X								
Viburnum acerifolium	Maple-leaved Viburnum	S5							X								
Viburnum lantana	Wayfaring-tree	SE2						X	X		X	X					
Viburnum lentago	Nannyberry	S5							X		X				X		
Viburnum opulus	Cranberry Viburnum	S5							X								
Viburnum opulus var. opulus	Cranberry Viburnum	SE4?									X		X		X		
Viburnum opulus var. americanum	Highbush Cranberry	S5							X								
Caryophyllaceae	**Pink Family**																

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		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	MNRF 2023b	NRSI Results From 2024	Subject Property	South of Subject Property	East of Subject Property	Study Area	Study Area	Study Area
Arenaria serpyllifolia	Thyme-leaved Sandwort	SE5						X									
Cerastium arvense ssp. arvense	Field Chickweed	SE2							X								
Cerastium fontanum	Common Mouse-ear Chickweed	SE5							X								
Dianthus armeria	Deptford Pink	SE5						X	X								
Dianthus deltoides	Maiden Pink	SE2						X									
Saponaria officinalis	Bouncing-bet	SE5							X								
Silene latifolia	White Campion	SE5						X	X								
Silene noctiflora	Night-flowering Catchfly	SE5							X								
Silene vulgaris	Bladder Campion	SE5							X		X	X					
Stellaria graminea	Grass-leaved Starwort	SE5							X								
Celastraceae	**Staff-tree Family**																
Euonymus obovatus	Running Strawberry Bush	S4						X	X								
Ceratophyllaceae	**Hornwort Family**																
Ceratophyllum demersum	Common Hornwort	S5							X								
Chenopodiaceae	**Goosefoot Family**																
Atriplex patula	Spear Saltbush	SE5							X								
Chenopodiastrum simplex	Maple-leaved Goosefoot	S5							X								
Chenopodium album	White Goosefoot	SE5							X		X	X					
Clusiaceae	**St. John's-wort Family**																
Hypericum perforatum	Common St. John's-wort	SE5							X		X	X			X		
Hypericum punctatum	Spotted St. John's-wort	S5						X									
Triadenum fraseri	Fraser's St. John's-wort	S5						X									
Convolvulaceae	**Morning-glory Family**																
Calystegia sepium	Hedge False Bindweed	S5									X	X					
Convolvulus arvensis	Field Bindweed	SE5						X	X		X	X			X		
Cornaceae	**Dogwood Family**																
Cornus alternifolia	Alternate-leaved Dogwood	S5						X	X		X						
Cornus racemosa	Gray Dogwood	S5							X		X				X		
Cornus sericea	Red-osier Dogwood	S5						X	X		X	X	X	X	X	X	X
Crassulaceae	**Stonecrop Family**																
Penthorum sedoides	Ditch-stonecrop	S5							X								
Sedum acre	Gold-moss	SE5							X								
Cucurbitaceae	**Gourd Family**																
Echinocystis lobata	Wild Mock-cucumber	S5							X		X		X				
Cuscutaceae	**Dodder Family**																
Cuscuta gronovii	Swamp Dodder	S5							X								
Dipsacaceae	**Teasel Family**																
Dipsacus fullonum	Common Teasel	SE5						X	X								
Elaeagnaceae	**Oleaster Family**																
Elaeagnus angustifolia	Russian Olive	SE3							X								
Elaeagnus umbellata	Autumn Olive	SE3						X	X								
Euphorbiaceae	**Spurge Family**																
Acalypha rhomboidea	Common Three-seeded Mercury	S5						X									
Fabaceae	**Pea Family**																
Desmodium canadense	Showy Tick-trefoil	S4							X								
Gleditsia triacanthos	Honey-locust	S2?							X								
Lathyrus tuberosus	Tuberous Vetchling	SE3									X				X		
Lotus corniculatus	Garden Bird's-foot Trefoil	SE5							X		X	X					
Medicago lupulina	Black Medic	SE5							X		X	X			X		
Medicago sativa ssp. falcata	Yellow Alfalfa	SE							X								
Medicago sativa ssp. sativa	Alfalfa	SE5							X								
Melilotus albus	White Sweet-clover	SE5						X	X		X	X			X		
Robinia pseudoacacia	Black Locust	SE5							X		X	X					
Securigera varia	Common Crown-vetch	SE5							X		X	X			X		
Trifolium aureum	Yellow Clover	SE5							X								
Trifolium hybridum	Alsike Clover	SE5							X		X	X					
Trifolium pratense	Red Clover	SE5						X	X		X	X			X		
Trifolium repens	White Clover	SE5							X		X	X					
Vicia cracca	Tufted Vetch	SE5						X	X		X	X			X		X
Fagaceae	**Beech Family**																
Fagus grandifolia	American Beech	S4							X								
Quercus alba	White Oak	S5							X								
Quercus macrocarpa	Bur Oak	S5							X								
Quercus rubra	Northern Red Oak	S5							X								
Gentianaceae	**Gentian Family**																
Gentiana andrewsii	Closed Bottle Gentian	S4							X								
Geraniaceae	**Geranium Family**																
Geranium maculatum	Spotted Geranium	S5							X								
Geranium robertianum	Herb-Robert	S5							X								
Grossulariaceae	**Currant Family**																
Ribes americanum	Wild Black Currant	S5							X								

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Ribes cynosbati	Prickly Gooseberry	S5							X								
Ribes rubrum	Northern Red Currant	SE5							X		X		X				
Hippocastanaceae	**Buckeye Family**																
Aesculus hippocastanum	Horse Chestnut	SE2							X								
Juglandaceae	**Walnut Family**																
Carya cordiformis	Bitternut Hickory	S5							X								
Juglans cinerea	Butternut	S2?	END	E	E	Schedule 1	X		X								
Juglans nigra	Black Walnut	S4?							X								
Lamiaceae	**Mint Family**																
Clinopodium vulgare	Field Basil	S5						X	X		X				X		
Leonurus cardiaca ssp. cardiaca	Common Motherwort	SE5							X								
Lycopus americanus	American Water-horehound	S5							X								
Lycopus uniflorus	Northern Water-horehound	S5							X								
Mentha canadensis	Canada Mint	S5						X	X		X		X				
Monarda fistulosa	Wild Bergamot	S5									X	X			X		
Nepeta cataria	Catnip	SE5							X		X	X	X				
Origanum vulgare	Wild Marjoram	SE5									X				X		
Prunella vulgaris	Self-heal	S5									X				X		
Prunella vulgaris ssp. lanceolata	Lance-leaved Self-heal	S5							X								
Prunella vulgaris ssp. vulgaris	Common Self-heal	SE3							X								
Scutellaria galericulata	Hooded Skullcap	S5							X								
Scutellaria lateriflora	Mad Dog Skullcap	S5							X		X		X				
Lentibulariaceae	**Bladderwort Family**																
Utricularia vulgaris	Greater Bladderwort	S5									X						
Lythraceae	**Loosestrife Family**																
Decodon verticillatus	Swamp Loosestrife	S5					X		X								
Lythrum salicaria	Purple Loosestrife	SE5							X								
Malvaceae	**Mallow Family**																
Malva neglecta	Dwarf Cheeseweed	SE5							X								
Monotropaceae	**Indian Pipe Family**																
Hypopitys monotropa	Pinesap	S4							X								
Moraceae	**Mulberry Family**																
Morus alba	White Mulberry	SE5						X	X		X	X					X
Nymphaeaceae	**Water-lily Family**																
Nuphar variegata	Variegated Pond-lily	S5							X								
Oleaceae	**Olive Family**																
Forsythia viridissima	Green-stemmed Forsythia	SE2							X								
Fraxinus americana	White Ash	S4							X		X		X		X		
Fraxinus nigra	Black Ash	S4	END	T	NS	No schedule			X								
Fraxinus pennsylvanica	Green Ash	S4							X								
Ligustrum vulgare	European Privet	SE5							X								
Syringa vulgaris	Common Lilac	SE5							X		X						
Onagraceae	**Evening-primrose Family**																
Chamaenerion angustifolium ssp. angustif	Fireweed	S5?					X		X								
Circaea canadensis ssp. canadensis	Canada Enchanter's Nightshade	S5							X								
Epilobium ciliatum ssp. ciliatum	Northern Willowherb	S5							X								
Epilobium coloratum	Purple-veined Willowherb	S5							X		X		X				
Epilobium hirsutum	Hairy Willowherb	SE5							X								
Epilobium leptophyllum	Linear-leaved Willowherb	S5							X								
Epilobium parviflorum	Small-flowered Willowherb	SE4							X		X		X				
Epilobium strictum	Downy Willowherb	S4					X		X								
Oenothera biennis	Common Evening-primrose	S5							X								
Oxalidaceae	**Wood Sorrel Family**																
Oxalis stricta	Upright Yellow Wood-sorrel	SE5							X								
Paeoniaceae	**Peony Family**																
Paeonia officinalis	Common Peony	SE1							X								
Papaveraceae	**Poppy Family**																
Chelidonium majus	Greater Celandine	SE5						X	X								
Sanguinaria canadensis	Bloodroot	S5						X	X		X						
Plantaginaceae	**Plantain Family**																
Plantago lanceolata	English Plantain	SE5							X		X	X			X		
Plantago major	Common Plantain	SE5							X								
Polygonaceae	**Smartweed Family**																
Persicaria amphibia	Water Smartweed	S5						X	X								
Persicaria hydropiper	Marshpepper Smartweed	SE5							X								
Persicaria maculosa	Spotted Lady's-thumb	SE5							X		X	X	X				
Persicaria punctata	Dotted Smartweed	S5							X								
Reynoutria japonica	Japanese Knotweed	SE5						X									
Rumex crispus	Curly Dock	SE5							X								
Rumex obtusifolius	Bitter Dock	SE5							X								
Portulacaceae	**Purslane Family**																

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Portulaca oleracea	Common Purslane	SE5							X								
Primulaceae	**Primrose Family**																
Lysimachia borealis	Northern Starflower	S5							X								
Lysimachia ciliata	Fringed Loosestrife	S5							X								
Lysimachia nummularia	Creeping Jennie	SE5							X								
Lysimachia quadrifolia	Whorled Loosestrife	S4							X								
Lysimachia terrestris	Swamp Loosestrife	S5							X								
Lysimachia thyrsiflora	Water Loosestrife	S5							X								
Ranunculaceae	**Buttercup Family**																
Actaea pachypoda	White Baneberry	S5							X								
Anemonastrum canadense	Canada Anemone	S5						X	X								
Anemone virginiana	Tall Anemone	S5									X						
Anemone virginiana var. virginiana	Tall Anemone	S5?							X								
Aquilegia canadensis	Red Columbine	S5							X								
Caltha palustris	Yellow Marsh Marigold	S5							X								
Coptis trifolia	Goldthread	S5							X								
Hepatica acutiloba	Sharp-lobed Hepatica	S5						X									
Hepatica americana	Round-lobed Hepatica	S5							X								
Ranunculus abortivus	Kidney-leaved Buttercup	S5							X								
Ranunculus acris	Tall Buttercup	SE5						X	X		X	X	X		X	X	X
Ranunculus caricetorum	Northern Swamp Buttercup	S5							X								
Ranunculus flabellaris	Yellow Water Buttercup	S4					X		X		X		X				
Ranunculus gmelinii	Gmelin's Buttercup	S5					X		X								
Ranunculus hispidus	Bristly Buttercup	S3							X								
Ranunculus pensylvanicus	Pennsylvania Buttercup	S5							X								
Ranunculus recurvatus var. recurvatus	Hooked Buttercup	S5							X								
Ranunculus repens	Creeping Buttercup	SE5							X								
Ranunculus sceleratus var. sceleratus	Cursed Buttercup	SE							X								
Thalictrum dioicum	Early Meadow-rue	S5							X								
Thalictrum pubescens	Tall Meadow-rue	S5							X								
Rhamnaceae	**Buckthorn Family**																
Frangula alnus	Glossy Buckthorn	SE5							X		X		X				
Rhamnus cathartica	Common Buckthorn	SE5						X	X		X	X	X		X	X	X
Rosaceae	**Rose Family**																
Agrimonia gryposepala	Hooked Agrimony	S5							X								
Crataegus sp.	Hawthorn sp.								X		X		X		X		
Crataegus macrosperma	Big-fruited Hawthorn	S5							X								
Crataegus monogyna	English Hawthorn	SE4							X								
Crataegus punctata	Dotted Hawthorn	S5							X								
Crataegus succulenta	Fleshy Hawthorn	S5							X								
Fragaria vesca	Woodland Strawberry	S5									X				X		
Fragaria vesca ssp. americana	American Woodland Strawberry	S5							X								
Fragaria virginiana	Wild Strawberry	S5						X	X		X				X		
Geum aleppicum	Yellow Avens	S5							X								
Geum canadense	White Avens	S5							X								
Geum fragarioides	Barren Strawberry	S5							X								
Geum laciniatum	Rough Avens	S4					X		X								
Geum rivale	Purple Avens	S5							X								
Geum urbanum	Wood Avens	SE3							X		X	X	X			X	
Malus pumila	Common Apple	SE4						X	X		X	X	X		X	X	
Potentilla argentea	Silvery Cinquefoil	SE5							X								
Potentilla norvegica	Norwegian Cinquefoil	S5							X								
Potentilla recta	Sulphur Cinquefoil	SE5						X	X								
Poterium sanguisorba	Salad Burnet	SE4									X				X		
Prunus avium	Sweet Cherry	SE4							X								
Prunus mahaleb	Perfumed Cherry	SE2							X		X				X		
Prunus nigra	Canada Plum	S4							X								
Prunus pensylvanica	Pin Cherry	S5							X								
Prunus serotina	Black Cherry	S5							X		X	X			X		
Prunus virginiana	Choke Cherry	S5						X			X		X		X		
Prunus virginiana var. virginiana	Choke Cherry	S5							X								
Pyrus communis	Common Pear	SE4							X		X				X		
Rosa multiflora	Multiflora Rose	SE5							X								
Rubus allegheniensis	Allegheny Blackberry	S5							X								
Rubus idaeus	Common Red Raspberry	S5									X		X		X	X	
Rubus idaeus ssp. strigosus	Wild Red Raspberry	S5							X								
Rubus occidentalis	Black Raspberry	S5							X								
Rubus pubescens	Dewberry	S5							X								
Sorbus aucuparia	European Mountain-ash	SE4							X								
Spiraea alba	White Meadowsweet	S5							X								
Rubiaceae	**Madder Family**																

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Cephalanthus occidentalis	Eastern Buttonbush	S5					X		X								
Galium asprellum	Rough Bedstraw	S5							X								
Galium mollugo	Smooth Bedstraw	SE5						X	X		X				X		
Galium palustre	Marsh Bedstraw	S5							X		X						X
Galium trifidum ssp. trifidum	Three-petalled Bedstraw	S5							X								
Galium triflorum	Three-flowered Bedstraw	S5							X								
Galium verum	Yellow Bedstraw	SE4							X								
Rutaceae	**Rue Family**																
Zanthoxylum americanum	Common Prickly-ash	S5							X								
Salicaceae	**Willow Family**																
Populus alba	White Poplar	SE5							X								
Populus balsamifera	Balsam Poplar	S5							X		X						
Populus deltoides ssp. deltoides	Eastern Cottonwood	S5							X								
Populus grandidentata	Large-toothed Aspen	S5							X								
Populus tremuloides	Trembling Aspen	S5							X		X		X				
Salix sp.	Willow sp.										X	X	X				
Salix alba	White Willow	SE4							X		X		X	X		X	X
Salix amygdaloides	Peach-leaved Willow	S5							X								
Salix bebbiana	Bebb's Willow	S5							X								
Salix candida	Hoary Willow	S5							X								
Salix discolor	Pussy Willow	S5							X								
Salix eriocephala	Heart-leaved Willow	S5							X		X		X				
Salix interior	Sandbar Willow	S5						X	X		X						X
Salix lucida	Shining Willow	S5							X								
Salix nigra	Black Willow	S4							X								
Salix petiolaris	Meadow Willow	S5							X		X						
Salix purpurea	Purple Willow	SE4						X	X								
Salix serissima	Autumn Willow	S5							X								
Salix x fragilis	*(Salix alba X Salix euxina)*	SNA							X								
Scrophulariaceae	**Figwort Family**																
Chelone glabra	White Turtlehead	S5							X								
Linaria vulgaris	Butter-and-eggs	SE5						X	X								
Mimulus ringens	Square-stemmed Monkeyflower	S5							X								
Penstemon digitalis	Foxglove Beardtongue	S4S5							X								
Verbascum blattaria	Moth Mullein	SE5						X									
Verbascum thapsus	Common Mullein	SE5						X	X		X	X			X		
Veronica americana	American Speedwell	S5							X								
Veronica anagallis-aquatica	Water Speedwell	SE							X								
Veronica officinalis	Common Speedwell	SE5							X		X						
Veronica scutellata	Marsh Speedwell	S5							X								
Solanaceae	**Nightshade Family**																
Solanum dulcamara	Bittersweet Nightshade	SE5						X	X		X		X			X	X
Solanum nigrum	Black Nightshade	SE1							X								
Thymelaeaceae	**Mezereum Family**																
Dirca palustris	Eastern Leatherwood	S4							X								
Tiliaceae	**Linden Family**																
Tilia americana	American Basswood	S5							X		X	X					
Ulmaceae	**Elm Family**																
Ulmus americana	American Elm	S5							X		X	X	X				
Ulmus pumila	Siberian Elm	SE3							X								
Ulmus rubra	Slippery Elm	S5							X								
Urticaceae	**Nettle Family**																
Boehmeria cylindrica	False Nettle	S5							X		X		X				
Laportea canadensis	Wood Nettle	S5							X								
Pilea pumila	Dwarf Clearweed	S5					X		X								
Urtica gracilis	Slender Stinging Nettle	S5							X								
Violaceae	**Violet Family**																
Viola sp.	Violet sp.								X		X						
Viola affinis	LeConte's Violet	S4S5							X								
Viola labradorica	Labrador Violet	S5							X								
Viola macloskeyi	Smooth White Violet	S5							X								
Viola pubescens	Yellow Violet	S5							X								
Viola sororia	Woolly Blue Violet	S5							X								
Vitaceae	**Grape Family**																
Parthenocissus quinquefolia	Virginia Creeper	S4?									X	X					
Parthenocissus vitacea	Thicket Creeper	S5							X		X		X			X	
Vitis riparia	Riverbank Grape	S5							X		X	X	X	X	X	X	X
Monocotyledons	**Monocots**																
Alismataceae	**Water-plantain Family**																
Alisma subcordatum	Southern Water-plantain	S4?							X								
Alisma triviale	Northern Water-plantain	S5							X		X		X				

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Sagittaria cuneata	Northern Arrowhead	S5					X		X								
Sagittaria latifolia	Broad-leaved Arrowhead	S5							X								
Acoraceae	**Sweetflag Family**																
Acorus americanus	American Sweetflag	S4							X								
Araceae	**Arum Family**																
Arisaema triphyllum ssp. triphyllum	Jack-in-the-pulpit	S5							X								
Calla palustris	Wild Calla	S5							X								
Cyperaceae	**Sedge Family**																
Carex sp.	Sedge sp.										X						
Carex atherodes	Wheat Sedge	S4					X		X								
Carex aurea	Golden Sedge	S5									X				X		
Carex bebbii	Bebb's Sedge	S5							X								
Carex blanda	Woodland Sedge	S5									X				X		
Carex comosa	Bristly Sedge	S5						X									
Carex cristatella	Crested Sedge	S5							X		X		X				
Carex disperma	Two-seeded Sedge	S5							X								
Carex eburnea	Bristle-leaved Sedge	S5							X		X				X		
Carex flava	Yellow Sedge	S5									X		X			X	
Carex foenea	Bronze Sedge	S5							X								
Carex gracillima	Graceful Sedge	S5							X		X						
Carex hystericina	Porcupine Sedge	S5							X								
Carex intumescens	Bladder Sedge	S5							X								
Carex lacustris	Lake Sedge	S5							X								
Carex lasiocarpa	Woolly-fruited Sedge	S5							X								
Carex lupulina	Hop Sedge	S5					X		X								
Carex molesta	Troublesome Sedge	S4S5							X								
Carex peckii	Peck's Sedge	S5						X									
Carex pedunculata	Long-stalked Sedge	S5							X								
Carex pellita	Woolly Sedge	S5							X								
Carex pensylvanica	Pennsylvania Sedge	S5							X								
Carex pseudocyperus	Cyperus-like Sedge	S5							X								
Carex radiata	Eastern Star Sedge	S5							X								
Carex retrorsa	Retrorse Sedge	S5							X								
Carex rosea	Rosy Sedge	S5							X								
Carex spicata	Spiked Sedge	SE5							X		X	X					X
Carex stipata	Awl-fruited Sedge	S5							X								
Carex stricta	Tussock Sedge	S5							X								
Carex sychnocephala	Many-headed Sedge	S4					X	X									
Carex trichocarpa	Hairy-fruited Sedge	S3					X	X									
Carex utriculata	Northern Beaked Sedge	S5							X								
Carex vulpinoidea	Fox Sedge	S5							X								
Dulichium arundinaceum	Three-way Sedge	S5						X									
Eleocharis erythropoda	Red-stemmed Spikerush	S5							X								
Eleocharis obtusa	Blunt Spikerush	S5							X								
Eleocharis palustris	Creeping Spikerush	S5							X		X	X					
Schoenoplectiella smithii	Smith's Bulrush	S2S3					X			X							
Schoenoplectus pungens var. pungens	Common Three-square Bulrush	SU							X								
Schoenoplectus tabernaemontani	Soft-stemmed Bulrush	S5						X	X		X	X					
Scirpus atrovirens	Dark-green Bulrush	S5							X		X	X					
Scirpus pendulus	Rufous Bulrush	S5							X								
Hydrocharitaceae	**Frog's-bit Family**																
Vallisneria americana	Eel-grass	S5							X								
Iridaceae	**Iris Family**																
Iris pseudacorus	Yellow Iris	SE4							X								
Iris versicolor	Harlequin Blue Flag	S5							X								
Sisyrinchium montanum	Strict Blue-eyed-grass	S5							X		X				X		
Juncaceae	**Rush Family**																
Juncus articulatus	Jointed Rush	S5							X								
Juncus dudleyi	Dudley's Rush	S5							X		X	X					
Juncus effusus ssp. solutus	Soft Rush	S5?							X								
Juncus pylaei	Pylae's Soft Rush	S4S5							X								
Juncus tenuis	Path Rush	S5							X								
Lemnaceae	**Duckweed Family**																
Lemna minor	Lesser Duckweed	S5							X		X		X				
Lemna trisulca	Star Duckweed	S5							X								
Spirodela polyrhiza	Great Duckweed	S5							X								
Liliaceae	**Lily Family**																
Allium tricoccum	Wild Leek	S4							X								
Asparagus officinalis	Garden Asparagus	SE5							X								
Clintonia borealis	Blue Bead-lily	S5							X								
Convallaria majalis	European Lily-of-the-valley	SE5							X								

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Plant List	NHIC Data*	NRSI Observed	CUT1	SWD4-1	SWD4-1	CUT1	MAS2-1	SA
		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	MNRF 2023b	NRSI Results From 2024	Subject Property	South of Subject Property	East of Subject Property	Study Area	Study Area	Study Area
Erythronium americanum ssp. americanur	Yellow Trout-lily	S5							X								
Hemerocallis fulva	Orange Daylily	SE5							X								
Lilium philadelphicum	Wood Lily	S5					X		X								
Maianthemum canadense	Wild Lily-of-the-valley	S5							X								
Maianthemum racemosum	Large False Solomon's Seal	S5							X								
Narcissus pseudonarcissus	Common Daffodil	SE2							X								
Polygonatum pubescens	Hairy Solomon's Seal	S5						X	X								
Trillium grandiflorum	White Trillium	S5							X								
Orchidaceae	**Orchid Family**																
Cypripedium parviflorum var. pubescens	Large Yellow Lady's-slipper	S5							X								
Epipactis helleborine	Eastern Helleborine	SE5							X		X						
Poaceae	**Grass Family**																
Agrostis gigantea	Redtop	SE5							X		X				X		
Agrostis scabra	Rough Bentgrass	S5							X								
Agrostis stolonifera	Creeping Bentgrass	SE5							X								
Andropogon gerardi	Big Bluestem	S4						X			X				X		
Bromus inermis	Smooth Brome	SE5							X		X	X			X		X
Calamagrostis canadensis	Bluejoint Reedgrass	S5							X								
Dactylis glomerata	Orchard Grass	SE5							X		X	X			X		
Dichanthelium implicatum	Slender-stemmed Panicgrass	S5							X								
Digitaria sanguinalis	Hairy Crabgrass	SE5							X								
Echinochloa crus-galli	Large Barnyard Grass	SE5							X		X	X					
Elymus repens	Creeping Wildrye	SE5							X								
Festuca rubra	Red Fescue	S5									X				X		
Festuca rubra ssp. rubra	Red Fescue	SE5							X								
Glyceria borealis	Boreal Mannagrass	S5					X		X								
Glyceria grandis	Tall Mannagrass	S5							X								
Glyceria septentrionalis	Eastern Mannagrass	S4							X		X		X	X		X	
Glyceria striata	Fowl Mannagrass	S5							X		X		X				
Leersia oryzoides	Rice Cutgrass	S5							X								
Lolium arundinaceum	Tall Fescue	SE5									X				X		
Lolium pratense	Meadow Fescue	SE5							X								
Panicum capillare	Common Panicgrass	S5							X		X	X					
Panicum virgatum	Old Switch Panicgrass	S4					X	X									
Phalaris arundinacea	Reed Canary Grass	S5							X		X		X	X		X	
Phalaris arundinacea var. arundinacea	Reed Canary Grass	S5									X						X
Phleum pratense	Common Timothy	SE5							X		X	X			X		
Phragmites australis ssp. australis	European Reed	SE5						X			X						
Poa compressa	Canada Bluegrass	SE5							X		X						
Poa palustris	Fowl Bluegrass	S5							X								
Poa pratensis	Kentucky Bluegrass	S5									X	X	X				
Poa pratensis ssp. pratensis	Kentucky Bluegrass	SE5							X								
Poa trivialis	Rough Bluegrass	SE3									X					X	
Secale cereale	Cultivated Rye	SE3							X								
Setaria pumila	Yellow Foxtail	SE5						X									
Setaria viridis	Green Foxtail	SE5							X		X	X					
Sorghastrum nutans	Yellow Indiangrass	S4						X									
Potamogetonaceae	**Pondweed Family**																
Potamogeton natans	Floating Pondweed	S5									X						
Stuckenia pectinata	Sago Pondweed	S5							X								
Smilacaceae	**Catbrier Family**																
Smilax tamnoides	Hispid Greenbrier	S5							X								
Sparganiaceae	**Burreed Family**																
Sparganium americanum	American Burreed	S5							X								
Sparganium eurycarpum	Broad-fruited Burreed	S5							X								
Typhaceae	**Cattail Family**																
Typha angustifolia	Narrow-leaved Cattail	SE5							X		X					X	
Typha latifolia	Broad-leaved Cattail	S5							X		X						
Total								**83**	**457**	**1**	**172**	**73**	**52**	**5**	**70**	**23**	**24**

*NHIC Atlas Squares: 17NJ6515, 17NJ6516, 17NJ6615, 17NJ6616

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Bird Species Reported from the Study Area - Poppy South Scoped EIS (Project #3460)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	eBird Observation Dataset	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Wildlife List	OBBA*	NHIC Data**	NRSI Observed: Highest Level of Breeding Evidence	BMB-001	BMB-002	BMB-003	BMB-004	BMB-005	BMB-006	BMB-007	BMB-008	BMB-009	BMB-010	BMB-011	BMB-012	BMB-013	MBB-01	MBB-02	MBB-03	Winter Wildlife	Other Observations
		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024a	GBIF 2024b	Beacon Environmental, 2019	BSC et al. 2008	MNRF 2023b	NRSI Results from 2024																			
Anatidae	**Ducks, Geese & Swans**																														
Aix sponsa	Wood Duck	S5B,S3N						X	X	X	CO		**OB**																	OB	OB
Anas crecca	Green-winged Teal	S4B,S4N,S5M					X	X	X																						
Anas platyrhynchos	Mallard	S5						X	X	X	CO		**PR**					PO	PO		PR		PO							OB	OB
Anas rubripes	American Black Duck	S4						X	X		CO																				
Aythya affinis	Lesser Scaup	S4B,S4N,S5M					X	X																							
Aythya collaris	Ring-necked Duck	S5B,S4N						X	X	X																					
Aythya valisineria	Canvasback	S1B,S3N,S4M					X	X																							
Branta canadensis	Canada Goose	S5						X		X	CO		**PO**	PO			PO													OB	OB
Bucephala albeola	Bufflehead	S5						X		X																					
Bucephala clangula	Common Goldeneye	S5						X																							
Cygnus buccinator	Trumpeter Swan	S4	NAR	NAR	NS	No schedule	X		X																						
Cygnus columbianus	Tundra Swan	S2B,S4N,S3M								X																					
Lophodytes cucullatus	Hooded Merganser	S5						X	X				**OB**																	OB	OB
Mareca penelope	Eurasian Wigeon	SNA						X																							
Mareca strepera	Gadwall	S4B,S4N,S5M					X		X																						
Mergus merganser	Common Merganser	S5					X	X		X																					
Mergus serrator	Red-breasted Merganser	S5					X						**OB**																		OB
Spatula discors	Blue-winged Teal	S3B,S4M						X																							
Phasianidae	**Partridges, Grouse & Turkeys**																														
Bonasa umbellus	Ruffed Grouse	S5						X		X	CO		**OB**																	OB	OB
Meleagris gallopavo	Wild Turkey	S5						X		X	PO		**PO**																	OB	PO
Phasianus colchicus	Ring-necked Pheasant	SNA						X																							
Podicipediformes	**Grebes**																														
Podiceps auritus	Horned Grebe	S1B,S3N,S4M	SC	SC	SC	Schedule 1		X																							
Podilymbus podiceps	Pied-billed Grebe	S4B,S2N						X	X		PO																					
Columbidae	**Pigeons & Doves**																														
Columba livia	Rock Pigeon	SNA						X	X	X	CO		**OB**								OB										
Zenaida macroura	Mourning Dove	S5						X		X	CO		**PR**	PR	PR	PO	PO	PO	PR	PO		PO	PR	PO					PO	OB	OB
Cuculiformes	**Cuckoos & Anis**																														
Coccyzus americanus	Yellow-billed Cuckoo	S4B					X	X		X																					
Coccyzus erythropthalmus	Black-billed Cuckoo	S4S5B					X	X	X	X	PO		**PO**				PO	PO		PO											PO
Coccyzus sp.	Black/Yellow-billed Cuckoo	NP									PO																				
Caprimulgidae	**Goatsuckers**																														
Chordeiles minor	Common Nighthawk	S4B	SC	SC	SC	Schedule 1	X				PO																				
Apodidae	**Swifts**																														
Chaetura pelagica	Chimney Swift	S3B	THR	T	T	Schedule 1	X	X			PO		**OB**					OB													OB
Trochilidae	**Hummingbirds**																														
Archilochus colubris	Ruby-throated Hummingbird	S5B						X	X	X	CO		**OB**																		OB
Rallidae	**Rails, Gallinules & Coots**																														
Gallinula galeata	Common Gallinule	S3B					X	X																							
Porzana carolina	Sora	S5B						X		X	PR																				
Rallus limicola	Virginia Rail	S4S5B									PR																				
Gruidae	**Cranes**																														
Antigone canadensis	Sandhill Crane	S5B,S3N		NAR	NS	No schedule	X	X																							
Charadriidae	**Plovers & Lapwings**																														
Charadrius semipalmatus	Semipalmated Plover	S4B,S5M						X																							
Charadrius vociferus	Killdeer	S4B						X	X	X	CO		**CO**	PR	PO	PR	PO		PO				PO	PR	PR		PO			OB	CO
Scolopacidae	**Sandpipers & Allies**																														
Actitis macularia	Spotted Sandpiper	S5B						X	X	X	PR		**OB**																		OB
Calidris minutilla	Least Sandpiper	S4B,S5M						X																							
Gallinago delicata	Wilson's Snipe	S5B						X			PO																				
Scolopax minor	American Woodcock	S4B						X		X	PR		**PO**																		PO
Tringa melanoleuca	Greater Yellowlegs	S4B,S5M						X																							
Tringa solitaria	Solitary Sandpiper	S4B,S5M						X	X																						
Laridae	**Gulls, Terns & Skimmers**																														
Hydroprogne caspia	Caspian Tern	S3B,S5M	NAR	NAR	NS	No schedule	X	X																							
Larus argentatus	Herring Gull	S4B,S5N					X	X		X			**OB**								OB										
Larus delawarensis	Ring-billed Gull	S5					X	X	X	X			**OB**										OB			OB	OB				OB
Gaviidae	**Loons**																														
Gavia immer	Common Loon	S5	NAR	NAR	NS	No schedule	X	X																							
Phalacrocoracidae	**Cormorants**																														
Nannopterum auritum	Double-crested Cormorant	S5B,S4N	NAR	NAR	NS	No schedule	X	X					**OB**																		OB
Ardeidae	**Herons & Bitterns**																														
Ardea herodias	Great Blue Heron	S4					X	X	X	X	PO		**PO**				OB												PO		OB
Botaurus lentiginosus	American Bittern	S5B					X				PR																				
Butorides virescens	Green Heron	S4B					X	X	X		PR																				
Cathartidae	**Vultures**																														
Cathartes aura	Turkey Vulture	S5B,S3N						X		X	PR		**OB**	OB																	OB	OB
Pandionidae	**Osprey**																														
Pandion haliaetus	Osprey	S5B						X	X	X			**CO**					CO	CO		CO	CO	CO		PR			OB			OB
Accipitridae	**Hawks, Kites, Eagles & Allies**																														
Accipiter cooperii	Cooper's Hawk	S4	NAR	NAR	NS	No schedule	X	X	X	X	CO		**OB**																		OB
Accipiter striatus	Sharp-shinned Hawk	S5	NAR	NAR	NS	No schedule	X	X	X	X	PO		**OB**																		OB
Aquila chrysaetos	Golden Eagle	S1B,S4N	END	NAR	NS	No schedule			X																						
Buteo jamaicensis	Red-tailed Hawk	S5	NAR	NAR	NS	No schedule		X	X	X	CO		**OB**																		OB
Buteo lagopus	Rough-legged Hawk	S1B,S4N	NAR	NAR	NS	No schedule			X																						
Buteo lineatus	Red-shouldered Hawk	S4B,S2N	NAR	NAR	SC	Schedule 3	X	X		X																					
Buteo platypterus	Broad-winged Hawk	S5B					X	X	X	X	PR																				
Circus hudsonius	Northern Harrier	S5B,S4N	NAR	NAR	NS	No schedule	X	X		X																					
Haliaeetus leucocephalus	Bald Eagle	S4	SC	NAR	NS	No schedule	X	X																							
Strigidae	**Typical Owls**																														
Asio flammeus	Short-eared Owl	S4?B,S2S3N	THR	T	SC	Schedule 1	X			X																					
Asio otus	Long-eared Owl	S4					X				PR																				
Bubo virginianus	Great Horned Owl	S4						X		X	CO																				
Megascops asio	Eastern Screech-Owl	S4	NAR	NAR	NS	No schedule					PR																				
Alcedinidae	**Kingfishers**																														
Megaceryle alcyon	Belted Kingfisher	S5B,S4N					X	X	X	X	PR		**PO**	OB			PO						PO		OB						PO
Picidae	**Woodpeckers**																														
Colaptes auratus	Northern Flicker	S5						X	X	X	CO		**PR**	PO			PR	PO		PR	PO			PR		PO				PO	OB	PO
Dryobates pubescens	Downy Woodpecker	S5						X	X	X	CO		**PO**		PO		PO														OB
Dryobates villosus	Hairy Woodpecker	S5					X	X		X	PR																				
Dryocopus pileatus	Pileated Woodpecker	S5					X	X		X	CO		**OB**																		OB	OB
Melanerpes carolinus	Red-bellied Woodpecker	S5					X	X	X	X	PR		**PO**					PO												PO	OB	OB
Melanerpes erythrocephalus	Red-headed Woodpecker	S3	END	E	E	Schedule 1	X	X			PR																				
Sphyrapicus varius	Yellow-bellied Sapsucker	S5B,S3N					X	X	X	X																					
Falconidae	**Caracaras & Falcons**																														
Falco columbarius	Merlin	S5	NAR	NAR	NS	No schedule	X	X	X				**OB**																		OB
Falco sparverius	American Kestrel	S4					X	X	X		CO		**PO**																		PO
Tyrannidae	**Tyrant Flycatchers**																														
Contopus cooperi	Olive-sided Flycatcher	S4B	SC	SC	SC	Schedule 1	X			X																					
Contopus virens	Eastern Wood-Pewee	S4B	SC	SC	SC	Schedule 1	X	X	X	X	PR	X	**OB**																		OB
Empidonax alnorum	Alder Flycatcher	S5B						X	X	X	PR																				
Empidonax minimus	Least Flycatcher	S5B					X	X	X	X	PO																				
Empidonax traillii	Willow Flycatcher	S4B					X	X		X	PR																				
Myiarchus cinitus	Great Crested Flycatcher	S5B						X	X	X	CO		**PR**					PR	PR	PO	PO										OB
Sayornis phoebe	Eastern Phoebe	S5B						X	X	X	CO		**OB**																		OB
Tyrannus tyrannus	Eastern Kingbird	S4B					X	X	X	X	CO		**PR**			PO	PR	PR	PR	PR	PR	PR	PR		PR	PO	PR	PO	PO		PR
Laniidae	**Shrikes**																														
Lanius borealis	Northern Shrike	S4B,S5N						X					**OB**																		OB
Vireonidae	**Vireos**																														
Vireo gilvus	Warbling Vireo	S5B						X	X	X	CO		**PR**	PR	PR	PR	PR				PO	PO		PR	PR		PR				OB
Vireo olivaceus	Red-eyed Vireo	S5B						X	X	X			**PR**					PR	PO	PO	PO		PR	PO	PO						
Vireo philadelphicus	Philadelphia Vireo	S5B						X																							
Vireo solitarius	Blue-headed Vireo	S5B					X	X	X		PR																				

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		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024a	GBIF 2024b	Beacon Environmental 1990's	BSC et al. 2008	MNRF 2023b	NRSI Results from 2024																			
Corvidae	**Crows & Jays**																														
Corvus brachyrhynchos	American Crow	S5						X	X	X	CO		**PR**	PO		PO	PR	PR		PO	PO	PO	PO	PO		PO				OB	PO
Corvus corax	Common Raven	S5					X	X	X	X	X		**OB**			OB															OB
Cyanocitta cristata	Blue Jay	S5						X	X	X	CO		**PR**	PO		PO	PO	PR	PO	PO	PO	PO	PR	PO	PO	PR		PO	PO	OB	OB
Alaudidae	**Larks**																														
Eremophila alpestris	Horned Lark	S4						X		X	PR		**OB**																	OB	OB
Hirundinidae	**Swallows**																														
Hirundo rustica	Barn Swallow	S4B	SC	SC	T	Schedule 1	X	X	X	X	CO		**OB**																		OB
Petrochelidon pyrrhonota	Cliff Swallow	S4S5B					X	X		X	PR		**CO**	CO	PO	PR						OB		PO	PR						
Riparia riparia	Bank Swallow	S4B	THR	T	T	Schedule 1	X	X			CO	X																			
Stelgidopteryx serripennis	Northern Rough-winged Swallow	S4B						X	X	X	PR		**OB**			OB	OB														OB
Tachycineta bicolor	Tree Swallow	S4S5B						X	X	X	CO		**PR**				PR	PO			PO		PO		PR						OB
Paridae	**Chickadees & Titmice**																														
Poecile atricapillus	Black-capped Chickadee	S5						X	X	X	CO		**PR**		PO			PO	PR	PR		PR		PO		PR		PO	PO	OB	OB
Sittidae	**Nuthatches**																														
Sitta canadensis	Red-breasted Nuthatch	S5					X	X	X	X	CO		**OB**																	OB	OB
Sitta carolinensis	White-breasted Nuthatch	S5						X	X	X	PO		**PO**																	PO		
Certhiidae	**Creepers**																														
Certhia americana	Brown Creeper	S5					X	X		X	PO																				
Troglodytidae	**Wrens**																														
Cistothorus palustris	Marsh Wren	S4B,S3N							X		PO																				
Cistothorus stellaris	Sedge Wren	S4B	NAR	NAR	NS	No schedule	X	X			PO																				
Troglodytes aedon	House Wren	S5B						X	X	X	CO		**PR**					PR	PO	PR	PO					PR					PO
Troglodytes hiemalis	Winter Wren	S5B,S4N					X	X		X	CO																				
Polioptilidae	**Gnatcatchers**																														
Polioptila caerulea	Blue-gray Gnatcatcher	S4B					X	X																							
Regulidae	**Kinglets**																														
Corthylio calendula	Ruby-crowned Kinglet	S5B,S3N					X	X	X	X																					
Regulus satrapa	Golden-crowned Kinglet	S5						X	X	X			**OB**																	OB	OB
Turdidae	**Thrushes**																														
Catharus fuscescens	Veery	S5B					X	X			CO																				
Catharus guttatus	Hermit Thrush	S5B,S4N					X	X	X	X																					
Catharus minimus	Gray-cheeked Thrush	S47B,S4M							X																						
Catharus ustulatus	Swainson's Thrush	S5B					X		X																						
Hylocichla mustelina	Wood Thrush	S4B	SC	T	T	Schedule 1	X	X		X	CO	X																			
Sialia sialis	Eastern Bluebird	S5B,S4N	NAR	NAR	NS	No schedule		X	X	X	CO		**OB**																	OB	OB
Turdus migratorius	American Robin	S5						X	X	X	CO		**CO**	PO	CO	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR	PR	PO	PR	PR	OB	OB
Mimidae	**Mockingbirds, Thrashers & Allies**																														
Dumetella carolinensis	Gray Catbird	S5B,S3N						X	X	X	CO		**CO**	PO	PO		PR	PO	PO	PR	CO	PR	PR	PO	PO						PO
Mimus polyglottos	Northern Mockingbird	S4					X	X	X		PR																				
Toxostoma rufum	Brown Thrasher	S4B					X	X	X	X	PR		**PO**																		PO
Sturnidae	**Starlings**																														
Sturnus vulgaris	European Starling	SNA						X	X	X	CO		**CO**	PO	PR	PR	PR	PR	PR	CO	PO	PR	PO	PR	PO				PR		OB
Bombycillidae	**Waxwings**																														
Bombycilla cedrorum	Cedar Waxwing	S5						X	X	X	PR		**PR**	PO	PR	PO	PO	PR	PO	PR	PO		PR	PR	PR	PO	PO	PR	PO		PO
Bombycilla garrulus	Bohemian Waxwing	S4B,S5N						X																							
Passeridae	**Old World Sparrows**																														
Passer domesticus	House Sparrow	SNA						X	X	X	CO		**PO**																	PO		
Motacillidae	**Pipits**																														
Anthus rubescens	American Pipit	S4B						X	X																						
Fringillidae	**Finches & Allies**																														
Acanthis flammea	Common Redpoll	S5						X	X																						
Coccothraustes vespertinus	Evening Grosbeak	S4	SC	SC	SC	Schedule 1	X	X																							
Haemorhous mexicanus	House Finch	SNA						X	X	X	CO		**PO**		PO							PO									PO
Haemorhous purpureus	Purple Finch	S5						X	X	X	PO		**PO**																	PO	OB	OB
Pinicola enucleator	Pine Grosbeak	S4B,S5N						X																							
Spinus pinus	Pine Siskin	S5					X	X	X	X	CO		**OB**			OB														OB	OB
Spinus tristis	American Goldfinch	S5						X	X	X	PR		**PR**	PR	PR	PR	PR	PR	PR	PO	PR	PR	PR	PR	PR	PR	PO	PR	PR	OB	OB
Calcariidae	**Longspurs & Snow Buntings**																														
Calcarius lapponicus	Lapland Longspur	S3B,S4N						X																							
Plectrophenax nivalis	Snow Bunting	S4N						X																							
Emberizidae	**New World Sparrows & Allies**																														
Ammodramus savannarum	Grasshopper Sparrow	S4B	SC	SC	SC	Schedule 1	X	X		X	PR	X																			
Ammospiza nelsoni	Nelson's Sparrow	S4B	NAR	NAR	NS	No schedule		X																							
Junco hyemalis	Dark-eyed Junco	S5						X	X	X			**OB**																	OB	OB
Melospiza georgiana	Swamp Sparrow	S5B,S4N						X	X	X	CO																				
Melospiza lincolnii	Lincoln's Sparrow	S5B					X	X																							
Melospiza melodia	Song Sparrow	S5						X	X	X	CO		**PR**	PR	PR	PR	PR	PO				PR	PR	PR	PR	PR	PR	PR	PR	OB	OB
Passerculus sandwichensis	Savannah Sparrow	S5B,S3N					X	X	X	X	CO																				
Passerella iliaca	Fox Sparrow	S5B,S3N						X	X																						
Pipilo erythrophthalmus	Eastern Towhee	S4B,S3N					X	X	X	X	PR		**PR**					PR	PR	PO	PO	PR	PO								PR
Pooecetes gramineus	Vesper Sparrow	S4B					X	X	X	X	PO																				
Spizella pallida	Clay-colored Sparrow	S4B						X	X		CO		**OB**																		OB
Spizella passerina	Chipping Sparrow	S5B,S3N						X	X	X	CO		**PR**	PR			PO	PO		PO			PO			PO					PO
Spizella pusilla	Field Sparrow	S4B,S3N					X	X	X	X	CO		**CO**			PO	PR	CO	CO	PR	PR	PR	PR	PO	PR	PO	PO	PO	PO			PR
Spizelloides arborea	American Tree Sparrow	S5						X	X	X			**OB**																		OB
Zonotrichia albicollis	White-throated Sparrow	S5						X	X	X	PR		**OB**																	OB	OB
Zonotrichia leucophrys	White-crowned Sparrow	S5B,S3N						X	X																						
Icteriidae	**Chats**																														
Icteria virens	Yellow-breasted Chat	S1B	END	E	E	Schedule 1	X			X																					
Icteridae	**Troupials & Allies**																														
Agelaius phoeniceus	Red-winged Blackbird	S5						X	X	X	CO		**PR**	PR	PR	PR	PR	PR			PR	PR	PR	PR	PR	PR	PR	PR	PR	OB	OB
Dolichonyx oryzivorus	Bobolink	S4B	THR	SC	T	Schedule 1	X	X	X	X	CO	X																			
Euphagus carolinus	Rusty Blackbird	S4B,S3N	SC	SC	SC	Schedule 1		X	X																						
Euphagus cyanocephalus	Brewer's Blackbird	S2					X	X		X																					
Icterus galbula	Baltimore Oriole	S4B					X	X	X	X	CO		**CO**		CO	PO	PO	PR	PO	PR		PR	PO			PR	PR	CO	PO			
Icterus spurius	Orchard Oriole	S4B					X	X	X		CO		**PR**				PO	PO		PO	PR	PO	PO	PO							PR
Molothrus ater	Brown-headed Cowbird	S5						X	X	X	CO		**PR**	PR		PO	PR	PR	PR	PR	PR	PO	PR	PO		PR					OB
Quiscalus quiscula	Common Grackle	S5						X	X	X	CO		**CO**	PR	PR	PR	PO	CO	PR	PR	PR	PR	PR	PR	PR	PR	PR		OB	PR	OB	CO
Sturnella magna	Eastern Meadowlark	S4B,S3N	THR	T	T	Schedule 1	X	X	X	X	CO	X																			
Parulidae	**Wood Warblers**																														
Cardellina pusilla	Wilson's Warbler	S5B								X																					
Geothlypis philadelphia	Mourning Warbler	S5B						X		X	PO		**PO**							PO											
Geothlypis trichas	Common Yellowthroat	S5B,S3N						X	X	X	PR		**PR**		PO			PO	PR	PO	PO	PO	PO	PO		PO					PO
Leiothlypis celata	Orange-crowned Warbler	S5B						X																							
Leiothlypis peregrina	Tennessee Warbler	S5B					X	X	X																						
Leiothlypis ruficapilla	Nashville Warbler	S5B						X	X		PO																				
Mniotilta varia	Black-and-white Warbler	S5B					X	X		X	PR																				
Parkesia noveboracensis	Northern Waterthrush	S5B						X		X	PR																				
Seiurus aurocapilla	Ovenbird	S5B					X	X	X	X	PR																				
Setophaga americana	Northern Parula	S5B					X	X																							
Setophaga caerulescens	Black-throated Blue Warbler	S5B					X	X	X																						
Setophaga castanea	Bay-breasted Warbler	S5B					X	X	X																						
Setophaga coronata	Yellow-rumped Warbler	S5B,S4N						X	X	X	PO																				
Setophaga discolor	Prairie Warbler	S2B	NAR	NAR	NS	No schedule	X	X	X																						
Setophaga fusca	Blackburnian Warbler	S5B					X	X	X																						
Setophaga magnolia	Magnolia Warbler	S5B					X	X		X																					
Setophaga palmarum palmarum	Western Palm Warbler	S5B						X	X																						
Setophaga pensylvanica	Chestnut-sided Warbler	S5B						X		X	PR																				
Setophaga petechia	Yellow Warbler	S5B						X	X	X	CO		**PR**	PO	PR	PR	PR		PO	PO	PR	PR	PO	PR	PO		PR				OB
Setophaga pinus	Pine Warbler	S5B,S3N					X	X	X	X	CO																				
Setophaga ruticilla	American Redstart	S5B					X	X	X	X	PO		**PR**			PO			PO	PO			PR	PO		PO					OB
Setophaga striata	Blackpoll Warbler	S5B							X																						
Setophaga tigrina	Cape May Warbler	S5B						X																							
Setophaga virens	Black-throated Green Warbler	S5B					X	X		X	CO																				
Vermivora chrysoptera	Golden-winged Warbler	S3B	SC	T	T	Schedule 1	X	X																							
Vermivora cyanoptera	Blue-winged Warbler	S4B					X	X			CO																				
Vermivora sp.	Blue-winged/Golden-winged Warbler	NP					X				PR																				
Cardinalidae	**Cardinals, Grosbeaks & Allies**																														

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	eBird Observation Dataset	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Wildlife List	OBBA*	NHIC Data**	NRSI Observed: Highest Level of Breeding Evidence	BMB-001	BMB-002	BMB-003	BMB-004	BMB-005	BMB-006	BMB-007	BMB-008	BMB-009	BMB-010	BMB-011	BMB-012	BMB-013	MBB-01	MBB-02	MBB-03	Winter Wildlife	Other Observations
		MNRF 2023a	MECP 2023	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024a	GBIF 2024b	Beacon Environmental 2019	BSC et al. 2008	MNRF 2023b	NRSI Results from 2024																			
Cardinalis cardinalis	Northern Cardinal	S5						X	X	X	CO		**PR**	PR	PR	PO	PR	PR	PO		PO	PR	PR	PR		PR	PO	PR	PR	OB	OB
Passerina cyanea	Indigo Bunting	S5B						X	X	X	CO		**PR**	PO	PO	PO	PR	PR	PR	PR	PR	PR	PO	PR	PR	PO	PO	PO			OB
Pheucticus ludovicianus	Rose-breasted Grosbeak	S5B					X	X		X	CO		**PO**							PO											
Piranga olivacea	Scarlet Tanager	S5B					X	X		X	PO																				
Total								**170**	**109**	**110**	**113**	**6**	**82**	**23**	**21**	**28**	**30**	**31**	**25**	**29**	**26**	**29**	**27**	**23**	**24**	**18**	**15**	**15**	**18**	**30**	**73**

*OBBA Atlas Square: 17NJ61

**NHIC Atlas Squares: 17NJ6515, 17NJ6516, 17NJ6615, 17NJ6616

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Reptile and Amphibian Species Reported from the Study Area - Poppy South Scoped EIS (Project #3460)

																Pond 9	Pond 11	Pond I	Survey 1	Survey 2	Survey 3
Scientific Name	**Common Name**	**SRANK**	**SARO**	**COSEWIC**	**SARA**	**SARA Schedule**	**City of Guelph Status**	**iNaturalist Research-grade Observations**	**Clair-Maltby Primary Study Area Wildlife List**	**ORAA***	**NHIC Data****	**NRSI Observed**	**Anuran Call Survey**	**Turtle Basking Survey**	**Snake Cover Board Survey**	**Salamander Trapping**	**Salamander Trapping**	**Salamander Trapping**	**Snake VES**	**Snake VES**	**Snake VES**
		MNRF 2023a	MECP 2024	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	Ontario Nature 2019	MNRF 2023b	NRSI Results from 2024									
Turtles																					
Chelydra serpentina	Snapping Turtle	S4	SC	SC	SC	Schedule 1		X	X	X	X	X		X							
Chrysemys picta marginata	Midland Painted Turtle	S4		SC	SC	Schedule 1		X	X	X	X	X		X							
Emydoidea blandingii	Blanding's Turtle (Great Lakes / St. Lawre	S3	THR	E	E	Schedule 1				X											
Graptemys geographica	Northern Map Turtle	S3	SC	SC	SC	Schedule 1				X	X										
Trachemys scripta	Pond Slider	SNA							X	X											
Snakes																					
Lampropeltis triangulum	Eastern Milksnake	S4	NAR	SC	SC	Schedule 1				X	X										
Nerodia sipedon sipedon	Northern Watersnake	S5	NAR	NAR	NS	No schedule	X		X	X											
Storeria dekayi	Dekay's Brownsnake	S5	NAR	NAR	NS	No schedule	X	X	X	X											
Storeria occipitomaculata	Red-bellied Snake	S5					X		X	X											
Thamnophis saurita septentrionalis	Northern Ribbonsnake	S4	SC	SC	SC	Schedule 1			X	X	X	X			X						
Thamnophis sirtalis sirtalis	Eastern Gartersnake	S5						X	X	X		X			X				X	X	X
Salamanders																					
Ambystoma sp.	Jefferson/Blue-spotted Salamander Comp	NP								X											
Ambystoma jeffersonianum	Jefferson Salamander	S2	END	E	E	Schedule 1				X											
Ambystoma (2) laterale - jeffersonianum	Unisexual Ambystoma (Blue-spotted Salar	S4	NAR	NAR	NS	No schedule			X												
Ambystoma laterale	Blue-spotted Salamander	S4					X		X	X											
Ambystoma maculatum	Spotted Salamander	S4					X		X	X											
Hemidactylium scutatum	Four-toed Salamander	S4	NAR	NAR	NS	No schedule	X			X											
Notophthalmus viridescens viridescens	Red-spotted Newt	S5					X		X	X		X						X			
Plethodon cinereus	Eastern Red-backed Salamander	S5								X											
Frogs and Toads																					
Anaxyrus americanus	American Toad	S5						X	X	X		X									
Dryophytes versicolor	Gray Treefrog	S5						X	X	X		X	X								
Pseudacris triseriata pop. 2	Western Chorus Frog (Great Lakes / St. L	S4	NAR	T	T	Schedule 1			X	X	X										
Pseudacris crucifer	Spring Peeper	S5						X	X	X		X	X								
Lithobates catesbeianus	American Bullfrog	S4					X		X	X		X	X								
Lithobates clamitans	Green Frog	S5							X	X		X	X			X					
Lithobates palustris	Pickerel Frog	S4	NAR	NAR	NS	No schedule	X		X	X											
Lithobates pipiens	Northern Leopard Frog	S5	NAR	NAR	NS	No schedule			X	X		X	X								
Lithobates septentrionalis	Mink Frog	S5					X			X											
Lithobates sylvaticus	Wood Frog	S5							X	X		X	X				X				
Total								**7**	**21**	**28**	**6**	**12**	**6**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**

*ORAA Atlas Square: 17NJ61
**NHIC Atlas Squares: 17NJ6515, 17NJ6516, 17NJ6615, 17NJ6616

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Mammal Species Reported from the Study Area - Poppy South Scoped EIS (Project #3460)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Wildlife List	Ontario Mammal Atlas	NHIC Data**	NRSI Observed	Winter Wildlife Survey	Winter Wildlife Survey	Winter Wildlife Survey
		MNRF 2023a	MECP 2024	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	Dobbyn 1994	MNRF 2023b	NRSI Results from 2024	February 21, 2024	March 21, 2024	March 25, 2024
Didelphimorphia	**Opossums**														
Didelphis virginiana	Virginia Opossum	S4								X					
Eulipotyphla	**Shrews, Moles, Hedgehogs, and Allies**														
Blarina brevicauda	Northern Short-tailed Shrew	S5						X	X	X					
Condylura cristata	Star-nosed Mole	S5							X	X					
Sorex cinereus	Masked Shrew	S5								X					
Sorex fumeus	Smoky Shrew	S5								X					
Chiroptera	**Bats**														
Eptesicus fuscus	Big Brown Bat	S4							X	X					
Lasionycteris noctivagans	Silver-haired Bat	S4		E	NS	No schedule			X						
Lasiurus borealis	Eastern Red Bat	S4		E	NS	No schedule			X						
Lasiurus cinereus	Hoary Bat	S4		E	NS	No schedule			X						
Myotis leibii	Eastern Small-footed Myotis	S2S3	END						X						
Myotis lucifugus	Little Brown Myotis	S3	END	E	E	Schedule 1				X					
Lagomorpha	**Rabbits and Hares**														
Lepus europaeus	European Hare	SNA								X					
Sylvilagus floridanus	Eastern Cottontail	S5							X	X		X	X	X	X
Rodentia	**Rodents**														
Castor canadensis	Beaver	S5								X					
Erethizon dorsatum	Porcupine	S5							X	X					
Marmota monax	Woodchuck	S5							X	X					
Microtus pennsylvanicus	Meadow Vole	S5							X	X					
Mus musculus	House Mouse	SNA								X					
Napaeozapus insignis	Woodland Jumping Mouse	S5					X		X						
Ondatra zibethicus	Muskrat	S5						X	X	X					
Peromyscus maniculatus	Deer Mouse	S5								X					
Rattus norvegicus	Norway Rat	SNA							X	X					
Sciurus carolinensis	Eastern Gray Squirrel	S5							X	X		X	X	X	X
Tamias striatus	Eastern Chipmunk	S5						X	X	X					
Tamiasciurus hudsonicus	Red Squirrel	S5						X	X	X		X	X		X
Zapus hudsonius	Meadow Jumping Mouse	S5							X	X					
Canidae	**Canines**														
Canis latrans	Coyote	S5						X	X	X		X	X	X	X
Vulpes vulpes	Red Fox	S5							X	X					
Mephitidae	**Skunks and Stink Badgers**														
Mephitis mephitis	Striped Skunk	S5							X	X		X	X		
Mustelidae	**Weasels and Allies**														
Mustela richardsonii	American Ermine	S5								X					
Neogale frenata	Long-tailed Weasel	S4					X		X						
Neogale vison	American Mink	S4						X	X	X					
Procyonidae	**Raccoons and Allies**														
Procyon lotor	Northern Raccoon	S5						X	X	X		X	X		
Artiodactyla	**Deer and Bison**														
Odocoileus virginianus	White-tailed Deer	S5						X	X	X		X	X	X	X
Total								**8**	**25**	**27**	**0**	**7**	**7**	**4**	**5**

*Mammal Atlas Square Number: NU61
**NHIC Atlas Squares: 17NJ6515, 17NJ6516, 17NJ6615, 17NJ6616

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Butterfly Species Reported from the Study Area - Poppy South Scoped EIS (Project #3460)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Wildlife List	Ontario Butterfly Atlas*	NHIC Data**	NRSI Observed	CUT1	CUT1	SA
		MNRF 2023a	MECP 2024	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	Macnaughton et al. 2023	MNRF 2023b	NRSI Results from 2024	Subject Property	Study Area	Study Area
Hesperiidae	**Skippers**														
Anatrytone logan	Delaware Skipper	S4					X			X					
Ancyloxypha numitor	Least Skipper	S5							X	X		X		X	
Carterocephalus palaemon	Arctic Skipper	S5								X					
Epargyreus clarus	Silver-spotted Skipper	S4										X		X	
Erynnis baptisiae	Wild Indigo Duskywing	S4					X	X		X		X	X	X	
Erynnis juvenalis	Juvenal's Duskywing	S5								X					
Euphyes vestris	Dun Skipper	S5								X					
Pholisora catullus	Common Sootywing	S4					X			X					
Poanes hobomok	Hobomok Skipper	S5						X		X		X			
Poanes viator	Broad-winged Skipper	S4						X		X					
Polites mystic	Long Dash Skipper	S5								X					
Polites origenes	Crossline Skipper	S4								X					
Polites peckius	Peck's Skipper	S5								X					
Polites themistocles	Tawny-edged Skipper	S5						X		X		X		X	
Pompeius verna	Little Glassywing	S4					X			X					
Thymelicus lineola	European Skipper	SNA						X		X		X	X	X	
Wallengrenia egeremet	Northern Broken Dash	S5								X					
Papilionidae	**Swallowtails**														
Heraclides cresphontes	Giant Swallowtail	S4					X		X						
Papilio canadensis	Canadian Tiger Swallowtail	S5								X					
Papilio glaucus	Eastern Tiger Swallowtail	S5							X	X		X		X	
Papilio polyxenes	Black Swallowtail	S5						X	X	X		X		X	
Pieridae	**Whites and Sulphurs**														
Colias eurytheme	Orange Sulphur	S5						X		X					
Colias philodice	Clouded Sulphur	S5						X	X	X		X	X	X	
Pieris oleracea	Mustard White	S4							X	X					
Pieris rapae	Cabbage White	SNA						X	X	X		X	X	X	
Lycaenidae	**Harvesters, Coppers, Hairstreaks, Blues**														
Callophrys augustinus	Brown Elfin	S5								X					
Callophrys niphon	Eastern Pine Elfin	S5								X					
Celastrina ladon	Spring Azure	SU							X						
Celastrina lucia	Northern Spring Azure	S5						X		X					
Celastrina neglecta	Summer Azure	S5							X	X		X		X	
Celastrina sp.	Azure species	SNA								X		X			
Cupido comyntas	Eastern Tailed Blue	S5								X		X		X	
Feniseca tarquinius	Harvester	S4								X					
Glaucopsyche lygdamus	Silvery Blue	S5						X		X		X		X	
Lycaena hyllus	Bronze Copper	S5								X					
Satyrium acadica	Acadian Hairstreak	S4								X					
Satyrium calanus	Banded Hairstreak	S4								X					
Nymphalidae	**Brush-footed Butterflies**														
Aglais milberti	Milbert's Tortoiseshell	S5								X					
Asterocampa clyton	Tawny Emperor	S3					X			X					
Boloria bellona	Meadow Fritillary	S5								X					
Boloria selene	Silver-bordered Fritillary	S5								X					
Cercyonis pegala	Common Wood-Nymph	S5						X	X	X		X	X	X	
Coenonympha california	Common Ringlet	S5						X	X			X	X	X	X
Danaus plexippus	Monarch	S2N,S4B	SC	E	E	Schedule 1	X	X	X	X		X	X	X	
Euphydryas phaeton	Baltimore Checkerspot	S4								X					
Lethe anthedon	Northern Pearly-Eye	S5						X		X		X	X	X	
Lethe appalachia	Appalachian Brown	S4								X					
Lethe eurydice	Eyed Brown	S5								X					
Limenitis archippus	Viceroy	S5						X	X	X		X			
Limenitis arthemis arthemis	White Admiral	S5						X		X		X		X	
Limenitis arthemis astyanax	Red-spotted Purple	S5								X		X		X	
Megisto cymela	Little Wood-Satyr	S5						X	X	X		X	X	X	
Nymphalis antiopa	Mourning Cloak	S5						X	X	X					
Nymphalis l-album	Compton Tortoiseshell	S5								X					
Phyciodes cocyta	Northern Crescent	S5						X	X	X		X	X	X	X
Phyciodes tharos	Pearl Crescent	S4						X	X	X					
Polygonia comma	Eastern Comma	S5							X	X					
Polygonia interrogationis	Question Mark	S5						X		X					
Polygonia progne	Gray Comma	S5								X					
Speyeria cybele	Great Spangled Fritillary	S5						X	X	X					

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Wildlife List	Ontario Butterfly Atlas*	NHIC Data**	NRSI Observed	CUT1	CUT1	SA
		MNRF 2023a	MECP 2024	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	Macnaughton et al. 2023	MNRF 2023b	NRSI Results from 2024	Subject Property	Study Area	Study Area
Vanessa atalanta	Red Admiral	S5B						X		X		X			X
Vanessa cardui	Painted Lady	S5B								X		X		X	
Vanessa virginiensis	American Lady	S5								X					
Total								**24**	**19**	**59**	**0**	**25**	**10**	**21**	**3**

*TEA Atlas Square: Square #
**NHIC Atlas Square: Square #

References

Ministry of Natural Resources and Forestry (MNRF). 2023a. Natural Heritage Information Centre (NHIC): Species List for Ontario. Published: 2014-07-17. All Species List Updated: 2023-09-19. Available: https://www.ontario.ca/page/get-natural-heritage-information
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Government of Canada. 2023. Species at Risk Public Registry: Species Search. COSEWIC Last Assessment Date: 2023-05-05. Available: https://species-registry.canada.ca/index-en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10
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Odonate Species Reported from the Study Area - Poppy South Scoped EIS (Project #3460)

Scientific Name	Common Name	SRANK	SARO	COSEWIC	SARA	SARA Schedule	City of Guelph Status	iNaturalist Research-grade Observations	Clair-Maltby Primary Study Area Wildlife List	Odonate Atlas*	NHIC Data**	NRSI Observed	CUT1	CUT1	SA	SWD4-1
		MNRF 2023a	MECP 2024	Government of Canada 2023	Government of Canada 2023	Government of Canada 2023	City of Guelph 2012	GBIF 2024	Beacon Environmental 2019	OOAD 2023	MNRF 2023b	NRSI Results from 2024	Subject Property	Study Area	Study Area	Study Area
Calopterygidae	**Broadwinged Damselflies**															
Calopteryx aequabilis	River Jewelwing	S5								X						
Calopteryx maculata	Ebony Jewelwing	S5								X						
Hetaerina americana	American Rubyspot	S4								X						
Lestidae	**Spreadwings**															
Lestes congener	Spotted Spreadwing	S5						X		X						
Lestes disjunctus	Northern Spreadwing	S5								X						
Lestes dryas	Emerald Spreadwing	S5								X						
Lestes eurinus	Amber-winged Spreadwing	S4								X						
Lestes forcipatus	Sweetflag Spreadwing	S4							X							
Lestes rectangularis	Slender Spreadwing	S5							X	X		X				X
Lestes unguiculatus	Lyre-tipped Spreadwing	S5							X	X		X		X		
Coenagrionidae	**Narrow-winged Damselflies**															
Argia apicalis	Blue-fronted Dancer	S4								X						
Argia fumipennis violacea	Violet Dancer	S5								X						
Argia moesta	Powdered Dancer	S5								X						
Enallagma annexum	Northern Bluet	S4								X						
Enallagma antennatum	Rainbow Bluet	S4								X						
Enallagma aspersum	Azure Bluet	S4						X		X						
Enallagma carunculatum	Tule Bluet	S5								X						
Enallagma civile	Familiar Bluet	S5							X	X		X				X
Enallagma ebrium	Marsh Bluet	S5								X		X				
Enallagma exsulans	Stream Bluet	S5								X						
Enallagma signatum	Orange Bluet	S4								X						
Ischnura hastata	Citrine Forktail	SNA							X							
Ischnura posita	Fragile Forktail	S4								X		X				X
Ischnura verticalis	Eastern Forktail	S5							X	X		X		X		X
Nehalennia irene	Sedge Sprite	S5								X						
Aeshnidae	**Darners**															
Aeshna canadensis	Canada Darner	S5								X						
Aeshna constricta	Lance-tipped Darner	S5								X						
Aeshna interrupta interrupta	Variable (Interrupted) Darner	S5								X						
Aeshna tuberculifera	Black-tipped Darner	S4								X		X		X		
Aeshna umbrosa	Shadow Darner	S5								X						
Aeshna verticalis	Green-striped Darner	S4								X						
Anax junius	Common Green Darner	S5							X	X		X	X	X	X	X
Basiaeschna janata	Springtime Darner	S5								X						
Boyeria vinosa	Fawn Darner	S5								X						
Rhionaeschna mutata	Spatterdock Darner	S3								X						
Gomphidae	**Clubtails**															
Arigomphus villosipes	Unicorn Clubtail	S3								X						
Ophiogomphus rupinsulensis	Rusty Snaketail	S4								X						
Phanogomphus exilis	Lancet Clubtail	S5								X						
Phanogomphus graslinellus	Pronghorn Clubtail	S3								X						
Phanogomphus lividus	Ashy Clubtail	S4								X						
Phanogomphus spicatus	Dusky Clubtail	S5								X						
Cordulidae	**Emeralds**															
Cordulia shurtleffii	American Emerald	S5								X						
Dorocordulia libera	Racket-tailed Emerald	S5						X		X						
Epitheca canis	Beaverpond Baskettail	S5						X		X						
Epitheca cynosura	Common Baskettail	S5								X						
Epitheca princeps	Prince Baskettail	S5								X						
Epitheca spinigera	Spiny Baskettail	S5								X						
Somatochlora tenebrosa	Clamp-tipped Emerald	S3								X						
Somatochlora williamsoni	Williamson's Emerald	S4					X			X						
Libellulidae	**Skimmers**															
Celithemis elisa	Calico Pennant	S5								X						
Celithemis eponina	Halloween Pennant	S4					X					X				
Erythemis simplicicollis	Eastern Pondhawk	S5							X	X		X				X
Ladona julia	Chalk-fronted Corporal	S5					X			X						
Leucorrhinia frigida	Frosted Whiteface	S5					X			X						
Leucorrhinia intacta	Dot-tailed Whiteface	S5								X		X				
Leucorrhinia proxima	Belted Whiteface	S5					X			X						
Libellula luctuosa	Widow Skimmer	S5						X	X	X		X				X
Libellula pulchella	Twelve-spotted Skimmer	S5						X	X	X		X		X	X	X
Libellula quadrimaculata	Four-spotted Skimmer	S5								X						
Pachydiplax longipennis	Blue Dasher	S5								X		X			X	
Pantala flavescens	Wandering Glider	S4								X		X		X		
Perithemis tenera	Eastern Amberwing	S4					X	X		X		X	X			
Plathemis lydia	Common Whitetail	S5						X	X	X		X	X		X	
Sympetrum internum	Cherry-faced Meadowhawk	S5						X	X							
Sympetrum obtrusum	White-faced Meadowhawk	S5							X	X		X		X	X	
Sympetrum rubicundulum	Ruby Meadowhawk	S5							X			X	X	X		
Sympetrum semicinctum	Band-winged Meadowhawk	S4								X		X				X
Sympetrum vicinum	Autumn Meadowhawk	S5						X		X		X		X		
Tramea carolina	Carolina Saddlebags	SNA						X								
Tramea lacerata	Black Saddlebags	S4						X	X	X		X	X	X		
Total								**12**	**15**	**64**	**0**	**22**	**5**	**10**	**5**	**9**

**Odonate Atlas Square Numbers: 17NJ61*

References

Ministry of Natural Resources and Forestry (MNRF). 2023a. Natural Heritage Information Centre (NHIC): Species List for Ontario. Published: 2014-07-17. All Species List Updated: 2023-09-19. Available: https://www.ontario.ca/page/get-natural-heritage-information

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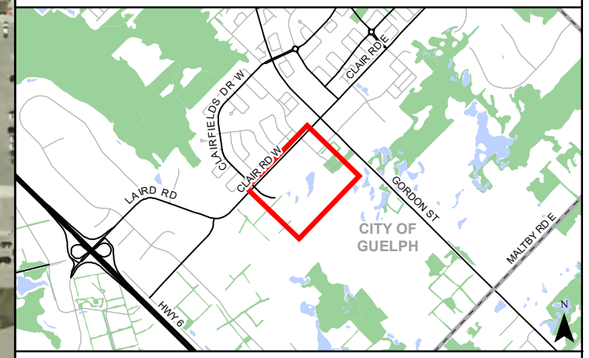
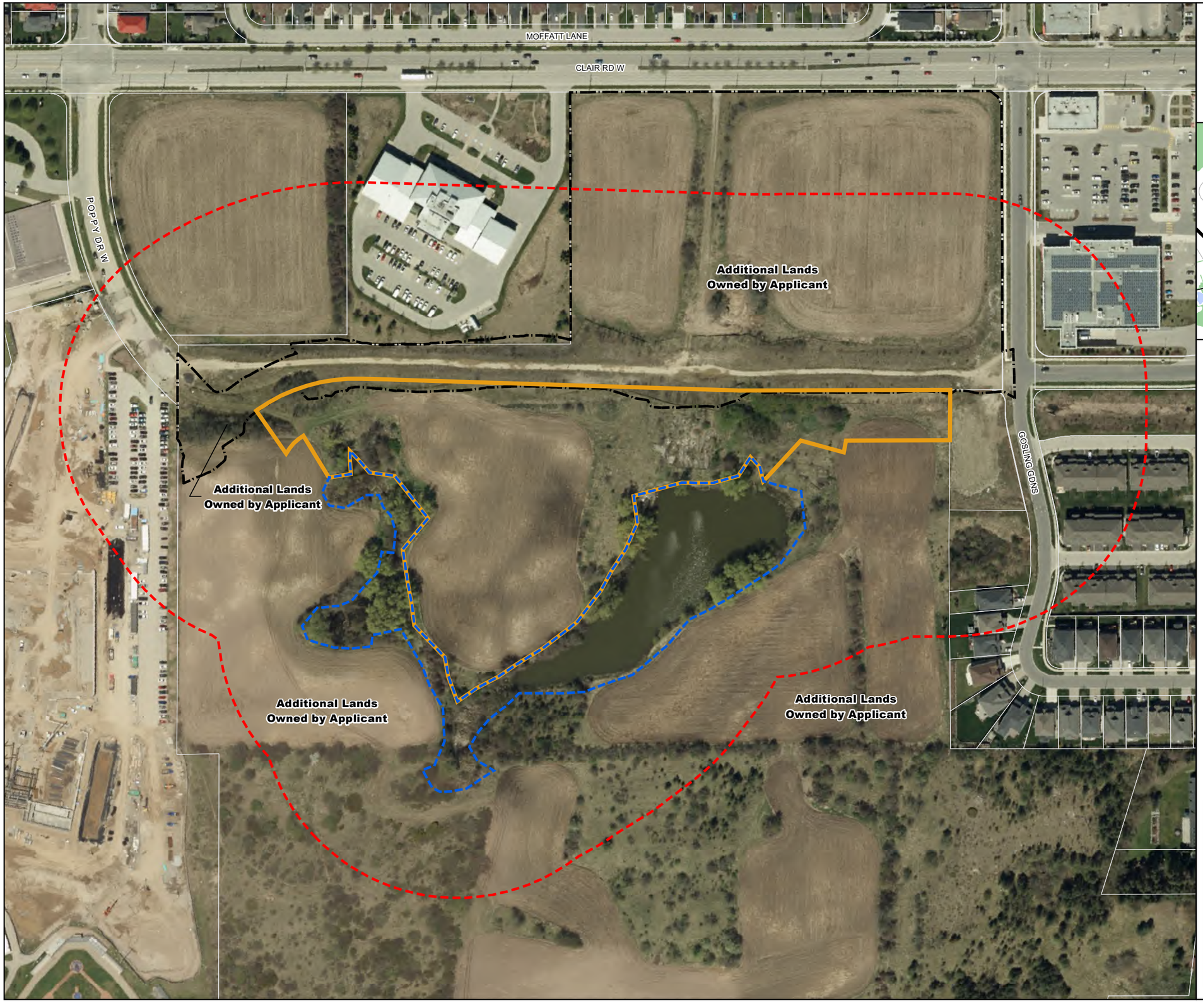
MAPS

Map 1

Poppy South Scoped EIS

Poppy South Study Area





Legend

- Study Area (120m)
- Poppy South Lands
- Draft Plan Approved Lands - Under Construction
- Parcel Boundary
- GRCA Approved Wetland Boundary (November 10, 2016) - Re-surveyed by NRSI June 26, 2018

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 3460 Date: June 20, 2025	NAD83 - UTM Zone 17 Size: 11x17" **1:2,300**

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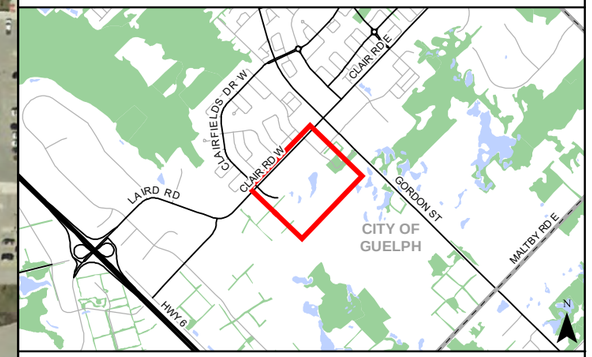
Map 2

Poppy South Scoped EIS

Existing Conditions



MOFFATT LANE
CLAIR RD W
POPPY DR W
OAGM1
CVC
CUT1
CVC
CUT1
Old Barn Foundation
CUT1
SA
SA
CVR
SWD4-1
OAGM1
OAGM1
SAF1-3
OA
SWD4-1
CUT1
SA
OAGM1
GOSLING GDNS
MAS2-1
CUT1
OAGM1

Legend

- Study Area (120m)
- Poppy South Lands
- Draft Plan Approved Lands - Under Construction
- GRCA Approved Wetland Boundary (November 10, 2016) Re-surveyed by NRSI June 26, 2018
- Wetland Buffer (30m)
- Ecological Land Classification (ELC)

(CUT1) Mineral Cultural Thicket Ecosite

(CVC) Commercial and Institutional

(CVR) Residential

(MAS2-1) Cattail Mineral Shallow Marsh Type

(OA) Open Aquatic

(OAGM1) Annual Row Crops

(SA) Shallow Water

(SAF1-3) Duckweed Floating-leaved Shallow Aquatic Type

(SWD4-1) Willow Mineral Deciduous Swamp Type

- ELC Inclusion

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 3460
Date: June 25, 2025

NAD83 - UTM Zone 17
Size: 11x17"
1:2,300

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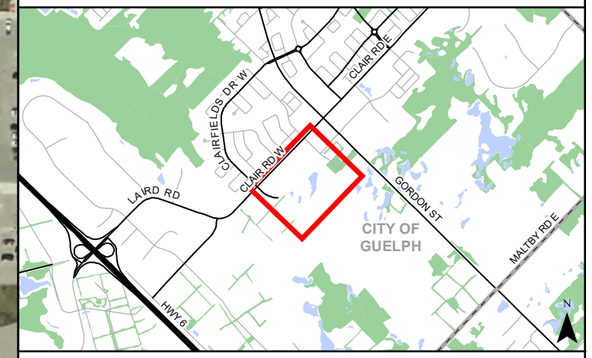
Map 3

Poppy South Scoped EIS

Significant Features



Legend

- Study Area (120m)
- Poppy South Lands
- Draft Plan Approved Lands - Under Construction
- Tree Protection Fence/ESC Fence (2m Offset from 30m Wetland Buffer)
- Temporary Tree Protection Fence/ESC Fence (For Removal of Barn Foundation)
- Permanent Wildlife Exclusion Fence
- GRCA Approved Wetland Boundary (November 10, 2016) Re-surveyed by NRSI June 26, 2018
- Wetland Buffer (30m)
- Proposed Development
- Proposed Limit of Grading
- Proposed Retaining Wall
- Lot Lines
- Ecological Land Classification (ELC)

(CUT1) Mineral Cultural Thicket Ecosite

(CVC) Commercial and Institutional

(CVR) Residential

(MAS2-1) Cattail Mineral Shallow Marsh Type

(OA) Open Aquatic

(OAGM1) Annual Row Crops

(SA) Shallow Water

(SAF1-3) Duckweed Floating-leaved Shallow Aquatic Type

(SWD4-1) Willow Mineral Deciduous Swamp Type

- ELC Inclusion
- Candidate Bat Roost Tree
- Turtle Wintering/Amphibian Breeding (Wetland) Significant Wildlife Habitat

Locally Significant Species Observations

- American Bullfrog *(Lithobates catesbeianus)*
- American Redstart *(Setophaga ruticilla)*
- Baltimore Oriole *(Icterus galbula)*
- Brown Thrasher *(Toxostoma rufum)*
- Cliff Swallow *(Petrochelidon pyrrhonota)*
- Eastern Amberwing *(Perithemis tenera)*
- Eastern Kingbird *(Tyrannus tyrannus)*
- Field Sparrow *(Spizella pusilla)*
- Halloween Penant *(Celithemis eponina)*
- Northern Flicker *(Colaptes auratus)*
- Orchard Oriole *(Icterus spurius)*
- Wild Indigo Duskywing *(Erynnis baptisiae)*

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 3460 Date: June 26, 2025	NAD83 - UTM Zone 17 Size: 11x17" **1:2,300**

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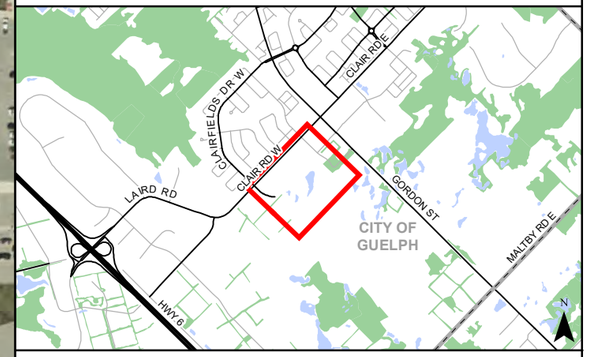
Map 4

Poppy South Scoped EIS

Development Plan



Legend

- Study Area (120m)
- Poppy South Lands
- Draft Plan Approved Lands - Under Construction
- Tree Protection Fence/ESC Fence (2m Offset from 30m Wetland Buffer)
- Temporary Tree Protection Fence/ESC Fence (For Removal of Barn Foundation)
- Permanent Wildlife Exclusion Fence
- GRCA Approved Wetland Boundary (November 10, 2016) Re-surveyed by NRSI June 26, 2018
- Wetland Buffer (30m)
- Proposed Development
- Proposed Limit of Grading
- Proposed Retaining Wall
- Lot Lines
- Ecological Land Classification (ELC)
- (CUT1) Mineral Cultural Thicket Ecosite
- (CVC) Commercial and Institutional
- (CVR) Residential
- (MAS2-1) Cattail Mineral Shallow Marsh Type
- (OA) Open Aquatic
- (OAGM1) Annual Row Crops
- (SA) Shallow Water
- (SAF1-3) Duckweed Floating-leaved Shallow Aquatic Type
- (SWD4-1) Willow Mineral Deciduous Swamp Type
- ELC Inclusion

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Project: 3460 Date: June 26, 2025	NAD83 - UTM Zone 17 Size: 11x17" **1:2,300**

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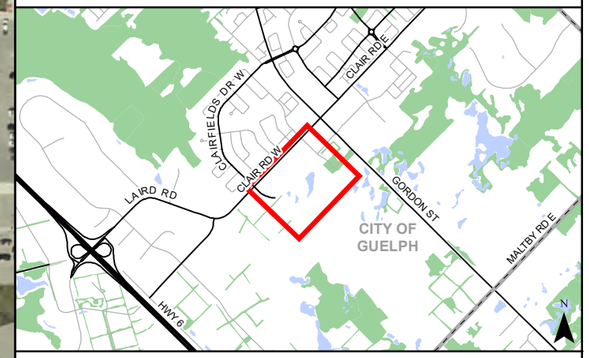
Map 5

Poppy South Scoped EIS

Post-construction Monitoring & Enhancement Locations



MOFFATT LANE
CLAIR RD W
POPPY DR W
POPPY DRIVE
OAGM1
CVC
CUT1
BLOCK 4 0.170 ha FUTURE DEVELOPMENT
BLOCK 1 2.644ha
SWM BLOCK 3 0.650ha
BLOCK 2 0.971ha
EXISTING POPPY DRIVE
CVR
BLOCK 23 (61M-198)
Blk 26. Open Space 0.091 ha.
Blk 27. Open Space 0.074 ha.
PARK BLOCK 5 0.072 ha
Additional Lands Owned by Applicant
FUTURE POPPY DRIVE EXTENSION
Blk 25. Multiple Residential 0.965 ha.
Blk 28. Natural Heritage System 1.478 ha.
BMB-001
ANR-002
VEG-001
SWD4-1
Old Barn Foundation
ANR-001
VEG-004
BMB-003
SA
VEG-003
FUTURE SWMF
OA
SAF1-3
VEG-002
BMB-002
MAS2-1
BMB-004
GOSLING GDNS

Legend

- Study Area (120m)
- Poppy South Lands
- Draft Plan Approved Lands - Under Construction
- Tree Protection Fence/ESC Fence (2m Offset from 30m Wetland Buffer)
- Temporary Tree Protection Fence/ESC Fence (For Removal of Barn Foundation)
- Permanent Wildlife Exclusion Fence
- GRCA Approved Wetland Boundary (November 10, 2016) Re-surveyed by NRSI June 26, 2018
- Wetland Buffer (30m)
- Proposed Development
- Proposed Limit of Grading
- Proposed Retaining Wall
- Lot Lines

Post-construction Monitoring Stations

- Breeding Bird Point Count Location (BMB-001-004)
- Anuran Point Count Location (ANR-001/002)
- Vegetation Monitoring Plot Location (VEG-001-004)

- Meadow Habitat Enhancement
- Thicket Habitat Enhancement
- Targeted Areas of Buckthorn Management
- Ecological Land Classification (ELC)

(CUT1) Mineral Cultural Thicket Ecosite

(CVC) Commercial and Institutional

(CVR) Residential

(MAS2-1) Cattail Mineral Shallow Marsh Type

(OA) Open Aquatic

(OAGM1) Annual Row Crops

(SA) Shallow Water

(SAF1-3) Duckweed Floating-leaved Shallow Aquatic Type

(SWD4-1) Willow Mineral Deciduous Swamp Type

ELC Inclusion

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 3460 Date: June 26, 2025	NAD83 - UTM Zone 17 Size: 11x17" **1:2,300**

0 20 40 60 80 100 120 140 160 Metres

Path: X:\3323_GSIGuelph\NRSI_3460_Map5_PCM&EnhancementLocations_2K_2025_06_26_LRC.mxd