



**EFI**  
ENGINEERING  
ARCHITECTURE  
PROCESS PROFESSIONALS

**Environmental Impact Study**

**Rosedale Road/Matheson Drive**

Prepared For: Smart Homes Ottawa Inc.

Subdivision Located At: Lot 20, Concession 3  
in Montague Township

Prepared by: Tracey Geneau, Sr Biologist  
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Sept 2024

## EXECUTIVE SUMMARY

Smart Homes has initiated a project to develop a new subdivision in Montague Township, specifically at Lot 20, Concession 3. The subdivision is planned to include several homes with access points from both Matheson Drive and Rosedale Avenue. To ensure the development meets environmental standards and regulations, Smart Homes engaged EFI Engineering to conduct an Environmental Impact Study (EIS).

The primary objective of this EIS is to ensure the proposed subdivision aligns and complies with federal, provincial, and municipal policies, including:

- Migratory Birds Act (2022)
- Fisheries Act (2019)
- Ontario Planning Act, R.S.O. 1990, c. P.13
- Provincial Policy Statement (MMAH, 2020)
- Species at Risk Act (Canada, 2002)
- Endangered Species Act (Ontario, 2019)
- Natural Heritage Reference Manual (OMNR, 2010)
- Township of Montague Official Plan (Montague Township, 2023)
- Lanark County Sustainable Communities Official Plan (2012)

A combination of desktop research and field studies were used to assess the site. The study focused on identifying natural heritage features, species at risk, and compliance with relevant environmental regulations. The property was divided into four vegetative polygons, and detailed investigations were carried out.

- No significant wetlands or woodlands were found on the property. A small pond was identified in the southeast portion.
- No significant wildlife habitats or movement corridors were identified on the property.
- No Species at risk were observed on the property or adjacent land (120 m).
- While a nearby neighbour reported sightings of Eastern Meadowlarks, these birds were not observed on the subject property during extensive monitoring. Habitat assessments confirmed that the property lacks the dense grassland required by Eastern Meadowlarks for nesting.

To minimize potential impacts on local wildlife and habitats, the following mitigation measures are recommended:

- Install exclusion fencing around the development area prior to May 1 or the commencement of site preparation to protect turtles and other wildlife.
- Conduct tree clearing and vegetation removal between October 1 and March 31 to avoid impacting nesting birds and bats. If removal occurs outside this window, conduct a wildlife sweep by a qualified professional.

- Educate staff and contractors about potential species at risk in the area. Conduct daily sweeps of the construction area to remove any wildlife that may have crossed exclusion fencing.
- Implement proper sediment and erosion control measures. Stage vegetation clearing to minimize soil exposure duration.
- If the small pond is to be removed, ensure it is done outside of the breeding frog timeframe (March 31 to August 31).

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## 1.0 INTRODUCTION AND OBJECTIVE

### 1.1 Background

Smart Homes is developing a new residential subdivision at Lot 20, Concession 3 in Montague Township, strategically located for optimal community integration and access to local amenities. The subdivision, with access points from Matheson Drive and Rosedale Avenue, aims to balance development needs with environmental considerations. EFI Engineering has been commissioned to prepare an Environmental Impact Study (EIS) to ensure the project adheres to all relevant environmental standards and regulations. Field visits were conducted in the spring and summer of 2024 to thoroughly assess the site's natural features and potential impacts.

### 1.2 Objective

The primary goal of this EIS is to ensure that the proposed subdivision complies with the Provincial Policy Statement (PPS), 2020, and other applicable policies. The EIS will evaluate the potential impacts of the development on natural heritage features and systems, ensuring alignment with provincial and local policies, including the Township of Montague's Official Plan, 2023. The assessment will adhere to guidelines from various regulatory frameworks, such as the Species at Risk Act and the Endangered Species Act.

### 1.3 Scope of the Project

The Subject Site is located just east of Smith Falls, at the major intersection of Rosedale Road South and Matheson Drive at (Lot 20, Concession 3). The site encompasses approximately 56.9 acres. A proposed draft plan of subdivision (DPS) for the subject property includes the creation of 42 residential lots, which will be serviced by private wells and septic systems (Figure 1). The development will also feature on-site Storm Water Management (SWM). The site plan includes residential lots, roadways, green spaces, and the block designated for SWM services.

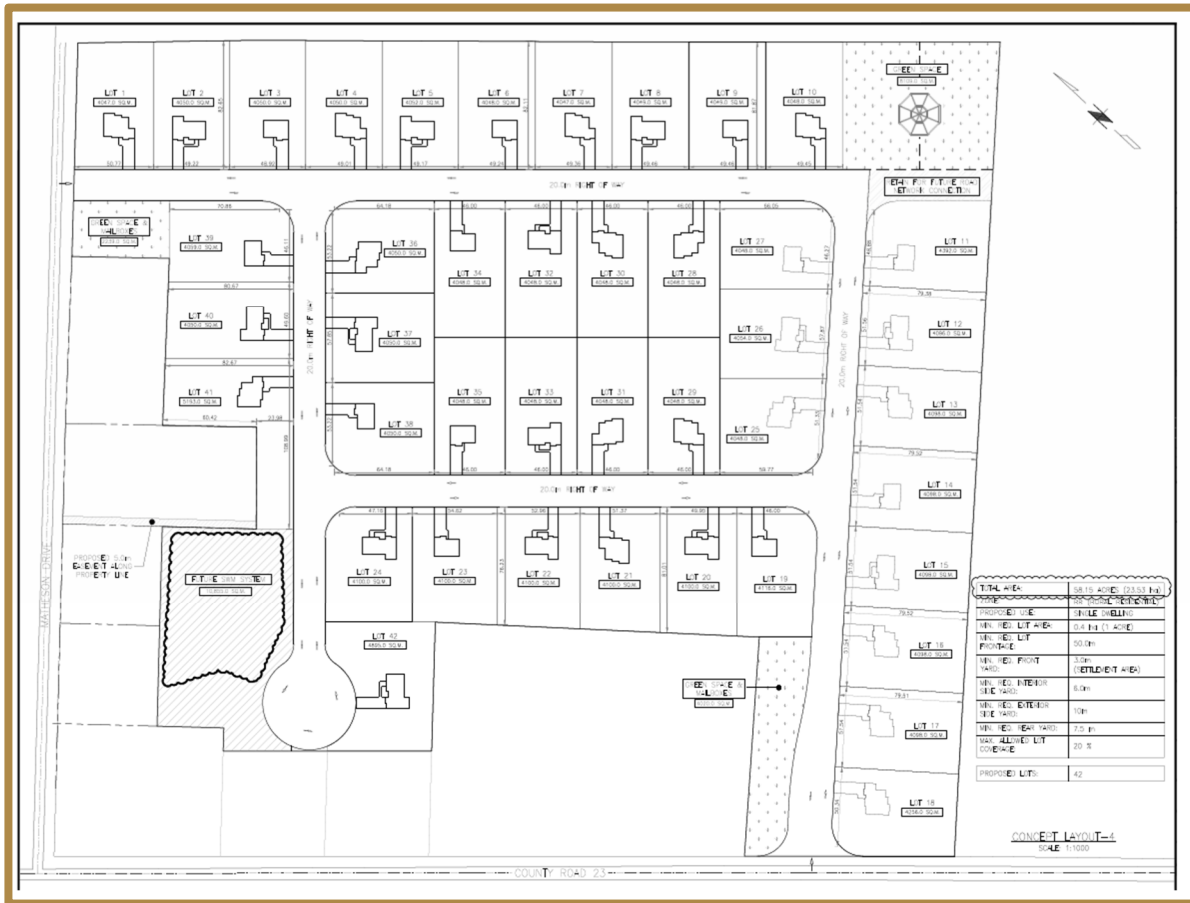


Figure 1: Draft Plan of the Subdivision for Rosedale South & Matheson Dr at Lot 20 Concession 3

## 2.0 POLICIES AND LEGISLATIVE REVIEW

### 2.1.1 Federal Legislation

#### 2.1.1.1 Migratory Birds Act (2022)

**Protection Scope:** The Migratory Birds Convention Act (MBCA 1994) and Migratory Birds Regulations (MBR 2022) protect most migratory bird species, their nests, and eggs.

**Prohibitions:** MBR 2022 prohibits damaging, destroying, disturbing, or removing nests with live birds or viable eggs and depositing harmful substances in waters and areas frequented by migratory birds.

**Year-round Nest Protection:** For 18 species listed in Schedule 1, nests are protected year-round until deemed abandoned.

**Criteria for Schedule 1:** Includes species that reuse nests (colonial species) or whose nests are reused by other migratory birds, e.g., Pileated Woodpeckers.

- **Abandonment Criteria:** A nest is considered abandoned if it is not occupied for the waiting period specified in MBR 2022, losing its high conservation value.
- **ECCC Role:** Environment and Climate Change Canada (ECCC) implements policies and guidelines to protect migratory birds and provides guidance on compliance via the Environment Canada website.

**Compliance Strategy:** Achieve compliance through a due diligence approach based on site-specific analysis and adherence to ECCC avoidance guidelines, including timing restrictions to avoid disturbing birds during nesting periods.

**Study Area:** The identified study area occurs in Zone C3 and typically has nesting migratory birds from April 1st to August 31st annually.

#### *2.1.1.2 Fisheries Act (2019)*

**Purpose of Fisheries Act (FA):** Maintain healthy, sustainable, and productive Canadian fisheries through pollution prevention and fish and habitat protection.

**Fish Habitat Definition:** Includes spawning grounds, nursery, rearing, food supply, and migration areas necessary for fish life processes [subsection (2)1].

#### **Prohibitions:**

- Death of fish by means other than fishing [subsection 34.4 (1)].
- Harmful Alteration, Disruption, or Destruction of fish habitat (HADD) [subsection 35 (1)].

**HADD Definition:** Any temporary or permanent change to fish habitat impairing its capacity to support life processes (DFO 2019).

**Protection Provisions:** Standards, codes of practice, and guidelines for projects in and near water to avoid and mitigate impacts to fish and habitat; and comply with FA.

#### **Compliance Strategy:**

- Proponents must determine if projects affect fish and habitat and if impacts can be avoided or mitigated.
- Submit a request for review to Fisheries and Oceans Canada (DFO) if impacts cannot be fully avoided or mitigated.
- Obtain authorization under Subsection 35 (2) of the FA if DFO determines impacts result in fish death or HADD.

**Pollution Prevention:** Sections 34 and 36 prohibit depositing deleterious substances into waters frequented by fish unless authorized by FA regulations or other federal legislation.



## 2.1.2 Provincial Legislation

### 2.1.2.1 Endangered Species Act (2007)

#### **Purposes of Ontario Endangered Species Act (ESA 2007):**

- Identify species at risk using scientific information, community knowledge, and aboriginal traditional knowledge.
- Protect at-risk species and their habitats and promote their recovery.
- Promote stewardship activities to protect and recover at-risk species (2007, c. 6, s. 1).
- Species Status Classifications: Extinct, extirpated, endangered, threatened, or special concern.

#### **Regulations:**

- Ontario Regulation 230/08: Lists Species at Risk (SAR) in Ontario, updated regularly, last consolidated on January 26, 2022.
  - COSSARO: Committee on the Status of Species at Risk in Ontario assesses species status using science and Aboriginal Traditional Knowledge.
- Ontario Regulation 242/08: Details possible exemptions and execution of ESA purposes.

**General Habitat Protection:** Applies to species listed as endangered or threatened, with science-based habitat descriptions developed for species affected by human activity.

**Additional Requirements:** Recovery Strategy or Management Plan needed for each listed species, following a timeline based on species status.

### 2.1.2.2 Provincial Policy Statement (2020)

The Provincial Policy Statement, 2020 (PPS) outlines the Ontario government's policies on land use planning and applies province wide. Effective May 1, 2020, it replaces the 2014 statement. The PPS guides municipalities in developing official plans and making planning decisions. Issued under Section 3 of the Planning Act, all land use decisions must be consistent with the PPS.

#### **Key Policies (Sections 2.1.4 - 2.1.8):**

2.1.4: Development and site alteration are prohibited in significant wetlands (Ecoregions 5E, 6E, 7E) and significant coastal wetlands.

2.1.5: Prohibitions also apply to:

- Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E, 7E.
- Significant woodlands in Ecoregions 6E, 7E (excluding Lake Huron and St. Mary's River islands).
- Significant valleylands in Ecoregions 6E, 7E (excluding Lake Huron and St. Mary's River islands).
- Significant wildlife habitat.
- Significant areas of natural and scientific interest (ANSI)

Coastal wetlands in Ecoregions 5E, 6E, 7E1, unless no negative impact on natural features and their ecological functions is demonstrated.

2.1.6: Development and site alteration in fish habitats must comply with provincial and federal requirements.

2.1.7: Development and site alteration in habitats of endangered and threatened species must comply with provincial and federal requirements.

2.1.8: Development and site alteration on lands adjacent to the natural heritage features (policies 2.1.4 - 2.1.6) require an evaluation demonstrating no negative impacts on ecological functions.

### 2.1.3 Montague Township Official Plan (2023)

#### 2.1.3.1 Natural Heritage Areas

The plan prioritizes the protection of natural heritage features like wetlands, fish habitat, and woodlands, crucial for biodiversity. Existing agricultural activities are permitted near these features, but new developments require environmental impact assessments.

Specific policies prevent adverse effects on wetlands, fish habitat, and woodlands, with regulated buffers and consultation requirements for adjacent lands. Wildlife habitat, valleylands, and endangered species habitats are also safeguarded, with guidelines and assessment mandates.

All development proposals undergo environmental impact assessments, tailored to the project's scope and natural feature sensitivity, ensuring mitigation of negative impacts. Consultation with relevant authorities and indigenous communities is integral to this process.

#### 2.1.3.2 Organic Soils

Development in areas with potential organic soils should ideally steer clear, as per Canada Land Inventory and Schedule B. If proposed in such areas, adequate soil and geotechnical data might be necessary for suitability proof. Development and site alteration within these zones are permissible if meeting Provincial standards, ensuring public safety through floodproofing, hazard prevention, environmental impact mitigation, and safe emergency access.

#### 2.1.3.3 Source Water Protection

The MRSSP covers 8,500km<sup>2</sup>, guiding 31 municipalities. Montague has vulnerable areas: Smiths Falls Intake Protection Zone, Merrickville Wellhead Protection Area, Highly Vulnerable Aquifer, Significant Groundwater Recharge Area.

Policies include identifying protected zones, requiring clearance for certain applications, appointing a Risk Management Official (RMO), establishing Zoning By-Law policies, encouraging minimal impervious surfaces, launching an education program, implementing non-legally binding policies, providing annual summaries, and amending the Official Plan. Development is encouraged in settlement areas with services.

### 2.1.4 Rideau Valley Conservation Authority

The Rideau Valley Conservation Authority (RVCA) is dedicated to conserving and safeguarding natural resources in the Rideau River valley, emphasizing the importance of sound land use and municipal planning to protect both the environment and communities from flooding and erosion.

With the implementation of a new Minister's regulation (Ontario Regulation 41/24), the RVCA, alongside other Conservation Authorities, continues its role in regulating construction in sensitive areas like floodplains, wetlands, and shorelines, reviewing development proposals in natural areas, and administering building permits for sewage disposal systems. Through these efforts, the RVCA aims to ensure clean water, preserve natural shorelines, and promote sustainable land use practices across the watershed.

## 3.0 STUDY METHODS

### 3.1 Information Gathering

For comprehensive environmental impact assessments, a variety of online resources are utilized to gather crucial data. These resources provide detailed information on species, habitats, and environmental conditions. They include tools for identifying fish, bird sightings, species at risk, land types, significant natural areas, and more. Utilizing these resources ensures a thorough understanding of the environment, helping to evaluate and mitigate potential impacts effectively. These include:

- eBird: The Cornell Lab of Ornithology. Has sightings of birds in certain areas.
- I Naturalist: Shows identifications of species in certain areas.
- Make a Natural Heritage Map: Provides species at risk classification for NHIC squares. Shows ANSI, significant woodlands, wetlands, etc.
- DFO Species at Risk Map: Search property of interest to see if there are any species at risk in the waterbodies.
- RVCA Mapping: RVCA Geoportal - shows flooding, significant woodlands, and other information.
- Ontario Nature - Amphibians and Reptiles: Amphibian Atlas
- Wildlife Value Areas: Geo Hub spatial data on wildlife value features.

From the information gathered, a list of potential species at risk (SAR) was created as well as any significant features.

#### 3.1.1 Species at Risk

Species at Risk in Ontario are designated by the Ontario Ministry of Natural Resources and Forestry to protect plants and animals that are facing threats to their survival. There are four categories of risk: extirpated, endangered, threatened, and special concern. These designations aim to safeguard Ontario's biodiversity by implementing conservation measures and recovery strategies for at-risk species. The protection efforts encompass habitat preservation, mitigation of human impacts, and

legal regulations under the Endangered Species Act, 2007. These initiatives are vital for maintaining ecological integrity, promoting sustainable development, and ensuring the survival of Ontario's unique wildlife for future generations.

### 3.1.2 Areas of Natural and Scientific Interest (ANSI)

Areas of Natural and Scientific Interest (ANSIs) are designated by the Ontario Ministry of Natural Resources and Forestry to preserve regions of ecological and geological importance. There are two types of ANSIs recognized in Ontario: Life Sciences ANSIs and Earth Sciences ANSIs. Life Sciences ANSIs are significant for representing key aspects of Ontario's biodiversity and natural landscapes, while Earth Sciences ANSIs are valued for their distinctive geological features, including bedrock, fossils, and landforms. These areas play a crucial role in scientific research, conservation, and education, helping to maintain ecological balance and enhance our understanding of natural history.

### 3.1.3 Fish Habitat

Ensuring the protection of fish and their habitats is a federal mandate overseen by the Department of Fisheries and Oceans Canada (DFO). Under the Fisheries Act (Canada, 2019), fish habitat encompasses areas vital for spawning, nursery, rearing, food supply, and migration, essential for fish to complete their life cycles.

When a development project poses unavoidable significant threats to fish, such as changes in temperature, sedimentation, infilling, or depletion of nutrients and food supply, it necessitates an authorization under the Fisheries Act for the project to advance.

### 3.1.4 Organic Soils

Organic soils are vital for carbon sequestration, water retention, and biodiversity support, helping to mitigate climate change and improve water quality. These nutrient-rich soils enhance plant growth and ecosystem stability, a fact underscored by the Ontario Ministry of Natural Resources and Forestry (OMNRF). Conserving organic soils is crucial for sustaining their environmental benefits and ensuring long-term ecological health.

### 3.1.5 Source Protection Water

Source water protection, or "Source Protection," ensures the safety of raw water from lakes, rivers, and aquifers against contamination and overuse. Enacted by Ontario, the Clean Water Act, 2006 mandates collaboration among municipalities, businesses, and residents to create local Source Protection Plans. Covering 19 source protection areas managed by Ontario's 36 Conservation Authorities, the Act focuses on science-based assessment reports and protection plans. For more details, explore Ontario's Source Protection program and the Ministry of the Environment, Conservation and Parks' interactive Source Protection Information Atlas.

To further safeguard these areas, the Montague Township requires a clearance notice from the Risk Management Official (RMO) for applications under the Planning Act and Building Code Act within the Intake Protection Zone (IPZ) and Wellhead Protection Area (WHPA). This ensures that activities posing a risk to drinking water sources are adequately managed, aligning local planning with provincial source protection goals.

### 3.2 Field Studies

Field investigations were conducted to describe the natural and physical characteristics of the subject property, with an emphasis on natural heritage features. These investigations aimed to identify any potential species at risk (SAR) or their habitats that might be present. The methods and findings of these field investigations supporting this Environmental Impact Study (EIS) are detailed in Table 1.

Table 1: Summary of Field Investigations

Date	Time	Weather	Purpose
May 3, 2024	9:00 – 15:00	18°C, Beaufort 1, Mostly Sunny, Dry	ELC, Wildlife Surveys (Bird, Insect, Mammals) & Exploration of the site
May 9, 2024	9:00 – 15:00	14°C, Beaufort 2, Partly Cloudy, Dry	ELC, Wildlife Surveys (Bird, Insect, Mammals) & Loggerhead Shrike Visit
May 21 to May 28, 2024	24H a day	Conditions not recorded	Recorder set for birds/bats/night birds
May 23 to May 29, 2024	24H a day	Conditions not recorded	Frog Breeding Survey/bats/birds
May 31, 2024	8:20 – 8:45	14°C, Beaufort 3, Mostly Sunny, Dry	Wildlife Surveys (Bird, Insect, Mammals) & Loggerhead Shrike
May 23, 2024	9:00 – 12:00	20°C, Beaufort 3-4, Mostly Sunny, Dry	Set up recorder, Vegetation survey with new growth, too windy for birds
June 4 to June 18	24H a day	Conditions monitored with camera	Wildlife Camera set up
June 4, 2024	8:30 – 9:50	21°C, Beaufort 1, Mostly Sunny, Dry	Wildlife Surveys (Bird, Insect, Mammals) & Loggerhead Shrike
June 7 to June 11, 2024	24H a day	Conditions not recorded	Recorder set for Frog Breeding Survey/bats/birds
June 17 to June 24, 2024	24H a day	Conditions not recorded	Recorder set for birds/bats/frogs/night birds
June 25, 2024	13:00 to 15:30	27°C, Beaufort 1, Mostly Sunny, Dry	Soil Analysis for all polygons
July 5 to 9, 2024	24H a day	Conditions Not Recorded	Recorder set for Frog Breeding Survey/bats/birds

The property was divided into four vegetative polygons based off aerial imagery. The following diagram indicates the four separate areas identified (Figure 2).

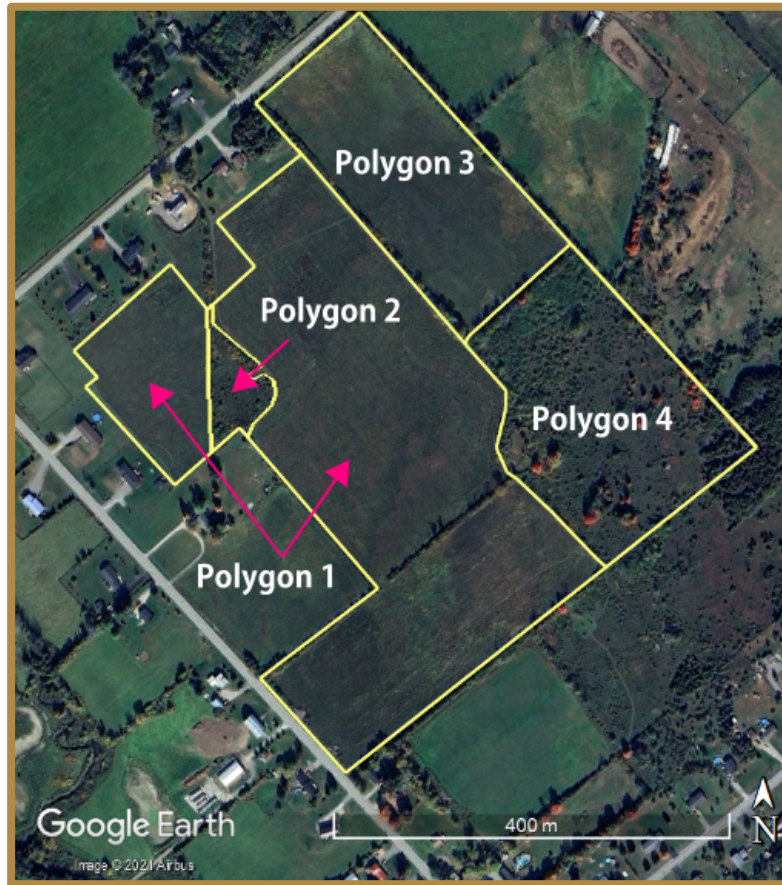


Figure 2: Polygons of Vegetation Groups

### 3.2.1 Ecological Land Classification - Vegetation

Ecological Land Classification (ELC) survey methods were employed to identify vegetative communities present on the property. Prior to the field visit, aerial photographs from Google Earth Pro were analyzed to map the apparent land classifications. These classifications were then verified through physical field studies. During these studies, conducted according to the Ecological Land Classification (1998) guidelines, vegetative communities were meticulously recorded. The ELC surveys were carried out on May 3 and May 9, 2024.

### 3.2.2 Wildlife (Insects, Birds, Mammals)

During each visit to the site, all wildlife sightings were recorded. Special surveys were conducted for species of particular concern:

- Surveys for various bird species were conducted using the Ontario Breeding Bird Atlas methodology, ensuring systematic and standardized observations to document the distribution and abundance of breeding birds within the study area (2021).

- Loggerhead Shrikes surveys were conducted following the Loggerhead Shrike Survey Protocol by Wildlife Preservation Canada (2008).
- Surveys were conducted for Common Nighthawks (*Chordeiles minor*), Evening Grosbeaks (*Coccothraustes vespertinus*), Eastern Meadowlarks (*Sturnella magna*), Bobolinks (*Dolichonyx oryzivorus*), Rusty Blackbirds (*Euphagus carolinus*), and Wood Thrushes (*Hylocichla mustelina*) were monitored using both the Ontario Breeding Bird Atlas and Wildlife Acoustics Mini Bat 2 monitors. Recorders were set to operate on a 24-hour basis, capturing acoustic data for 5 minutes every hour. The recordings were then analyzed using Kaleidoscope Pro software. Recordings were conducted during the periods before and after a full moon.
- While conducting their primary surveys, the team also performed concurrent visual wildlife surveys, systematically observing and documenting wildlife as they navigated through the property. Turtles, including Blanding's (*Emydoidea blandingii*), Eastern Musk (*Sternotherus odoratus*), Midland Painted (*Chrysemys picta marginata*), and Snapping (*Chelydra serpentina*), were monitored in this manner.

### 3.2.3 Wetlands & Woodlands

The entire property was examined to identify and rule out the presence of any wetlands or woodlands. Wetlands were assessed according to the methodologies outlined in the 4th edition (2022) of the OWES manual for Southern Ontario, while woodlands were classified based on the Ecological Land Classification (ELC) for Southern Ontario (1998). This examination was conducted continuously throughout the study period to ensure comprehensive coverage, adhering closely to the best practices recommended in the updated manuals for environmental assessments.

### 3.2.4 Significant Wildlife Habitat & Movement Corridors

The Township of Montague had indicated that the south-western portion of the property is significant wildlife habitat (Figure 4). An ongoing search of the property was undertaken throughout the study period to ensure no significant habitats were overlooked. In addition to this, an evaluation was conducted to assess the significance of natural heritage features, the sensitivity of identified flora and fauna, and the potential impacts of the proposed development. This analysis utilized desktop and field investigation data, employing methodologies and criteria from the following documents:

- Natural Heritage Reference Manual (OMNR, 2010)
- Significant Wildlife Habitat Technical Guide (OMNR, 2000)
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6e (OMNR, 2015)
- Significant Wildlife Habitat Mitigation Support Tool (OMNR, 2014)

Animal movement corridors are elongated areas that wildlife use to travel between habitats and migrate seasonally (OMNRF, 2015). The Significant Wildlife Habitat Ecoregion Criterion Schedules for Ecoregion 6E-11 (OMNRF, 2015) identify amphibian and deer movement corridors. According to MNRF guidance (2015), these corridors should be classified as significant wildlife habitat only when confirmed or candidate significant wildlife habitat is identified by the MNRF district office or the regional planning authority.



## 4.0 RESULTS

### 4.1 Site Details and Adjacent Lands

In accordance with the Provincial Policy Statement (PPS) section 2.1.8 and the Township of Montague's Official Plan (OP), a survey was required of the entire site and an additional 120 metres of adjacent land (Figure 3). The site primarily consists of fields that were formerly cultivated, likely for hay. The upper northwest corner of the site retains more water, especially in the spring, as noted by neighbouring residents. This area supports longer, and more abundant grasses compared to the rest of the fields. The adjacent lands included farmland, fields, small wood lots and rural residences.

In the southeast, there is a small pond, while the remainder of this corner of the property has been disturbed. This disturbed area contains many large trees, and aerial photographs reveal treed fence lines throughout the property.



Figure 3: Property & Adjacent Lands - Rosedale Road & Matheson Drive

## 4.1.1 Natural Heritage Features (Official Plan)

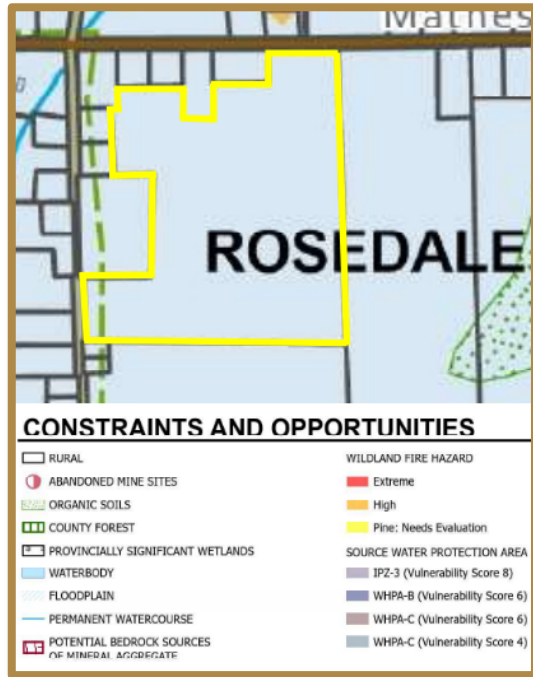


Figure 4: Montague Township Schedule B

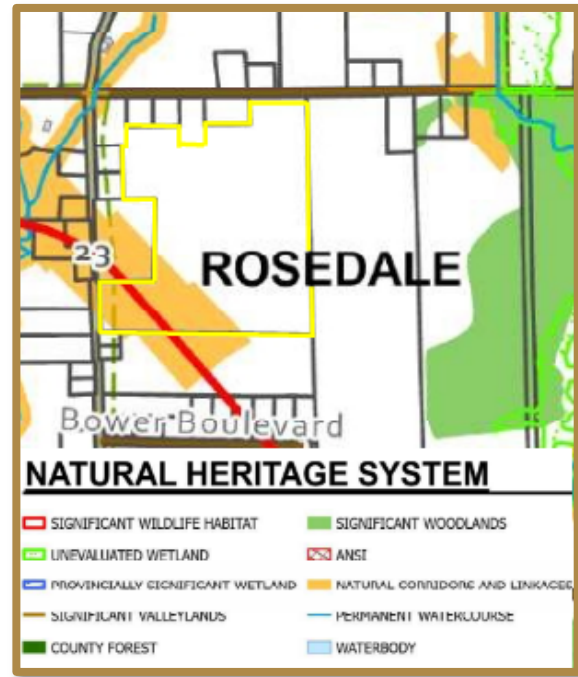


Figure 5: Montague Township Schedule C

Based on the mapping from both Schedule B (Figure 4) and Schedule C (Figure 5), it was determined that the southern portion of the property contains Significant Wildlife Habitat, a natural corridor and the entire property is in a well protection zone WHPA-C (Vulnerability Score of 4).

## 4.1.2 Significant Wetlands

Our comprehensive evaluation of the property revealed no significant wetlands within the study area. However, we identified the presence of a small pond, approximately 300 m<sup>2</sup> in size, located in the southeast portion of the property (Figure 6).

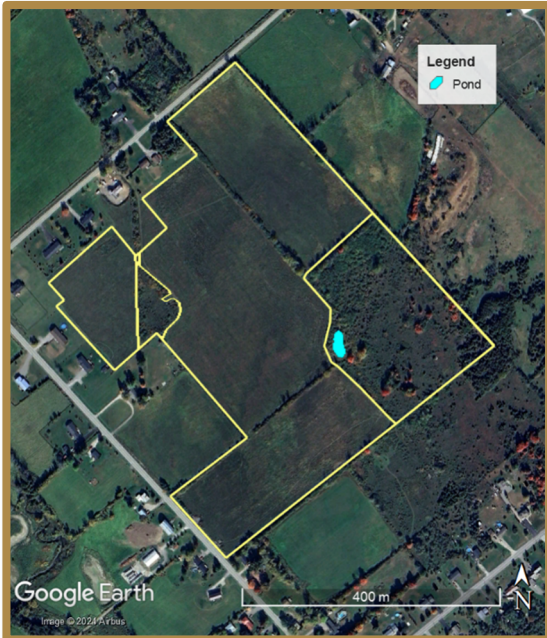


Figure 6: Map showing the pond on the property



Figure 7: Pond on the property

#### 4.1.3 Significant Woodlands

No significant woodlands were found on the property or within 120 meters of the adjacent property.

#### 4.1.4 Significant Valleylands

No significant valleylands were found on the property or within 120 meters of the adjacent property.

#### 4.1.5 Areas of Natural and Scientific Interest (ANSI)

No areas of natural and scientific interest (ANSI) were found on the property or within 120 meters of the adjacent property.

#### 4.1.6 Organic Soils

No organic soils were found on the property or within 120 meters of the adjacent property.

#### 4.1.7 Source Protection Area

The property is in the Rideau Valley Source Protection Area. According to the Ontario GeoHub Source Protection Information Atlas the property is located on Wellhead Protection Area D (WHPA-D) with a score of 2 and on a Highly Vulnerable Aquifer with a Score of 6. These designations are based on the Mississippi-Rideau Source Protection Plan last update on April 28, 2022.

The discrepancy between the township's designation of the property as WHPA C with a score of 4 and the Source Protection Map's designation as WHPA-D with a score of 2 may be due to a mapping issue,

as the Official Plan for Montague Township and the GeoHub website both reference the Mississippi-Rideau Rideau Source Protection Plan, but the GeoHub mapping matches the plan while the township's mapping does not.

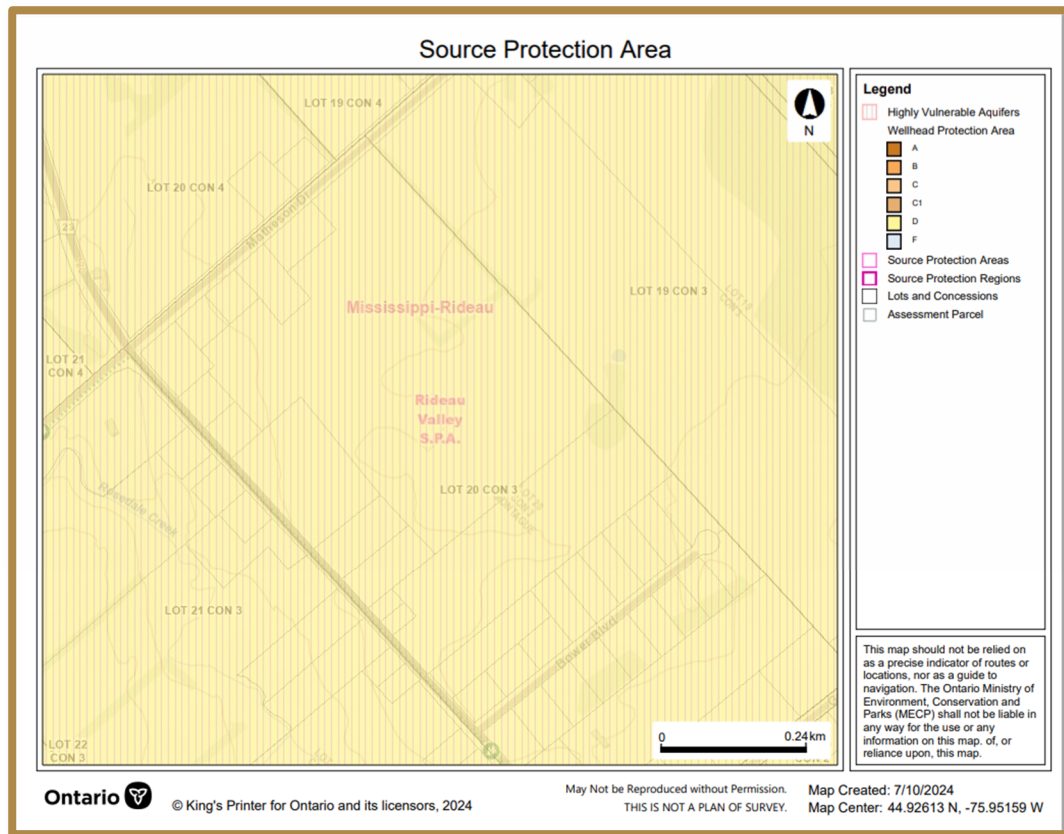


Figure 8: Source Protection Information Atlas - Matheson & Rosedale

#### 4.1.8 Fish Habitat

The Department of Fisheries and Oceans Species at Risk map indicated that there were no species at risk or critical fish habitat present on the property or the adjacent lands (Figure 9).

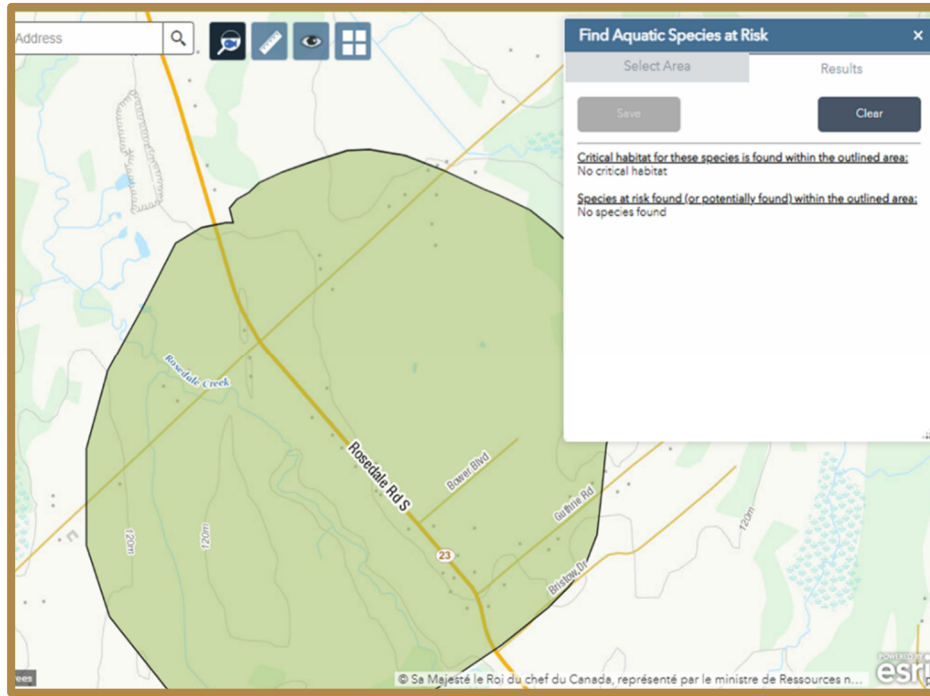


Figure 9: DFO Species at Risk and Critical Habitat Map

## 4.2 Biological Inventories

### 4.2.1 Species at Risk

During the property survey, assessments were conducted for the presence of species at risk and their required habitats. For each species, both the individuals and the specific habitat conditions they require were examined. The results of these assessments are summarized in table 2 below. Some species were observed within a kilometer or more from the site, as identified through desktop discovery. If a species was noted in the vicinity, thorough searches were conducted for their presence on the property. Only the species and habitats that were confirmed will be discussed further in this report.

Table 2: Species at Risk desktop discovery

Site Obtained	Common Name	Scientific Name	SRank	SARO Status	Suitable Habitat Present?	Observed On Site
NHIC	Colonial Waterbird Nesting Area	<i>Colonial Waterbird Nesting Area</i>	SNR	NA	No	No
NHIC	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	Yes	No
NHIC	Blanding's Turtle	<i>Emydoidea blandingii</i>	S3	THR	Yes	No
NHIC	Loggerhead Shrike	<i>Lanius ludovicianus</i>	S1B	END	No	No
eBird	Eastern Meadowlark	<i>Sturnella magna</i>	S4B, S3N	THR	No	No
eBird	Common Nighthawk	<i>Chordeiles minor</i>	S4B	SC	Yes	No
eBird	Evening Grosbeak	<i>Coccothraustes vespertinus</i>	S4B	SC	No	No
eBird	Rusty Blackbird	<i>Euphagus carolinus</i>	S4B	SC	No	No
eBird	Wood Thrush	<i>Hylocichla mustelina</i>	S4B	SC	No	No
Ontario Nature	Eastern Musk Turtle	<i>Sternotherus odoratus</i>	S3	SC	No	No
Ontario Nature	Midland Painted Turtle	<i>Chrysemys picta marginata</i>	S5	NAR	No	No
Ontario Nature	Snapping Turtle	<i>Chelydra serpentina</i>	S3	SC	No	No
OMNR	Butternut	<i>Juglans cinerea</i>	S3	END	Yes	No
OMNR	Black Ash	<i>Fraxinus nigra</i>	S4	END	Yes	Yes

\* S-Rank = S1 Extremely Rare, S3 Rare to Uncommon, S4 Common & S5 Widespread → B refers to breeding population of the species & N is non-breeding.

\*\* SARO Status – END Endangered, THR Threatened, SC Special Concern, NAR Not a Risk & SNR Unranked.

#### 4.2.1.1 Bobolink (*Threatened*)

Bobolinks are primarily found in tallgrass prairie and other open meadows. Due to the clearing of native prairies, Bobolinks have adapted to living in hayfields. They often build their small nests on the ground within dense grasses, which provides them with necessary cover and protection.

The habitat of Bobolinks can be categorized into three specific categories:

**Nest and Immediate Perimeter:** This includes the nest itself and a 10-meter perimeter around the nest.

- 1) **Proximal Territory:** The area between 10 meters and 60 meters from the nest or the center of the approximated defended territory.
- 2) **Extended Suitable Habitat:** The area of continuous or suitable habitat between 60 meters and 300 meters from the nest or the center of the approximated defended territory.

During the property visits, Bobolinks were not observed. Although Bobolinks and Eastern Meadowlarks typically share similar habitats, the pasture on the property was not as thick and long as the grasslands where Bobolinks are typically found nesting. Due to the known presence of Bobolinks in the general area, neighboring lands were observed from the roadside, revealing several fields that appeared to offer more suitable habitat for these birds. Aerial photographs further show a vast amount of farmland in the vicinity, which likely contributes to the presence of Bobolinks in the area. This suggests that there is substantial habitat available on neighboring farms (outside the adjacent land) that would be more beneficial to Bobolinks, reducing the likelihood of them utilizing the subject property.

#### 4.2.1.2 Eastern Meadowlark (*Threatened*)

Eastern Meadowlarks are found in a variety of grassland habitats, including pastures, hayfields, alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, and other open areas. They utilize small trees, shrubs, or fence posts as elevated song perches.

The habitat of Eastern Meadowlarks can be categorized into three specific Categories:

- 1) **Nest and Immediate Area:** This includes the nest itself and the area within a 10-meter radius of the nest.
- 2) **Proximal Territory:** The area between 10 meters and 100 meters from the nest or the center of the approximated defended territory.
- 3) **Extended Territory:** The area between 100 meters and 300 meters from the nest or the center of the approximated defended territory.

During the property visits, Eastern Meadowlarks were not observed. A letter received from a nearby neighbour mentioned past sightings of Eastern Meadowlarks in the area. Additionally, a review of the eBird database showed one sighting of an Eastern Meadowlark across the street from the subject property and two additional sightings to the east of the property. As shown in Figure 10, these sightings were located in close proximity but not directly on the subject property. However, when the mapping is zoomed out (Figure 11), it becomes apparent that there are far greater numbers of Eastern Meadowlark sightings concentrated to the south of the property. The larger number of birds observed to the south indicates that this area offers a better and more suitable habitat for the Eastern

Meadowlark. This suggests that sightings on the property are more likely the result of birds crossing over rather than nesting or establishing a permanent habitat.

Extensive monitoring was conducted during the spring and summer, and no Eastern Meadowlarks were observed on the property. As with Bobolinks, Eastern Meadowlarks prefer taller, denser grasslands for nesting. Although the grass on the subject property was long, it was too sparse and not dense enough to provide suitable nesting habitat for Eastern Meadowlarks. Roadside observations and aerial imagery of neighbouring lands indicated that there are several fields and extensive farmland nearby that likely provide more suitable habitat for these birds. This suggests that the subject property is less likely to be utilized by Eastern Meadowlarks, as substantial suitable habitat exists on neighbouring farms beyond the adjacent land. While the neighbour's observations are noted, the current habitat conditions on the property do not align with the specific requirements of Eastern Meadowlarks. The extensive monitoring conducted supports the conclusion that the property is unlikely to be utilized by this species, further evidenced by the concentration of sightings in better-suited habitats to the south, as seen in the eBird data and figures provided.



Figure 10: eBird Mapping of Eastern Meadowlark Sightings in the Area of Matheson and Rosedale

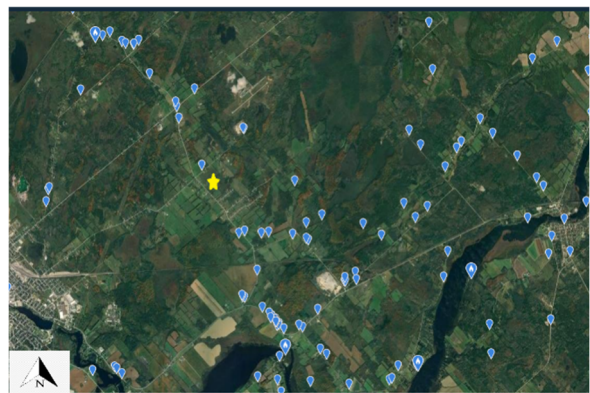


Figure 11: eBird Mapping of the Area Surrounding Matheson and Rosedale for Eastern Meadowlarks

#### 4.2.1.3 Common Nighthawk (Special Concern)

The Common Nighthawk prefers open areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores, and mine tailings. While they can also nest in cultivated fields, orchards, urban parks, and along gravel roads and railways, they typically favor natural sites.

Nighthawks forage for flying insects in open areas during crepuscular periods (dawn and dusk), though they sometimes forage during the day. They require open ground or clearings for nesting and breed in a wide range of open habitats.

For roosting, Common Nighthawks are versatile and can use almost any site, including tree limbs, the ground, fenceposts, or rooftops. Ideal roosting sites provide shade from overheating, camouflage from predators, and unobstructed flight paths.

Although Common Nighthawks were monitored at dawn and dusk using digital recorders, they were not heard on the property. While they were not detected, given their known presence in the broader area, the site will continue to be managed as though Common Nighthawks could be present.



#### 4.2.1.4 Blanding's Turtle (Threatened)

Blanding's Turtles typically live in shallow water, usually in large wetlands and shallow lakes with abundant water plants. It is not unusual to find them hundreds of meters from the nearest water body, especially while searching for a mate or traveling to a nesting site. These turtles hibernate in the mud at the bottom of permanent water bodies from late October until the end of April.

The habitat of Blanding's Turtles can be categorized into three specific zones:

- 1) Nest and Overwintering Sites: This includes the nest and the area within 30 meters, as well as overwintering sites and the area within 30 meters.
- 2) Wetland Complex: This consists of all suitable wetlands or waterbodies within 500 meters of each other, extending up to 2 kilometers from an occurrence, and includes the area within 30 meters around those suitable wetlands or waterbodies.
- 3) Extended Suitable Habitat: This includes the area between 30 meters and 250 meters around suitable wetlands or waterbodies identified in Category 2, within 2 kilometers of an occurrence.

Wetlands within 2 kilometers of this property make it potentially suitable habitat for Blanding's Turtles. Although no turtles were observed during the site visits and specific surveys for Blanding's Turtles were not conducted, it will be assumed that Blanding's Turtles or other turtle species may be present on the property.

#### 4.2.1.5 Butternut (Endangered)

The Butternut (*Juglans cinerea*), also known as White Walnut, thrives in moist, well-drained soils often found along streams and gravel sites, and occasionally in dry rocky soils. This species does poorly in shaded areas, preferring sunny openings and forest edges. Historically, butternut trees were commonly planted in fencerows, providing both a boundary marker and a source of valuable nuts. Unfortunately, the Butternut is now endangered due to a canker disease caused by the fungus *Ophiognomonia clavignenti-juglandacearum*. Conservation efforts are crucial for its survival, guided by the Ontario Ministry of Natural Resources and Forestry and Ontario's Species at Risk Public Registry.

The property contained several fencerows and open sunny areas, which were thoroughly surveyed; however, no Butternut trees were found on the property.

#### 4.2.1.6 Black Ash (Threatened)

The Black Ash (*Fraxinus nigra*) is commonly found in moist, poorly drained soils, often in swampy or wetland areas. This species is tolerant of shade but can also thrive in open, sunny locations. In addition to this, Black Ash have also been historically used in fencerows. Unfortunately, Black Ash is threatened by the invasive Emerald Ash Borer (*Agrilus planipennis*), which has caused significant declines in ash populations.

When the property was surveyed, Black Ash trees were found in the fencerows, but none of the mature trees were alive. Remnants of saplings were also found in the disturbed area in polygon 4, but none of the trees had a diameter at breast height (DBH) greater than 8 cm. According to Ontario

Regulation 6/24 under the Endangered Species Act, 2007, the Act does not apply to Black Ash if they have a stem height under 1.37 m or a diameter at breast height (DBH) of less than 8 cm.

#### 4.2.2 Ecological Land Classification - Vegetation

The vegetation survey of this property revealed a mix of cultural meadows and disturbed areas, each with distinct characteristics (Figure 12). The two cultural meadows showcase a diverse array of herbaceous plants and grasses, contributing to the ecological richness of the site. Meanwhile, the two disturbed areas have undergone significant vegetation removal, currently displaying minimal to no regrowth.

This survey was conducted using the Southern Ontario Ecological Land Classification System (2008) to ensure a standardized and systematic approach to documenting and classifying the vegetation.

The following table provides detailed information on the vegetation observed in the cultural meadows and disturbed areas, including species composition, abundance, and specific site characteristics (Table 3).

Table 3: Ecological Land Classification

<b>Ecosite</b>	<b>Description</b>	<b>Size</b>
Polygon 1  CUM1-1 Dry-Moist Cultural Old Field Meadow	<p>A Dry-Moist Cultural Old Field Meadow is an early to mid-successional ecosite characterized by a patchy mix of herbaceous plants, grasses, and some woody plants on well-drained soils with variable moisture levels. This habitat, often resulting from abandoned agricultural land, supports diverse wildlife including pollinators, small mammals, and field-nesting birds.</p> <p>There were a variety of plants, but the most abundant were grasses (<i>Poaceae spp.</i>), Dandelions (<i>Taraxacum officinale</i>), Alfalfa (<i>Medicago sativa</i>), Prickly Ash (<i>Zanthoxylum americanum</i>), and Common Buckthorn (<i>Rhamnus cathartica</i>).</p>	13.19 ha 32.58 ac
Polygon 2  Disturbed Area	<p>The vegetation in this section was cut down prior to arrival, but it appears that it would have been a Cultural Savannah with loam soil. Although most of the trees were dead, there were still Red Cedar (<i>Juniperus virginiana</i>), Choke Cherry (<i>Prunus virginiana</i>), Common Buckthorn (<i>Rhamnus cathartica</i>), Prickly Ash (<i>Zanthoxylum americanum</i>), and Hedge Bedstraw (<i>Galium mollugo</i>) present.</p>	0.53 ha 1.31 ac
Polygon 3  CUM1-1 Dry-Moist Cultural Old Field Meadow	<p>A Dry-Moist Cultural Old Field Meadow (previously described in Polygon 1) differed in that its grasses were taller and more dominant than in Polygon 1, but still patchy in distribution. The most abundant species at this site included various grass species (<i>Poaceae spp.</i>), Common Buckthorn (<i>Rhamnus cathartica</i>), Prickly Ash (<i>Zanthoxylum americanum</i>), and Wild Strawberry (<i>Fragaria virginiana</i>).</p>	4.36 ha 10.78 ac
Polygon 4  Disturbed Area	<p>Most of the vegetation in this polygon has been cut down. The remaining species include large Red Oak (<i>Quercus rubra</i>), Sugar Maple (<i>Acer saccharum</i>), and Ironwood (<i>Ostrya virginiana</i>). Additionally, Yellow Trout Lily (<i>Erythronium americanum</i>), Gooseberry (<i>Ribes spp.</i>), White Cedar (<i>Thuja occidentalis</i>), Strawberry (<i>Fragaria spp.</i>), and Lamb's Ear (<i>Stachys byzantina</i>) were observed.</p>	4.83 ha 11.94 ac
Pond	<p>There was a small pond located in polygon 4. There were no turtles found around the pond. The vegetation surrounding the pond had previously been disturbed by the first visit on May 1, 2024.</p>	300 m <sup>2</sup>
Fencerows on Property	<p>The fencerows appeared to be planted to separate the old fields from each other. Although they are not classified using the Ecological Land Classification (ELC) system, they are worth mentioning as they provide habitat for various birds, insects, and mammals. Notably, there were substantial numbers of Common Buckthorn (<i>Rhamnus cathartica</i>) and Prickly Ash (<i>Zanthoxylum americanum</i>), as well as White Cedar (<i>Thuja occidentalis</i>), Wild Grape (<i>Vitis riparia</i>), dead Black Ash (<i>Fraxinus nigra</i>), Trembling (Quaking) Aspen (<i>Populus tremuloides</i>), and White Ash (<i>Fraxinus americana</i>).</p>	1.31 ha 3.21 ac

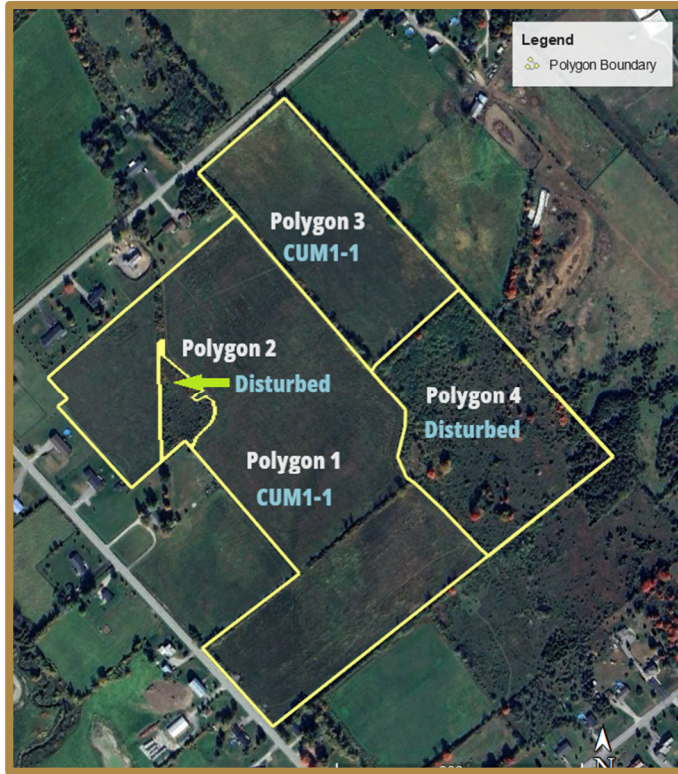


Figure 12: Ecological Land Classification Vegetation Communities



Figure 13: Site 1 - CUM1-1



Figure 14: Site 2 - Disturbed



Figure 15: Site 3 - CUM1-1



Figure 16: Site 4 - Disturbed

#### 4.2.3 Wildlife

Recorders were used to obtain data on birds, bats, frogs and some insects. During birding surveys, the Merlin app was used to help to confirm bird calls.

Bats recorded included Hoary Bat, Big Brown Bat and Silver Haired Bat. There were some fencerows of treed habitat that were present on the property that could possibly be used by bats to nest or roost. The open field also provides excellent habitat for nighttime foraging.

There was a large variety of birds using the property and adjacent lands. A list of these can be found in Appendix A. In addition to birds, appendix A contains a list of all vegetation, insects, amphibians and mammals found on the property throughout the survey dates.

#### 4.2.4 Wetlands and Woodlands

No woodlands were found on the property, although two disturbed areas of trees were identified. Additionally, there is a small open water pond present on the property. These features were noted and assessed during the continuous examination period to ensure all environmental characteristics were accurately documented.

#### 4.2.5 Significant Wildlife Habitat and Movement Corridors

Based on the information available from Ontario GeoHub's Wildlife Values Area mapping (OMNRF, 2020), there were no movement corridors present on the property or adjacent lands. However, information obtained from the Official Plan indicated that the southwest corner of the property contained a wildlife corridor. According to the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (OMNRF, 2015), there are two types of animal movement corridors: Amphibian and

Deer. To ensure thoroughness, the area was surveyed, but no suitable habitat was found to indicate the presence of a movement corridor.

Most of the property consists of cultural meadow with disturbed areas. Using the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (OMNRF, 2015), it was determined there was no significant habitat found. Although there was a small pond (300 m<sup>2</sup>) it doesn't not meet the criteria of significant amphibian wetland breeding habitat as it does not meet the size criteria (>500m<sup>2</sup>).

## 5.0 MITIGATION

### 5.1 Species at Risk

#### 5.1.1 Blanding's Turtles and Other Amphibians & Reptiles

Although no Blanding's Turtles were observed on site, they can travel great distances and have been documented in the area. The following measures will help to ensure the Blanding's turtles and other reptiles and amphibians are protected from the development activities:

- Exclusion fencing should be installed around the development envelope prior to May 1 or commencement of site preparation.
- Following the guidelines of the OMNRF Reptile and Amphibian Exclusion Fencing (2021) for all turtles (<https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing>).
- Cover all stockpiled material with a geotextile to prevent turtles from nesting between May 1 and August 31 of any year.

#### 5.1.2 Wildlife

- Clearing trees from the fencerows and other areas will need to occur between Oct 1st and March 31st to avoid impact to several species of birds and bats. If vegetation removal occurs outside of this timeline, a wildlife sweep will need to be carried out by a qualified professional. If nests are discovered, they should be left undisturbed until young have fledged or the nest is determined inactive.
- Educate staff and contractors on the potential SAR species that could be found in the area.
- Prior to commencing a day's work, a quick sweep of the construction area should occur to remove any wildlife that may have crossed over the exclusion fencing. If a species at risk is encountered, the Species at Risk Biologist of the local MECP should be contacted immediately and operations modified to avoid any negative impacts until directed otherwise by the MECP.
- If the small pond is to be removed, it needs to be completed outside of the breeding frog timeframe of March 31 and Aug 31 of any year.
- Proper use of sediment and erosion control is required and vegetation clearing should be staged to minimize the duration of soil exposure

## 6.0 CONCLUSION

The EIS for the proposed subdivision aligns with the Provincial Policy Statement (PPS), 2020, and complies with federal, provincial, and municipal guidelines, including the Endangered Species Act, the Species at Risk Act, and the Township of Montague's Official Plan. The study assessed the presence of significant wildlife habitats, wetlands, woodlands, and species at risk within the project area.

Key findings include the potential for Blanding's Turtles due to nearby wetlands, although no turtles were observed during the site visits. Mitigation measures have been proposed to minimize any potential adverse effects on local wildlife and their habitats. These include the installation of exclusion fencing, timing vegetation removal to avoid nesting periods, and creating or enhancing habitat if necessary.

The subdivision project has been carefully planned to optimize community integration while adhering to environmental standards. By implementing the recommended mitigation strategies, Smart Homes aims to proceed with the development responsibly, ensuring the protection and conservation of local natural heritage features.

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**Appendix A**  
**List of Biological Species Observed**

Table 4: Wildlife observations

Observed wildlife	Polygons Wildlife Observed Within	Date Initially Identified	SARO Status & Rank (Lack of status indicates species is unevaluated)
Trees & Shrubs			
Basswood ( <i>Tilia americana</i> )	3	May 9, 2024	S5
Bitternut Hickory ( <i>Carya cordiformis</i> )	3	May 9, 2024	S5
Black Ash (Dead) ( <i>Fraxinus nigra</i> )	Fencerows	May 9, 2024	END, S4
Buckthorn ( <i>Rhamnus cathartica</i> )	1, 2, 3, 4 & Fencerows	May 9, 2024	SNA, SE5
Chokecherry ( <i>Prunus virginiana</i> )	2	May 9, 2024	S5
Common Juniper ( <i>Juniperus communis</i> )	3	May 9, 2024	S5
Eastern Red Cedar ( <i>Juniperus virginiana</i> )	3, 4	May 9, 2024	S5
Eastern White Cedar ( <i>Thuja occidentalis</i> )	4	May 9, 2024	S5
Green Ash ( <i>Fraxinus pennsylvanica</i> )	1, 2, 3	May 9, 2024	S4
Iron Wood ( <i>Ostrya virginiana</i> )	4	May 9, 2024	S5
Manitoba Maple ( <i>Acer negundo</i> )	1	May 9, 2024	S5
Norway Spruce ( <i>Picea abies</i> )	2	May 9, 2024	SNA, SE3
Prickly Ash ( <i>Zanthoxylum americanum</i> )	2,3 & Fencerows	May 9, 2024	S5
Pussy Willow ( <i>Salix discolor</i> )	3	May 9, 2024	S5
Quaking (Trembling) Aspen ( <i>Populus tremuloides</i> )	3	May 9, 2024	S5
Red Clover ( <i>Trifolium pratense</i> )	1, 2, 3 & 4	May 9, 2024	SNA, SE5
Red Maple ( <i>Acer rubra</i> )	3	May 9, 2024	S5
Red Oak ( <i>Quercus rubra</i> )	3 & 4	May 9, 2024	S5
Sugar Maple ( <i>Acer saccharum</i> )	4	May 9, 2024	S5
Tartarian Honeysuckle ( <i>Lonicera tatarica</i> )	1, 2, 3, & 4	May 9, 2024	SNA, SE5
White Birch ( <i>Betula papyrifera</i> )	3	May 9, 2024	S5

Herbaceous Vegetation			
<b>Bird's-Foot Trefoil</b> <i>(Lotus corniculatus)</i>	1 & 3	May 9, 2024	SNA, SE5
<b>Black Raspberry</b> <i>(Rubus occidentalis)</i>	4	May 9, 2024	S5
<b>Common Bedstraw</b> <i>(Galium aparine)</i>	1 & 3	May 9, 2024	S5
<b>Common Mullein</b> <i>(Verbascum thapsus)</i>	4	May 9, 2024	SNA, SE5
<b>Gooseberry</b> <i>(Ribes spp.)</i>	4	May 9, 2024	n/a
<b>Grape Vine</b> <i>(Vitis spp.)</i>	3	May 9, 2024	n/a
<b>Large Bird's-Foot Trefoil</b> <i>(Lotus uliginosus)</i>	1	May 9, 2024	SNA, SE5
<b>Sulphur Cinquefoil</b> <i>(Potentilla recta)</i>	1 & 4	May 9, 2024	SNA, SE5
<b>Tall Goldenrod</b> <i>(Solidago altissima)</i>	1 & 3	May 9, 2024	S5
<b>Wild Asparagus</b> <i>(Asparagus officinalis)</i>	2	May 9, 2024	SNA, SE5
<b>Woodland Strawberry</b> <i>(Fragaria vesca)</i>	4	May 9, 2024	S5
<b>Yellow Trout-lily</b> <i>(Erythronium americanum)</i>	4	May 9, 2024	S5
Birds			
<b>American Crow</b> <i>(Corvus brachyrhynchos)</i>	1	May 9, 2024	S5
<b>American Goldfinch</b> <i>(Spinus tristis)</i>	3	May 9, 2024	S5
<b>American Robin</b> <i>(Turdus migratorius)</i>	1, 2 & 3	May 9, 2024	S5
<b>Black-capped Chickadee</b> <i>(Poecile atricapillus)</i>	3 & 4	May 31, 2024	S5
<b>Blue Jay</b> <i>(Cyanocitta cristata)</i>	3 & 4	May 9, 2024	S5
<b>Brown Thrasher</b> <i>(Toxostoma rufum)</i>	3, 4 & Pond	May 3, 2024	S4B
<b>Common Raven</b> <i>(Corvus corax)</i>	2	May 9, 2024	S5
<b>Common Yellowthroat</b> <i>(Geothlypis trichas)</i>	1, 3 & 4	May 9, 2024	S5B, S3N
<b>Eastern Kingbird</b> <i>(Tyrannus tyrannus)</i>	1, 3 & 4	May 9, 2024	S4B
<b>Eastern Pheobe</b> <i>(Sayornis phoebe)</i>	1 & 4	May 9, 2024	S5B
<b>Field Sparrow</b> <i>(Spizella pusilla)</i>	4.	June 4, 2024	S4B, S3N
<b>Gray Catbird</b> <i>(Dumetella carolinensis)</i>	Pond	June 24, 2024	S5B
<b>House Finch</b> <i>(Haemorhous mexicanus)</i>	3	June 4, 2024	SNA
<b>Kill Deer</b> <i>(Charadrius vociferus)</i>	4	May 9, 2024	S4B

Red-eyed Vireo ( <i>Vireo olivaceus</i> )	3 & 4	May 9, 2024	S5B
Northern Cardinal ( <i>Cardinalis cardinalis</i> )	3	May 24, 2024	S5
Red-winged Blackbird ( <i>Agelaius phoeniceus</i> )	1 & 3	May 9, 2024	S5
Song Sparrow ( <i>Melospiza melodia</i> )	1, 3 & 4	May 9, 2024	S5
Yellow Warbler ( <i>Setophaga petechia</i> )	3 & 4	May 9, 2024	S5B
Mammals			
Black Bear ( <i>Ursus americanus</i> )	Scat on property	June 4, 2024	NAR
Big Brown Bat ( <i>Eptesicus fuscus</i> )	2	May 21, 2024	S5
Hoary Bat ( <i>Lasiurus cinereus</i> )	2	May 21, 2024	S4
Red Fox ( <i>Vulpes vulpes</i> Linn)	4	May 31, 2024	NAR, S5
Silver-Haired Bat ( <i>Lasionycteris noctivagans</i> )	2	May 21, 2024	S4
White Tail Deer ( <i>Odocoileus virginianus</i> )	Scat & Tracks throughout Property	May 9, 2004	S5
Insects			
Carpenter Ant ( <i>Camponotus spp.</i> )	4	June 4, 2024	n/a
Copper Butterfly Species ( <i>Lycaninae spp.</i> )	1 & 3	June 4, 2024	n/a
Field Crickets	1, 2, 3 & 4		
Hairstreak Butterfly Species ( <i>Theclinae spp.</i> )	1, 2, & 3	June 4, 2024	n/a
Jumping Spider Species ( <i>Pelegrina spp.</i> )	1, 2, & 3	June 4, 2024	n/a
Leafhopper Species ( <i>Cicadellidae spp.</i> )	1, 2, 3 & 4	June 4, 2024	n/a
Mosquito Hawk ( <i>Tipula paludosa</i> )	1	June 4, 2024	n/a
Red Soldier Beetle ( <i>Rhagonycha fulva</i> )	3, 1	June 4, 2024	SNA, SE
Saddlebag Skimmer ( <i>Tramea lacerata</i> )	1 & Pond	June 4, 2024	S4
Slender Crab Spider ( <i>Tibellus spp.</i> )	3, 2.	June 4, 2024	n/a
Spittlebug Species ( <i>Philaenus spp.</i> )	1, 2, & 3	June 4, 2024	n/a
Three-banded Lady Beetle ( <i>Coccinella trifasciata</i> )	1	June 4, 2024	S4S5
Wetland Wolf Spider ( <i>Tigrosa helluo</i> )	4	June 4, 2024	S5
Yellow Jacket Species ( <i>Vespula spp.</i> )	4.	June 4, 2024	n/a
Monarch Butterfly ( <i>Danaus plexippus</i> )	3.	June 21, 2024	SC, S2N, S4B

Herps			
Eastern Garter Snake ( <i>Thamnophis sirtalis sirtalis</i> )	2.	May 9, 2024	S5
Gray Treefrog ( <i>Dryophytes versicolor</i> )	Pond	May 3, 2024	S5
Leopard Frog ( <i>Lithobates pipiens</i> )	3.	May 31, 2024	NAR, S5
Green Frog ( <i>Lithobates clamitans</i> )	Pond	June 26, 2024	S5

Note: Smaller invertebrates only identified to genus

\* S-Rank = S1 Extremely Rare, S2 Very Rare, S3 Rare to Uncommon, S4 Common & S5 Widespread → B refers to breeding population of the species & N is non-breeding.

\*\* SARO Status – END Endangered, THR Threatened, SC Special Concern, NAR Not a Risk & SNR Unranked.