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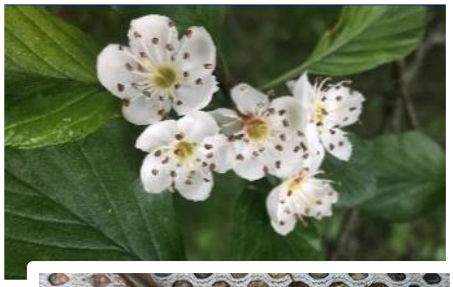

Environmental Impact Study

Tiny Township Administrative Centre

Prepared for Township of Tiny

AEC Project No. 24-152 | October 2025

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

October 7, 2025 AEC 24-152

The Corporation of the Township of Tiny
130 Balm Beach Road West
Tiny, ON L0L 2J0

Attention: Tim Leitch, P.Eng., Director of Public Works

Re: **Environmental Impact Study for the Proposed Tiny Township Administrative Centre on Part of Lot 10, Concession 8, Township of Tiny**

Tim Leitch:

Azimuth Environmental Consulting, Inc. was retained to provide an Environmental Impact Study for the proposed Tiny Township Administrative Centre located in the northern portion of the property on Part of Lot 10, Concession 8 (fronting Concession Road 9 East) in the Township of Tiny. The purpose of this report is to provide the Township and other review agencies with an understanding of natural environmental conditions on the property and adjacent lands including potential and confirmed natural heritage and functions, and to provide an assessment of impacts from the proposed development upon key natural heritage features and functions. This report builds upon documentation of existing conditions and associated recommendations previously issued in the Natural Heritage Existing Conditions Report prepared by Azimuth in November 2024.

Should you have any questions or require additional information please do not hesitate to contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Dan Stuart, M.Env.Sc.
Ecology Lead/Partner

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Table of Contents

List of Figures

List of Attached Tables

List of In-Text Tables

List of Appendices

1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by The Corporation of the Township of Tiny (the "proponent") to complete an Environmental Impact Study (EIS) for the proposed Tiny Township Administrative Centre (the "development") on Part of Lot 10, Concession 8 (fronting onto Concession Road 9 East) within the Township of Tiny (the "Township"), County of Simcoe (the "County"). This EIS report builds upon documentation of existing conditions and associated recommendations previously issued in the Natural Heritage Existing Conditions Report prepared by Azimuth in November 2024. A map illustrating the limits of the proposed development in its local context is shown on Figure 1. It is our understanding that the Township has requested that an EIS be completed due to mapped Unevaluated Wetlands, potential habitat for Species at Risk (SAR), and other natural features and functions that may be associated with the study area.

This purpose of this EIS is to identify the candidate Key Natural Heritage Features (KNHFs) present within the study area and address potential impacts to candidate KNHFs. A review of background information in combination with a detailed field program was undertaken in spring 2024-winter 2025 to identify significant natural heritage features and functions. This report also examines potential SAR protected under the provincial *Endangered Species Act,* 2007 (ESA) and federal *Species at Risk Act* (SARA) within the study area.

For the purposes of this EIS the study area comprises the northern approximately two thirds of the property (Figures 1-4) and adjacent lands within approximately 120 metres (m) of the focal area. Natural features in the overall planning area beyond the defined study area limits are discussed where applicable throughout this report.

It is understood that tree clearance throughout the proposed development limits occurred in March 2025. The existing conditions summary and subsequent impact assessment presented in this EIS report is prepared based on pre-clearance conditions, as documented during spring 2024-winter 2025 field investigations.

2.0 PLANNING CONTEXT

2.1 Provincial Planning Policy (2024)

The Provincial Planning Statement (PPS) (MMAH, 2024) outlines policies related to natural heritage features (Section 4.1) and water resources (Section 4.2). Ontario's *Planning Act*, (1990) requires that planning decisions shall be consistent with the PPS. The study area for this

assessment is located entirely within **Ecoregion 6E**. According to the PPS development and site alteration shall not be permitted in:

- *Significant wetlands* in Ecoregions 5E, 6E and 7E; and,
- *Significant coastal wetlands*.

Similarly, Section 4.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted within:

a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E; and 7E;
b) *significant woodlands* in Ecoregions 6E; and 7E;
c) *significant valleylands* in Ecoregions 6E; and 7E;
d) *significant wildlife habitat*;
e) *significant areas of natural and scientific interest*; and,
f) *coastal wetlands* in Ecoregions 5E, 6E; and 7E that are not subject to policy 4.1.4(b).

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 4.1.4 and 4.1.5 of the PPS as "significant".

Section 4.1.6 of the PPS states that development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements.

Section 4.1.7 of the PPS states that development and site alteration shall not be permitted in the habitat of Threatened and Endangered species, except in accordance with provincial and federal requirements.

Furthermore, under Section 4.1.8 of the PPS, no development or site alteration will be permitted on lands adjacent to natural heritage features and areas identified in policies 4.1.4, 4.1.5 and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and their ecological functions.

2.2 Endangered Species Act, 2007

Ontario's *Endangered Species Act,* 2007 (ESA) provides regulatory protection to Endangered and Threatened species prohibiting harm and/or killing of individuals and destruction of their habitats. On June 4, 2025, the province of Ontario adopted *Bill 5, Protect Ontario by Unleashing Our Economy Act, 2025* ("Bill 5"), which received Royal Assent the following day. Bill 5 amends

the provincial ESA and provides a modified definition of "habitat" under the provincial ESA, as follows:

"*"habitat" means, subject to subsection (3),*

(a) in respect of an animal species,
(i) a dwelling-place, such as a den, nest or other similar place, that is occupied or habitually occupied by one or more members of a species for the purposes of breeding, rearing, staging, wintering or hibernating, and
(ii) the area immediately around a dwelling place described in subclause (i) that is essential for the purposes set out in that subclause.

(b) in respect of a vascular plant species, the critical root zone surrounding a member of the species, and

(c) in respect of all other species, an area on which any member of a species directly depends in order to carry on its life processes; ("habitat")".

The various schedules of the ESA included under O. Reg. 230/08 identify SAR in Ontario. These include species listed as Extirpated, Endangered, Threatened and Special Concern. As noted above, only species listed as Endangered or Threatened receive protection from harm and destruction to habitat on which they depend.

2.3 County of Simcoe

The County of Simcoe Official Plan ("Simcoe OP"; 2023) illustrates the property within the Greenlands designation under Section 5.1 (Land Use Designations; Appendix A).

Natural features including Provincially Significant Wetland, Locally Significant Wetland, or Areas of Natural and Scientific Interest (ANSIs) are not shown in the vicinity of the property in Schedule 5.2.2 (Streams and Evaluated Wetlands) and Schedule 5.2.3 (Areas of Natural and Scientific Interest) of the Simcoe OP (Appendix A). A Watercourse is mapped beyond the northeast property boundary, extending eastward in Schedule 5.2.2 of the Simcoe OP (Appendix A).

County of Simcoe Interactive Mapping (County of Simcoe, 2025; Appendix A) illustrates an Unevaluated Wetland unit in the northeast portion of the property. A drainage feature is also mapped beyond the adjacent property to the east (off-property), draining in an eastward direction consistent with the Simcoe OP (Appendix A) and provincial mapping resources

(Appendix A). The majority of the property is also mapped as Woodlands, with the exception of segments of open lands and a connecting trail along the central axis of the site, consistent with Simcoe OP, Tiny OP, and provincial mapping resources (Appendix A).

2.4 Township of Tiny

The Township of Tiny Official Plan ("Tiny OP"; 2023) illustrates treed areas of the property within the Greenlands designation, and open areas of the property within the Rural designation under Schedule A (Land Use; Appendix A). As shown in Schedule A, a northeast-southwest oriented band also crosses the central portion of the property labeled Mineral Aggregate Resources II, however this designation is not relevant in the context of this assessment.

Schedule B of the Tiny OP (Appendix A) illustrates woodlands on the property as Significant Woodlands, the limits of which are consistent with Woodland illustrated on provincial mapping resources (Appendix A). A wetland unit mapped as "Other Wetlands 2 Ha or larger" occurs in the northeast corner of the property, consistent with provincial mapping resources (Appendix A). No portion of the study area is mapped as Provincially Significant Wetland, Other Evaluated Wetlands, Significant Valleylands, Provincially Significant ANSI, Regionally Significant ANSI, Watercourses, or identified as portion of the Nipissing Ridge by Schedule B of the Tiny OP.

2.5 Federal *Fisheries Act*

The *Fisheries Act* includes protections for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects near water. The *Fisheries Act* provides protection against the "death of fish, other than by fishing", (Section 34.4(1)) and the "harmful alteration, disruption or destruction of fish habitat", (Section 35(1)), otherwise known as HADD. In cases where impacts to fish and fish habitat cannot be avoided, and the project does not fall within waterbodies where Fisheries and Oceans Canada (DFO) review is not required, proponents are asked to submit a request for review to their Fish and Fish Habitat Protection Program regional office to determine approval requirements. All projects are encouraged to avoid causing the death of fish and a HADD of fish habitat, using measures to protect fish and fish habitat that include standards and codes of practice for common works, undertakings and activities.

3.0 STUDY APPROACH

A combination of a background information and field data were used to fulfill the objectives of this EIS. Azimuth undertook the following activities for this study:

- Searched the Township, County, Ministry of Natural Resources (MNR), Ministry of the Environment, Conservation and Parks (MECP), and DFO records to obtain available

background information and current data related to natural heritage features and functions in the area;

- Initiated consultation with Severn Sound Environmental Association (SSEA) to confirm the Terms of Reference for the scope of the study during the initial stages of the contract;
- Conducted a field study to document existing natural heritage features, functions, and species. Surveys include:
    - Evaluated/ mapped vegetation community types based on Ecological Land Classification methods (ELC; Ecological Land Classification for Southern Ontario: First Approximation and its Applications. SCSS Field Guide FG-02; Lee *et al*., 1998, updated 2008)(spring/summer 2024);
    - Two (2) vascular plant inventories (spring/early-summer and late-summer 2024);
    - Completed a detailed screening for Butternut (*Juglans cinerea*; Endangered), Black Ash (*Fraxinus nigra*; Endangered), and Forked Three-awned Grass (*Aristida basiramea*; Endangered) within the study area, using species-appropriate protocols;
    - One (1) bat "snag" (habitat tree) assessment during the leaf-off season, including a general survey for snag clusters (before leaf-out), considering potential for bat acoustic monitoring consistent with provincial protocols/guidance if deemed necessary;
    - One (1) amphibian breeding survey (April 2024)(note: no calling amphibians were heard within the study area during the April 2024 survey, therefore additional surveys were not proposed based upon a lack of suitable breeding habitat features);
    - Two (2) dawn breeding bird surveys (May-June 2024)(note: "open" areas are primarily semi-treed such that grassland SAR breeding birds [Bobolink and Eastern Meadowlark] were not anticipated), using 10-minute survey period in order to be consistent with the early morning Forest Bird Monitoring Program (TRCA, 2016) protocol;
    - Three (3) evening breeding bird surveys (May-June 2024), consistent with provincial protocols for detection of nightjars (*i.e.* Eastern Whip-poor-will and Common Nighthawk);
    - Recorded all incidental wildlife observations during site visits; and,
- Completed an assessment of potential Species at Risk and Significant Wildlife Habitat and their habitats that could be present within the study area.

The above were provided to the Township as a Terms of Reference for the field program and impact assessment on May 16, 2024, as presented in Appendix B. A response was received from

SSEA via the Township on the same day (May 16, 2024) that provided items of clarification for the proposed scope of work, incorporated into the Terms of Reference listed above and included in Azimuth's natural heritage review.

General recommendations for the EIS were also provided during correspondence with SSEA, summarized as follows:

- The EIS should recommend what portions of the subject lands can be development based on ecological rationale (*e.g.* potential development zone, with regard for appropriate setbacks/buffers from KNHFs).
- The EIS should demonstrate that KNHFs and associated ecological functions have been avoided to the extent possible, otherwise mitigated with appropriate buffers, enhancement, restoration, and monitoring programs.
- Surveys completed for SAR and Significant Wildlife Habitat should be carried out with regard for appropriate protocols/methodologies and corresponding seasonal, time of day and weather conditions.
- Information regarding many provincial and/or federally-protected SAR should not be disclosed to the public where access to data regarding such species is generally restricted, in the case of discovery of a sensitive species.

Azimuth is agreeable to the above amendments and recommendations from SSEA, and has incorporated where necessary into this EIS below. Subsequent to acceptance of a Terms of Reference with SSEA and submission of the Natural Heritage Existing Conditions Report, Azimuth completed the following additional field studies in winter 2024/2025:

- Detailed survey of "snag" trees with potential to support maternity and day roosting habitat for bat species that may occur in the development area, focusing on woodland vegetation communities within or directly adjacent to the proposed development area (FOMM2-2a, FOMM2-2b, FOCM6-2a; Figure 2)(December 2024); and,
- One (1) evening owl playback survey to review potential locations of breeding territories for owl species proximal to the proposed development limits (February 2025).

3.1 Background Information

A review of the following background documents provided information on site characteristics, habitat, wildlife, rare species and communities and general cultural/historic aspects of the study area:

- MNR Ontario Geohub, Land Information Ontario: Wildlife Values Area (MNR, 2025a);
- MNR Natural Heritage Information Centre (NHIC; MNR, 2025b);
- Atlas of the Breeding Birds of Ontario (OBBA; Cadman *et al.*, 2007);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020);
- MECP's Species at Risk Ontario list (MECP, 2025);
- iNaturalist (NHIC) Rare Species of Ontario (iNaturalist, 2025);
- Air photos available for the Project Area (Google, VuMap);
- Government of Canada's Species at Risk Public Registry; and,
- Atlas of the Mammals of Ontario (Dobbyn, 1994).

3.2 Vegetation Community Mapping and Surveys

Prior to undertaking the field studies, an initial classification of vegetation communities was undertaken using recent air photo imagery for an area encompassing the study area. Vegetation community boundaries were then checked in the field on May 9, May 30, June 28, and September 17, 2024 during the growing season when the emergent ground cover vegetation layer was present. Vegetation community types were classified using ELC protocols.

The site visit was undertaken by a qualified ecologist with existing knowledge related to rare, Threatened, and Endangered plant species with potential to occur in the area. The site assessment was focused during ELC work to ensure that appropriate effort was made to detect any federally or provincially designated species, notably SAR as identified under the ESA.

A detailed survey including a screening for Butternut (Endangered), Black Ash (Endangered), and Forked Three-awned Grass (Endangered) was also conducted within the study area.

3.2.1 Forked Three-awned Grass

Based on a review of relevant background documentation, the property was identified as potential habitat for Forked Three-awned Grass, a grass species listed as Endangered in the province of Ontario. In accordance with the Forked Three-awned Grass Recovery Strategy (Jones, 2011), the species is inconspicuous throughout the majority of the growing season, establishing flowers in approximately late-August, and setting fruit in early-October prior to annual frost kill. Surveys to determine presence or absence of the species are best completed in September-October when plants are well-developed (Jones, 2011).

Azimuth completed a detailed review of suitable habitats on the property on September 17, 2024, at a time of year when the species was readily identifiable. A comprehensive site survey was completed by two (2) qualified Terrestrial Ecologists occurred on the property, emphasizing

open and semi-open areas (MEGM3-1a-c, WODM1; Figure 2a) to identify individuals or clusters of the species. Such areas were the emphasis of the site investigation as the species has a strong affinity for open habitats, and does not occur beneath forest canopy (Jones, 2011). Regardless, edges and clearings within and/or adjacent mature woodlands and plantations were similarly reviewed for presence/absence of the species such that a detailed, accurate inventory of the population could be quantified. Identified individuals or clusters of the species were recorded with a handheld GPS unit (Garmin Montana) and overlain onto environmental features mapping, as presented in Figure 2b.

3.3 Wildlife Surveys

Wildlife species utilizing the study area were identified from direct observation, auditory signs, and through interpretation of other signs (tracks, scat, vocalizations, *etc.*) as a matter of course while conducting field surveys.

3.3.1 Species at Risk

The SAR screening undertaken for the scope of this assignment includes an assessment of SAR with potential to occur in the overall planning area, compared with potential habitat features identified within the study area. Habitat requirements and appropriate designations (Endangered, Threatened, or Special Concern) are outlined in Table 1.

3.3.2 Breeding Birds

Two (2) dawn breeding bird surveys were conducted within the study area on May 30 and June 28, 2024 guided by point count methodology presented in Appendix D of the OBBA Guide for Participants (2001) and Forest Bird Monitoring Protocol (TRCA, 2016). All surveys were conducted no earlier than one half hour before sunrise and were completed prior to 10:00a.m. Surveys were completed under suitable weather conditions (*i.e.* no precipitation and light winds (Beaufort wind scale ≤3)), with an observation period of 10 minutes carried out at the point count stations shown on Figure 2a.

Evening breeding bird surveys were conducted based on a modified version of the Canadian Nightjar Survey Protocol (Bird Studies Canada *et al*., 2019) and the DRAFT Survey Protocol for Eastern Whip-poor-will (*Caprimulgus vociferus*) in Ontario (MNRF, 2014). Surveys were carried out in May and June 2024 with the objective of sampling for Eastern Whip-poor-will and Common Nighthawk (SAR birds). Surveys were focused to a period within 7 days of the full moons on May 23 and June 22. Surveys took place starting no earlier than 30 minutes after sunset and no more than 90 minutes after sunset to capture crepuscular conditions. Point

counts took place with an observation period of 6 minutes at each point count. All surveys were undertaken on calm clear nights with:

- At least 50% of the visible moon surface illuminated;
- Little or no cloud cover;
- Calm to light winds (Beaufort ≤3);
- No precipitation; and,
- Temperatures above 10°C.

Azimuth attended the study area for a total of three evenings on May 18, June 15, and June 16, 2024, all of which demonstrated suitable weather conditions. Surveys were undertaken at the survey stations illustrated on Figure 2a.

At the request of the Township, one (1) owl playback survey took place to review the proposed development area for presence of owl breeding/nesting territories prior to initiation of tree clearance within the proposed development zone. The owl nesting survey took place on February 19, 2025 (19:28-21:05) and was guided by the Ontario Breeding Bird Atlas protocol entitled Nocturnal Owl Surveys in Central Ontario: Participant's Guide (OBBA, 2024). The survey consisted of a series of nocturnal owl call-backs, broadcasting calls of four (4) species active during the late-winter period including Barred Owl, Eastern Screech Owl, Great Horned Owl, and Long-eared Owl at a total of four (4) survey stations proximal to the development area. At each station a recording was broadcasted from a speaker for 30 seconds followed by a one (1) minute silent listening period, which was repeated once. The playback protocol was implemented for the four (4) target species at all four (4) survey stations. Two (2) Azimuth ecologists returned to the property the following day (February 20, 2025; 11:20-13:00) to methodically inspect trees proximal to the proposed development zone for evidence of active owl or other raptor nesting sites. Further details regarding the field investigation are available in the applicable memorandum titled Owl Nest Surveys – Part of Lot 10, Concession 8, Township of Tiny, available in Appendix D.

3.3.3 Breeding Amphibians

Azimuth conducted one (1) evening calling amphibian survey on April 30, 2024 to assess amphibian breeding within and adjacent to the property in accordance with the Great Lakes Marsh Monitoring Program (Bird Studies Canada, 2008) protocol. In accordance with the protocol, amphibian surveys were completed during the period between 30 minutes after sunset and midnight, on an evening with winds Beaufort ≤3. The survey occurred during the early spring monitoring period (April 15-30) on an evening with a minimum temperature of 5°C.

The location of the survey station is illustrated on Figure 2a. The survey station was sampled on April 30, 2024 between 10:59p.m.-11:04p.m.; temperature 9°C, cloud cover 0%, Beaufort windspeed 1, no precipitation.

As introduced in Section 3.0 above, no calling amphibians were identified during the April amphibian breeding survey, suggestive that breeding habitat opportunities are absent within the study area. A follow-up site walk occurred on May 9, 2024 during the daytime that verified no standing water is present within the study area limits, therefore breeding opportunities for amphibians are not expected to be present. As such, mid- (May 15-31) and late-spring (June 15-30) evening breeding amphibian surveys were not undertaken based on absence of suitable habitat.

3.3.4 Bats and Bat Habitat

Several bat species (including Endangered bats) may utilize large trees preferably 25 centimetres (cm) diameter at breast height (DBH)) in the early stages of decay, described as "snag" trees – those having cracks, splits, holes, *etc.* that could feasibly provide access for bats. Although larger trees are preferred, trees of any size with suitable access features have potential to be occupied by bats during the active period. Azimuth conducted a general review of snags within the study area, including a screening for clusters and/or dense areas of high quality snag trees. The screening was completed on May 9, 2024 (at the end of the leaf off-stage/during early leaf emergence) to identify suitable snag trees that could potentially be used by bats to establish maternity and/or day roosts during the active period.

A subsequent detailed snag assessment occurred on December 16, 2024 within woodland vegetation ecotypes that comprise any portion of the proposed development limits including FOMM2-2a and FOCM6-2a units (Figure 2a), or woodland directly adjacent to the proposed development (FOMM2-b; Figure 2a). The investigation occurred during the "leaf-off" period when features with potential to provide bat access are most readily identified. Within targeted vegetation communities, the bat snag assessment included a comprehensive inventory of trees of any size with potential to provide access for bats for maternity or day roosting purposes during the active period.

3.4 Fish and Fish Habitat

The study area was reviewed for presence of watercourses, water bodies, and/or other drainage features on May 9, 2024 during the spring period when flowing and/or standing water would be expected on the landscape, if present during any portion of the year. The site

investigation was aimed at understanding the location of watercourses and/or drainage features within the study area to determine the presence of direct and indirect fish habitat features.

4.0 EXISTING CONDITIONS

4.1 Land Use

The subject lands on the property include the northern approximately two thirds of Part of Lot 10, Concession 8 (fronting onto Concession Road 9 East) in the Township of Tiny. The property is in an entirely natural/naturalized state and consists of a mosaic of mature deciduous and mixed woodlands, naturalized plantation and other plantation, immature coniferous woodland, and three (3) open country units, connected by an informal trail system. Historical aerial photography available from the County of Simcoe (2025) indicates open (MEGM3-1a through c), plantation (TAGM1), and immature woodland (WODM1) units on the property were subject to active agriculture until approximately the early 1990s (between 1989 and 1997). Naturalized plantation (FOCM6-2a) and mature woodlands (FODM5-1, FOMM2-2a, FOMM2-2b) have been present on the property since at least 1954, the earliest date for which aerial photography is available from the County. The southern naturalized plantation (FOCM6-2b) was established between 1954 and 1978 according to available air photos.

The property is characterized by very dry, sandy soils and relatively flat to undulating topography, with the exception of a gentle south-facing slope in the southern portion of the study area (near the center of the property). The property includes an informal trail network and is subject to frequent passive recreational activities including hiking, dog-walking, mountain biking, and recreational motorized vehicle use (*e.g.* ATVs). An improvised driving range has been established in the southern portion of the study area (*i.e.* central portion of the property) within the southern node of the MEGM3-1b polygon.

Adjacent lands are characterized by a similar composition of mature woodland and naturalized plantation types to the east, south, and west of the study area. Woodlands beyond the northwest property boundary adjoin a Simcoe County Forest Tract unit (Ritchie). Concession Road 9 East abuts the northern property boundary, beyond which an extensive woodland complex forms (in part) a Simcoe County Forest Tract (Dubeau). The existing Tiny Township Operations Complex is located on the north side of Concession Road 9 East, directly west of the Dubeau tract. A small agricultural unit and unmaintained yard comprise open areas beyond the northeast property boundary, otherwise adjacent lands consist of entirely treed vegetation.

4.2 Terrestrial Resources

4.2.1 Vegetation

The limits of all ELC communities identified within the focal area on the property are illustrated in Figure 2a. A complete list of vascular plant species identified within the focal area is presented in Table 2, and summary descriptions of vegetation communities are presented in Table 3. An accompanying photographic record of the site is presented in Appendix C.

Vegetation communities are described in detail in Table 2, and are categorized into the following broad ecotypes, as illustrated on Figure 2a:

Woodlands:

- FODM5-1: Dry to Fresh Sugar Maple Deciduous Forest
- FOMM2-2: Dry-Fresh White Pine-Sugar Maple Mixed Forest
- FOCM6-2: Dry-Fresh Red Pine Naturalized Coniferous Plantation
- TAGM1: Treed Agriculture (Coniferous Plantation)
- WOCM1: Dry-Fresh Coniferous Woodland

Meadows:

- MEGM3-1: Poverty Oat Grass Graminoid Meadow

None of the vegetation communities or species documented are of federal or provincial conservation concern (MNR, 2025b).

4.2.1.1 Rare and Uncommon Plants

There is one (1) element of occurrence (EO_ID) within the study area for provincially Endangered or Threatened, or provincially rare vegetation species according to the NHIC database (MNR, 2025b), Forked Three-awned Grass designated as Endangered in Ontario. Forked three-awned Grass was identified primarily within open areas (MEGM3-1a through c) on the property, in a total of 21 locations comprising individuals and small to large clusters. A detailed discussion of Forked Three-awned Grass is included in Section 4.3.2 below.

No other plant species considered Endangered or Threatened were identified during the site investigation, including Butternut or Black Ash trees. Further, no other provincially rare (S1-S3) species were observed during the field program, aside from Forked Three-awned Grass (S-Rank 2) which is discussed under the cover of Threatened and Endangered species herein.

4.2.2 Wildlife

4.2.2.1 Mammals

Evidence of two (2) mammalian species, Eastern Chipmunk (vocalization) and Red Squirrel (direct observation) were observed throughout the course of the field program.

Given the proximity of the study area to large natural areas in the greater landscape, it is expected the following other mammals could conceivably be encountered within the study area: small mammal species (various mice, voles, and shrews), Eastern Gray Squirrel, Northern Flying Squirrel, weasel species, Groundhog, Striped Skunk, Eastern Cottontail, Raccoon, Porcupine, Red Fox, Coyote, and White-tailed Deer.

4.2.2.2 Reptiles and Amphibians (Herpetofauna)

No Anuran (frog or toad) species were observed during the evening amphibian breeding survey, or otherwise throughout the course of the field program. No salamander species were observed within the study area throughout the course of the field program.

No snakes or turtles were observed within the study area throughout the course of the field program.

4.2.2.3 Birds

A total of 38 bird species were recorded during the dawn breeding bird survey program, plus an additional five (5) bird species were observed throughout the remainder of the field program (43 species total). A summary of breeding birds observed within the study area limits is presented in Table 4.

No crepuscular/nocturnal breeding bird species were detected during the evening breeding bird survey program, including Eastern Whip-poor-will or Common Nighthawk.

During the evening owl playback survey carried out on February 19, 2025, one (1) Barred Owl was observed at Station #4 (see Figure 1 within Appendix D) following the first Barred Owl call-back recording. The individual approached and perched on a pine tree approximately 5m northwest of Station #4, and remained for the duration of the survey (approximately 15 minutes). No calls or other behaviours were observed from the owl, and the owl departed shortly after the completion of the survey. Approximately five (5) minutes later a Barred Owl was repeatedly calling from the FODM5-1 community (Figure 2) located east from the tree removal area, at the location shown on Figure 1 within Appendix D. It is anticipated the Barred Owl observed at Station #4 and heard calling from the FODM5-1 community are the same individual, and the playback recording attracted the owl during the survey period. It is

anticipated that the Barred Owl may have established a breeding territory within the FODM5-1 community as it displayed territorial behaviour (repeated calling) in this area. During the subsequent daytime survey (February 20, 2025), no active or vacant raptor nests were observed proximal to the proposed development area, and no further behaviour indications of potential active raptor breeding activity were observed.

As illustrated in Table 4, Eastern Wood-pewee (Special Concern) was recorded on the property and adjacent lands, and Wood Thrush (Special Concern) was recorded on adjacent lands. With regards for off-property records for Eastern Wood-pewee and Wood Thrush, observations of a singing male occurred on single occasion during the dawn breeding bird survey program. According the OBBA Guide for Participants (2001), observation of a singing male is considered a sign of "possible" breeding activity, and is not necessarily indicative of the presence of a nest and/or established breeding territory. The February 2003 addendum to the OBBA Guide for Participants further indicates that a registration of territorial behaviour ("probable" breeding activity) can include the occurrence a single male on two (2) occasions separated by at least a week, during the breeding season. Based on this rationale, presence of a singing male on a single occasion is not sufficient breeding evidence to assign a "probable" or "confirmed" breeding activity designation to Eastern Wood-pewee and Wood Thrush on adjacent lands.

Conversely, one (1) Eastern Wood-pewee was recorded singing in the same location within the FOCM6-2 polygon (Figure 2a) during both dawn breeding bird surveys and is therefore considered further in this report, as referenced in Section 4.3 and Section 4.7 below.

4.3 Species at Risk

The SAR assessment (Table 1) fully considers SAR with potential to occur in the planning area. Based on this assessment in combination with vegetation communities and other environmental features observed during the site investigation, the following species are considered below in this report:

- **Threatened or Endangered**:
    - Eastern Hog-nosed Snake
    - Forked Three-awned Grass
    - SAR Bats
        - Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Silver-haired Bat, Hoary Bat
- **Special Concern**:
    - Eastern Wood-pewee
    - Monarch

Only species designated Threatened or Endangered receive individual and habitat protection under Section 9 and Section 10 of the ESA. Special Concern species are further discussed in the context of Significant Wildlife Habitat (Habitat for Special Concern and Rare Wildlife Species) below.

4.3.1 Eastern Hog-nosed Snake

Eastern Hog-nosed Snake (Threatened under Ontario's ESA) was not directly observed throughout the course of the field program, nor were signs of the species observed throughout the course of the site investigation. Eastern Hog-nosed Snake is a highly cryptic species with habitat generalist tendencies, occurring at a low density within its range (MNRF, 2016). Azimuth has previously been advised by the MECP/MNR that where suitable habitat features for the species occurs, presence should be assumed as conducting an appropriate field program to detect presence/absence is likely infeasible.

Although a habitat generalist, the species utilizes a mosaic of habitat types including open woodlands, shrublands, meadows, forest edges, wetlands, rock barrens, and sandy areas to carry out its life processes (Kraus, 2011). Physical features considered preferred habitat for the species include areas of well-drained, sandy soil, open vegetative cover, and proximity to water. The species is particularly reliant upon areas with sandy soil (Kraus, 2011), as females excavate sites in exposed sandy areas for the purposes of oviposition (COSEWIC, 2021).

Open areas on the property (MEGM3-1a through c) and outer edges (close to meadow interface) of semi-open woodlands (WOCM1) include intermittent areas of exposed sandy soil that may provide minor potential as gestation sites for Eastern Hog-nosed Snake. Other lands within the study area may provide more general habitat (foraging, thermoregulation, movement, *etc.*) for the species. It is notable that the results of the amphibian breeding survey program combined with incidental field observations did not observe presence of American Toads within the study area. As the species feeds almost exclusively on American Toads in Canada (COSEWIC, 2021) there is limited potential for the species to occur within the study area given scarcity of its preferred food source.

Background resources from the ORAA (Ontario Nature, 2020) shows two (2) 2013 records for the species within 10km of the study area (data square 17NK85). Similarly, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessment for the species (2012) illustrates occupied 2x2km Index of Area Occupancy (IAO) squares for the post-1998 period in proximity to the north side of the Town of Midland, approximately 5km from the study area location. The Ontario Recovery Strategy (Kraus, 2011) illustrates the closest post-1983 sighting

in proximity to Awenda Provincial Park, >10km northeast of the study area. Based on available background records (*i.e.* local range for the species) it is unclear whether Eastern Hog-nosed Snake occurs in the landscape surrounding the study area, but is conservatively treated as locally-present due to proximity and potentially suitable natural connectivity with an established population +/- 5km to the northeast.

Habitat on the property is of marginal quality, principally due to the lack of wetlands or other water sources upon which the species relies, and lack of preferred prey (American Toads) within the study area limits. As such, habitat quality and potential for the species to occur within the study area should be considered **low** and extend to general uses such as thermoregulation, transit, and minor foraging activity, noting that open and semi-open sandy areas may also provide marginal gestation habitat function.

4.3.2 Forked Three-awned Grass

A targeted vegetation inventory for Forked Three-awned Grass (Endangered under Ontario's ESA) occurred on September 17, 2024 to document individuals and clusters of the species on the property. The results of the site investigation identified a total of 21 locations within the property limits where the species occurs individually or in clusters. The locations of identified Forked Three-awned Grass occurrences is illustrated in Figure 2b, and summarized in Table A below:

Table A: Forked Three-awned Grass Locations

Area ID	Estimated # Plants
1	>10,000
2	20
3	2,500
4	>500,000
5	50
6	5
7	2,000
8	4
9	20
10	500
11	500
12	1
13	1
14	5,000

Area ID	Estimated # Plants
15	10
16	500
17	5,000
18	1,000
19	50
20	1,000
21	1

The majority of documented occurrences for the species occurred within open meadow units on the property (MEGM3-1a through c; Figure 2b), consistent with the species' habitat requirements, which is strongly associated with open areas and does not grow beneath tree canopy (Jones, 2011). The following exceptions were recorded during the site review for the species:

- **Area 4**: A small number of plants (<10 individuals) occur slightly beneath the canopy dripline of the adjacent coniferous plantation (TAGM1), in a semi-open area characterized by grassland cover characteristic of the adjacent meadow (MEGM3-1b).
- **Area 5**: A cluster of approximately 50 plants was observed in isolated open clearing and sandy patch within an immature coniferous woodland (WOCM1) polygon.
- **Area 14**: A small number of plants (<50 individuals) occur slightly beneath the canopy dripline of the adjacent coniferous plantation (TAGM1), in a semi-open area characterized by grassland cover characteristic of the adjacent meadow (MEGM3-1c).

Forked Three-awned Grass is an annual plant, flowering and setting seed very late in the growing season (August to October)(COSEWIC, 2002), and subsequently dying upon first frost. Species groupings are subject to shifting within a given suitable habitat from year-to-year, as seed dispersal, movement of sandy substrate (*e.g.* by wind), site disturbance and/or other factors result in variable dispersal of a population at an occupied site within any given year. As such, the arrangement of Forked Three-awned Grass locations illustrated in Figure 2b are anticipated to undergo some degree of change in 2025 and beyond, however are expected to remain within suitable habitat units. The provincial Recovery Strategy for Forked Three-awned Grass (Jones, 2011) follows the above rationale, and recommends that the area prescribed as Regulated Habitat for Forked Three-awned Grass include:

"*1) areas where Forked Three-awned Grass occurs with semi-natural grass vegetation: the area occupied by the species, plus the adjacent continuously open area surrounding the Forked*

Three-awned Grass plants by the associates Poverty Grass, Sand Dropseed, or Panic Grass, or if open, bare, sandy ground is visible, even if these are small patches of a few centimetres between grass tufts or shrubs (open area means there is no canopy of trees, and at least some grassy or bare patches between the shrubs.); and

2) areas where Forked Three-awned Grass occurs in bare ground or interspersed with non-native species (in any ratio or combination): the area occupied by the species, plus the rest of the continuously open area (see above) surrounding the Forked Three-awned Grass plants where there is open, bare, sandy ground with substrate visible, even if these are small patches of a few centimetres between non-native plants or grass tufts."

Based upon the above, it is Azimuth's recommendation that habitat for Forked Three-awned Grass on the property (Figure 2b) should be considered to include:

- All lands within ELC polygons MEGM1-3a through c;
- Minor encroachments beneath tree canopy driplines along edges of TAGM1 polygon (portions of Area 4 & Area 14); and,
- Open clearing and isolated sandy patch within WOCM1 polygon (Area 5).

4.3.3 Species at Risk Bats

Species at Risk bats including Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Silver-haired Bat, and Hoary Bat (all Endangered under Ontario's ESA) were not directly observed throughout the course of the field program, however these species are treated as present in lieu of conducting detailed ecological studies to verify presence/absence. Caves, karst topography, and/or abandoned mines are absent within the study area, therefore potential hibernacula for non-migratory species (Little Brown Myotis, Northern Myotis, Tri-colored Bat) are not located within the study area limits. There are no manmade structures within the study area with potential to provide maternity roosting habitat for SAR bat species.

With regards for potential roosting habitat, SAR bats may utilize woodlands as maternity roost sites, preferring trees >25cm diameter at breast height with evidence of cracks, holes, splits, lifted bark, *etc.* (called "snags") to provide refuge for the rearing of young during the late spring and early summer months (approximately June). Although larger trees are preferred, trees of any size with suitable access features have potential to be occupied by bats during the active period.

During the site investigation, potentially suitable snags were observed within woodlands on the property, which included a general screening of the property for snags and snag clusters during the early leaf-out period such that potential cracks, holes, splits, *etc*. could be viewed by the site investigator. It was observed that mature deciduous trees and suitable snags for bat roosting activities were common within natural forest polygons of the property (FODM5-1, FOMM2-2a, FOMM2-2b; Figure 2a), and in the greater landscape beyond the property boundaries. Snag trees were observed to be relatively evenly distributed throughout mature deciduous and mixed forests on the property, and no conspicuous snag clusters were noted. Subsequent site review on December 16, 2024 included a detailed snag survey within vegetation communities FOMM2-2a, FOMM2-2b, and FOCM6-2a (Figure 2a), and included detailed mapping of low- and high-quality snag trees as illustrated on Figure 2a.

Few higher-quality snags were observed within open/immature woodland (WOCM1), naturalized plantations (FOCM6-2a) and other plantation (TAGM1) on the property, given the relative scarcity of deciduous trees of an advanced age, in the early stages of decay. In Azimuth's experience snag features are less frequently associated with mature coniferous trees and coniferous plantations. Crowded limbs and/or planting patterns associated with coniferous treed communities are typically less conducive to bat entry/exit into cavity features, as bats prefer open canopy more closely associated with deciduous tree cover for roosting activities (MECP, 2022a).

Based on the above assessment, the following ELC ecotypes are considered to provide **moderate to high quality** habitat for roosting SAR bats (Figure 2a):

- FODM5-1: Dry to Fresh Sugar Maple Deciduous Forest
- FOMM2-2: Dry-Fresh White Pine-Sugar Maple Mixed Forest

Based on the above assessment, the following ELC ecotypes are considered to provide **low quality** roosting habitat for SAR bats (Figure 2a):

- FOCM6-2: Dry-Fresh Red Pine Naturalized Coniferous Plantation
- TAGM1: Treed Agriculture
- WOCM1: Dry-Fresh Coniferous Woodland

4.4 Wetlands

There results of the field program determined that no wetlands are present within the study area limits. Unevaluated Wetland mapped in the northeast portion of the property by

municipal and provincial resources (Appendix A) should be considered inaccurate, as no wetland vegetation community was identified in this location.

4.5 Significant Woodlands

Woodlands within the study area are illustrated as Significant Woodland according to Schedule B ("Natural Heritage Features") of the Tiny OP (Appendix A). According to Section B.2.7.3 of the Tiny OP, Significant Woodlands are "identified as woodlands that are 50 hectares in size or larger and are identified on Schedule B of this Plan.".

The results of the field program indicate that woodland boundaries are approximately consistent with those illustrated in Schedule B of the Tiny OP, and comprise a portion of an extensive woodland unit that exceeds 50ha in size. According to the province's Natural Heritage Reference Manual (NHRM; OMNR, 2010), where gaps <20m occur between crown edges, woodlands are considered as one contiguous unit, therefore extensions of the woodland north of Concession Road 9 East, south of Concession Road 8 East and beyond would be considered part of the same continuous woodland feature.

Through application of the above criteria, Azimuth has undertaken geospatial mapping exercise to illustrate the approximate boundaries of the overall Significant Woodland feature at a local scale, comprising a substantial portion of the central portion of the Township as illustrated on Figure 3. The Significant Woodland feature measures approximately 1,792.61ha in size and occupies the majority of lands generally bound by Balm Beach Road E to the north, County Road 93 to the east, Concession Road 6E to the south, and County Road 6 to the west.

The following ELC ecotypes illustrated on Figure 2a should be considered refinements to Significant Woodland mapping presented in Schedule B of the Tiny OP, and therefore considered Significant Woodland:

- FODM5-1: Dry to Fresh Sugar Maple Deciduous Forest
- FOMM2-2: Dry-Fresh White Pine-Sugar Maple Mixed Forest
- FOCM6-2: Dry-Fresh Red Pine Naturalized Coniferous Plantation
- TAGM1: Treed Agriculture (Coniferous Plantation)
- WOCM1: Dry-Fresh Coniferous Woodland

4.6 Significant Valleylands

No portion of the study area is identified as Significant Valleyland, nor assigned a similar designation on municipal or provincial mapping resources (Appendix A). According to Section

B.2.8.1 of the Tiny OP, Significant Valleylands are “natural areas in a valley or other landform depression that has water flowing through or standing for some period of the year.”.

There are no valleyland features located within the study area according standards presented in the Tiny OP or NHRM, principally due to the lack of permanent or intermittent watercourses that constitute a defining component of a valleyland feature. No portion of the study area fulfills the well-defined valley morphology and landform prominence required to be considered Candidate Significant Valleyland.

4.7 Candidate Significant Wildlife Habitat

An assessment of the potential for Significant Wildlife Habitat within study area was conducted, using the criteria outlined within the Significant Wildlife Habitat Technical Guide (OMNR, 2000) and the accompanying the Ecoregion 6E Criteria Schedules (MNRF, 2015). An assessment of Candidate Significant Wildlife Habitat categories relative to documented vegetation communities and habitats within the study area limits is presented in Table 5. The following Candidate Significant Wildlife Habitat types were determined or have potential to be present within the study area based on the results of the field program:

- Bat Maternity Colonies (FOMM2-2a, FOMM2-2b, FODM5-1)
- Special Concern and Rare Wildlife Species
    - Eastern Wood-pewee
    - Monarch

4.8 Areas of Natural and Scientific Interest

There are no ANSIs associated with the study area in accordance with municipal and provincial mapping resources (Appendix A).

4.9 Fish and Fish Habitat

The results of the field program determined there are no ephemeral, intermittent, or permanent drainage features, water bodies or other natural features within the study area with potential to provide fish habitat function. As such, there is no potential for fish or fish habitat to occur within the study area.

5.0 NATURAL HERITAGE FEATURES AND FUNCTIONS

The results of Azimuth's field studies combined with review of background information indicate the potential for the following candidate KNHFs within the study area:

- Habitat for Threatened or Endangered Species
    - Eastern Hog-nosed Snake
    - Forked Three-awned Grass
    - SAR Bats
        - Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Silver-haired Bat, Hoary Bat
- Significant Woodland
- Candidate Significant Wildlife Habitat
    - Bat Maternity Colonies
    - Special Concern and Rare Wildlife Species
        - Eastern Wood-pewee
        - Monarch

6.0 PROPOSED DEVELOPMENT

The Township is proposing to construct a new Administrative Centre to replace the existing municipal administration building located at 130 Balm Beach Road. The proposed development will be located in the northwest portion of the subject property accessed via driveway, roundabout and pedestrian trail from Concession Road 9 East. The new Administrative Centre will include municipal facilities, parking areas, bio-retention cell, septic system, and other amenities, as illustrated on Figure 4 and shown on the Site Grading Plan prepared by Tatham Engineering, presented in Appendix E. Vegetation removals within the FOMM2-2a (Dry-Fresh White Pine-Sugar Maple Mixed Forest) community (Figure 4) will facilitate only site entrance and access to the facility (0.14ha), while the majority of vegetation clearance (2.25ha) is focused within the FOCM6-2a (Dry-Fresh Red Pine Naturalized Coniferous Plantation) community (Figure 4).

7.0 IMPACT ASSESSMENT

This impact assessment is prepared with regards to the proposed development plan, as described above and illustrated in Figure 4 relative to documented environmental features on the property, and presented according to detailed design materials prepared by others. A Site Grading Plan representing the outermost limits of site disturbance was prepared by Tatham Engineering and is presented in Appendix E. As introduced in Section 1, it is understood that tree clearance throughout the proposed development limits occurred in March 2025. This

impact assessment below is prepared based on pre-clearance conditions, as documented during spring 2024-winter 2025 field investigations.

7.1 Threatened and Endangered Species

Impacts with regards to the ESA and Habitat of Threatened or Endangered species are covered under Section 9 and 10 of the ESA. Section 9 deals directly with killing or harming living members of a species while Section 10 covers destruction or damage to habitat of Threatened or Endangered species. The following Threatened or Endangered species are treated as present or confirmed to occur within the limits of the study area:

- Eastern Hog-nosed Snake
- Forked Three-awned Grass
- SAR Bats (Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Silver-haired Bat, Hoary Bat)

7.1.1 Eastern Hog-nosed Snake

Eastern Hog-nosed Snake was not directly observed throughout the course of the field program, however the species is treated as present in lieu of conducting detailed ecological studies to verify presence/absence. Eastern Hog-nosed Snake is a highly cryptic species with habitat generalist tendencies, occurring at a low density within its range (MNRF, 2016). Azimuth has previously been advised by the MECP/MNR that where suitable habitat features for the species occurs, presence should be assumed as conducting an appropriate field program to detect presence/absence is likely infeasible.

Open areas on the property (MEGM3-1a through c) and outer edges (close to meadow interface) of semi-open woodlands (WOCM1) include intermittent areas of exposed sandy soil that may provide minor potential as gestation sites for Eastern Hog-nosed Snake. No other features with potential to provide specialized habitat functions for Eastern Hog-nosed Snake (*e.g.* gestation, overwintering) were observed within the study area limits, such as dunes, beaches, or other exposed areas of sandy soil (COSEWIC, 2021). Eastern Hog-nosed Snake is otherwise a habitat generalist, utilizing a mosaic of habitat types including open woodlands, shrublands, meadows, forest edges, wetlands, rock barrens, and sandy areas to carry out its life processes (Kraus, 2011). In the context of the study area, the majority of lands could provide general habitat function for the species, providing potential function for movement, foraging, thermoregulation, and similar life processes during the active season.

For similar project contexts Azimuth has consulted with MECP regarding permissions and approvals for works within habitat for Eastern Hog-nosed Snake, and has been advised that providing critical habitat features including gestation sites and hibernacula are avoided, potential impacts to the species can be suitably mitigated such that harm to individuals and/or damage or destruction to habitat function. As illustrated in Figure 4, the proposed development would not result in removal of sandy areas and potential associated gestation sites, and would further provide a minimum 30m retained natural buffer to such areas that would mitigate the potential for indirect impacts upon potential gestation sites, consistent with past MECP direction provided above. In accordance with Bill 5, the amended definition of "habitat" under the provincial ESA no longer includes accessory uses such as general foraging, predator concealment, thermoregulation, and areas providing movement/transit opportunities for a given species, therefore where low potential for general/supportive habitat for the species occurs within the proposed development zone, such areas would not receive ESA protections.

Based on the above assessment, providing works occur in accordance with mitigation measures and other recommendations detailed in Section 8 below, there is no expectation that the proposed activity would result in a negative impact upon Eastern Hog-nosed Snake or the habitat upon which the species depends.

7.1.2 Forked Three-awned Grass

Forked Three-awned Grass (Endangered) was identified abundantly within open areas on the property during a targeted vegetation survey that occurred on September 17, 2024 at locations illustrated on Figure 2b. It is Azimuth's recommendation that habitat for Forked Three-awned Grass on the property should be considered to include:

- All lands within ELC polygons MEGM1-3a through c;
- Minor encroachments beneath tree canopy driplines along edges of TAGM1 polygon (portions of Area 4 & Area 14); and,
- Open clearing and isolated sandy patch within WOCM1 polygon (Area 5).

As illustrated on Figure 4, a minimum 30m natural, vegetated buffer is to be maintained between the footprint of permanent grading activities and the edge of suitable habitats and occupied area (listed above) such that the species is protected from direct encroachment and/or indirect impacts from adjacent works. It is notable that in the context of Bill 5, and the amended definition of "habitat", only the critical root zone for the plant is considered subject to habitat protections, therefore maintenance of a 30m vegetated buffer substantially exceeds minimum habitat preservation requirements outlined in the ESA.

Based on the above assessment, providing works occur in accordance with mitigation measures and other recommendations detailed in Section 8 below, there is no expectation that the proposed activity would result in a negative impact upon Forked Three-awned Grass or the habitat upon which the species depends.

Additional recommendations for future habitat management associated with portions of the property where Forked Three-awned Grass has been documented are provided in Section 8.1.2 below.

7.1.3 SAR Bats

During the site investigation it was confirmed that woodlands on the property contained snag trees with potential to provide maternity roosting and day roosting opportunities for SAR bats including Little Brown Myotis, Northern Myotis, Tri-colored Bat, Eastern Red Bat, Silver-haired Bat, and Hoary Bat (Endangered). With regard for the proposed site grading limits illustrated in Figure 4, moderate to high quality bat roosting habitat is associated with the FOMM2-2a woodland polygon fronting Concession Road 9 East, and low quality roosting habitat is associated with the FOCM6-2a woodland polygon.

As shown on Figure 4, tree clearance within **low quality** roosting habitat comprising the FOCM6-2a unit includes an area 2.25ha in size and involves the removal of 25 low quality and two (2) high quality snag trees. The majority of documented snags within the FOCM6-2a unit were planted Red Pine (*Pinus resinosa*) stems with areas of flaky bark or broken limbs, rather than higher quality bat access features such as hollows/cavities in open-canopy settings. Tree clearance within the FOMM2-2a area identified as **moderate to high quality roosting habitat** is limited to only the quantity required to facilitate access from Concession Road 9 and includes an area measuring 0.14ha in size involving the removal of six (6) low quality and one (1) high quality snag tree. As such, a total of 2.39ha of woodland including 31 low quality and three (3) high quality snag trees (34 snag trees total) require removal to facilitate the outermost extent of grading for the proposed development.

Snag removals described above are anticipated to be minor in the context of the overall woodland feature measuring 1,792.61ha in size, given the large majority (99.87%) of directly connected woodland will be retained in the post-construction setting. The proposed development will preserve directly connected woodland beyond its eastern, western, and southern boundaries such that the works are also not expected to result in fragmentation of habitat allowing for multi-directional conveyance of bats in the post-construction setting, although it is notable that the updated definition of “habitat” following Bill 5 does not afford protection to foraging or linkage areas except where directly adjacent to a species’ dwelling

place. Based removal of only a minor proportion of connected bat habitat, the majority of which (2.25ha of 2.39ha = 94.14%) is concentrated in a low quality habitat unit, the overall function of SAR bat habitat within woodlands on the property is not expected to be compromised, and will persist in a manner consistent with the pre-construction state. For projects of a similar scope, Azimuth has engaged the MECP regarding potential impacts to woodland bat habitat. Guidance was provided via the Bat Survey Standards Note (MECP, 2022b), which clarifies the following:

"If a proposed activity will avoid impairing or eliminating the function of habitat for supporting bat life processes (e.g. remove, stub, etc. a proportionally small number of potential maternity or day roost trees in treed habitats which would not result in fragmentation/barriers) and the timing of tree removal will avoid the bat active season (April 1-September 30 in Southern Ontario)"…"then there is no need to conduct species at risk bat surveys of treed habitats."

The above is consistent with Azimuth's understanding when suitable habitat availability is not limiting, a mitigation approach that restricts vegetation removals during the active period for bats is a suitable approach to avoid a contravention to SAR bat individuals or habitats under Section 9 and Section 10 of the ESA. It is anticipated that if the proposed works can be accomplished via removal of a proportionately small number of snag trees, no impacts to bat habitat function within woodlands on the property would occur. With regard for protection of individual bats, Azimuth recommended tree removals should be avoided between **April 1 through September 30** of any given year, during the active period for bat species that may utilities trees for maternity and day roosting purposes. It is anticipated that adherence to this timing restriction avoids impacts to individual SAR bats, therefore remaining in compliance with Section 9 of the ESA affording individual protection to Endangered species. As introduced in Section 1, it is understood that tree clearing occurred on the property in March 2025 prior to the recommended "no-cut" window commencing April 1. As such, there is no expectation that tree clearing works resulted in negative impacts to individual SAR bats and were therefore compliant with Section 9 of the ESA.

Regardless of the above assessment, it is understood the Township intends to offset tree removals at a 3:1 ratio based on removals of 2.39ha of woodland vegetation types. As such, the Township intends to proceed with 7.17ha of additional woodland plantings as a means of offsetting woodland losses on the subject property. Recommendations associated with a proposed Woodland Restoration Plan are presented in Section 8.4 below. Further, the Township has indicated that removals of snag trees on the property will be offset through installation of compensatory bat habitat structures (*e.g.* bat boxes/bat "condo"), for which recommendations are included in Section 8.1.3 below.

7.2 Significant Woodland

According to the PPS development and site alteration are not permitted within Significant Woodlands located in Ecoregion 6E, unless it can be demonstrated there will be no negative impacts upon the feature and its ecological functions. The woodland feature on the property is considered Significant Woodland in accordance with the Tiny OP, and is illustrated on Figure 3 in accordance with provincial mapping criteria.

An evaluation framework for avoidance of ecological impacts for Significant Woodland is not provided in the Simcoe OP or Tiny OP, however woodland characteristics that contribute to significance are presented in the provincial NHRM. It follows that if impacts upon woodland characteristics and associated functions that contribute to significance can be avoided, the proposed activity would not be anticipated to negatively impact the feature or its ecological functions.

The following ecological characteristics contribute to woodland significance within the study area based on NHRM criteria:

- Woodland Size
    - The woodland occupies an area measuring 1,792.61ha in size in accordance with provincial criteria and illustrated in Figure 3, greatly exceeding the >50ha threshold for significance.
- Woodland Interior
    - No portion of the study area includes Woodland Interior elements, described in the NHRM as portions of the woodland occurring >100m from any edge (including roadways, clearings, *etc.*).
- Proximity to Other Woodlands or Other Habitats
    - Woodland contains or is adjacent to candidate significant ecological features and functions, as summarized in Section 5; all candidate KNHFs within the study area are proximal to or contained within woodlands.
- Linkages
    - The study area including all woodlands occur within a defined Natural Heritage System (Greenlands) per the Simcoe OP. Mapping of Greenlands within the Simcoe OP is consistent with mapping of the same layer illustrated in Schedule A of the Tiny OP (Appendix A).
- Water Protection
    - No portion of the woodland contains or is directly adjacent to wetlands, seeps/springs, direct or indirect fish habitat, within the study area limits.

- Woodland Diversity
    - Tree/shrub species are generally common in the province (S4-S5; Table 2); no tree or shrub species subject to population declines are present within the woodland, including species listed as Endangered, Threatened or Special Concern under the provincial ESA.
    - Study area is relatively flat and does not exhibit a high diversity in terrain (*e.g.* hilltops and valleys) that would be considered a high degree of landscape diversity.
- Uncommon Characteristics
    - No woodland vegetation communities considered S1-S3 by the province (MNR, 2025b) are present within the feature.
    - Vascular plant species within the woodland feature (Table 2), with aggregation(s) of least 10 stems (or 100m^2 of coverage) and with a Coefficient of Conservatism (CC) of 8, 9, or 10 include the following:
        - Red Pine (CC8); however, all evidence of Red Pine is related to presence within treed plantations dominated by the species, common throughout Simcoe County. No natural (non-planted) occurrences of Red Pine were observed within the study area and therefore the species is not considered further in the context of the Uncommon Characteristics criterion.
        - Common Pipsissewa (*Chimaphila umbellata*; CC8) was documented occasionally throughout TAGM1 and FODM5-1 communities
        - American Cancer-root (*Conopholis americana*; CC9) was documented within the FOCM6-2a community, however as only a single plant was observed, the minimum criterion for further consideration (at least 10 stems or 100m^2 of coverage) was not met.
    - No tree species of restricted distribution observed within the woodland feature.
    - Deciduous and mixed woodlands within the study area are expected to include areas with >10 trees/ha exceeding 100 years in age, including FOMM2-2a, FOMM2-2b, and FODM5-1 vegetation units.

7.2.1 Woodland Size

At the greatest extent of the proposed activity, woodland removals of **2.39ha** will occur within the study area limits, comprising 0.14ha within the FOMM2-2a unit and 2.25ha within the FOCM6-2a unit, as illustrated on Figures 3-4. The woodland feature occupying the majority of the site is directly connected to an extensive woodland tract measuring approximately 1,792.61ha, therefore losses of 2.39ha represent a total reduction of 0.13% of the overall Significant Woodland feature. Woodland losses as a result of the proposed works would be

considered minor in the context of the overall woodland feature and not anticipated to undermine ecological functions associated with woodland size and its contribution to woodland significance.

7.2.2 Proximity to Other Woodland Habitats

Woodlands on the properties contain or are located within 30m of significant ecological features and functions (KNHFs) as summarized in Section 5. As described throughout Section 7 (Impact Assessment) of this report, negative impacts to KNHFs can be appropriately avoided or mitigated through comprehensive recommendations, mitigation measures, and compensation outlined in Section 8 of this report. Providing conformity is demonstrated for such measures described in Section 8, there is no expectation the proposed activity would undermine ecological functions of the woodland associated with proximity to other woodland habitats.

7.2.3 Linkages

Woodland removals will occur within Greenlands defined by the Simcoe OP and Tiny OP, therefore all proposed woodland clearance would occur within a Natural Heritage System (**2.39ha**; Appendix A, Figures 3-4).

The proposed woodland removals would occur in the northwestern portion of the site, and retain substantial natural corridor (approximately 1km to the west; Figures 3-4) along and beyond the western property boundary that would be expected to maintain wildlife linkage function at the greatest extent of site clearance. A natural corridor 30m in width would also be maintained beyond the eastern limit of the clearance zone, between the proposed development limit and adjacent open areas (MEGM3-1a and MEGM3-1b; Figure 4).

The majority of extensive retained woodlands surrounding the proposed development area are similarly located within the Township's Natural Heritage System (Appendix A) and would continue provide wildlife connectivity and conveyance function in the post-clearance setting. The proposed development footprint maintains suitable natural corridors surrounding the development area such that multi-directional wildlife movement is anticipated to persist with the woodland community after project completion.

Based on the above assessment, the proposed works would be anticipated to maintain ecological linkage function in the long term. Removal of **2.39ha** of woodland within the Township's Natural Heritage System retains an extensive connected woodland feature, and would not be expected to sever or otherwise fragment the woodland in a manner that would negatively impact wildlife linkage function.

7.2.4 Uncommon Characteristics

Vascular plant species with a Coefficient of Conservatism of 8, 9, or 10 and sufficient populations to compel consideration under Uncommon Characteristics includes one species, Common Pipsissewa (CC8). Common Pipsissewa was documented within the TAGM1 and FODM5-1 polygons, both of which occur >30m beyond the limit of the proposed development zone (Figure 4). It is anticipated that through avoidance of works within these vegetation units, the species will be retained and therefore no negative impacts to the population will occur as a result of proposed works.

With regard for forest age and prevalence of trees >100 years old, a review of Simcoe County Mapping suggests deciduous and mixed woodlands on the property (FOMM2-2a, FOMM2-2b, FODM5-1) exceed this age and density of older-growth trees, as suggested by aerial imagery dating to 1954 (>70 years ago) showing presence of established woodlands on the properties at that time. Aerial imagery from 1954 similarly shows directly connected woodlands north and west of the property boundary, extending to connect with extensive woodland tracts to the north and south that comprise a large portion of the overall woodland feature. Woodland losses of **0.14ha** within the FOMM2-2a unit as a result of the proposed works, including trees and woodlands >100 years old, would be considered minor in the context of the overall woodland feature and not anticipated to undermine ecological functions associated with older-growth trees and their contribution to the woodland feature's significance.

7.2.5 Woodland Assessment Summary

The proposed development is not anticipated to negatively impact woodland characteristics defined by the NHRM that are associated with the Significant Woodland within the study area, including Woodland Size, Proximity to Other Woodlands and Other Habitats, Linkages, and Uncommon Characteristics components. No portion of the woodland meets NHRM criteria for Woodland Interior, Water Protection, or Woodland Diversity within the study area limits.

The proposed development is therefore not anticipated to negatively impact the Significant Woodland feature or its key ecological functions, providing conformance is demonstrated for environmental mitigation and recommendations described in Section 8 below.

Regardless of the above assessment, it is understood the Township intends to offset tree removals at a 3:1 ratio based on removals of **2.39ha** of woodland vegetation types. As such, the Township intends to proceed with **7.17ha** of additional woodland plantings as a means of offsetting woodland losses on the subject property. Recommendations associated with a proposed Woodland Restoration Plan are presented in Section 8.4 below.

7.3 Candidate Significant Wildlife Habitat

According to the PPS development and site alteration are not permitted within SWH located in Ecoregion 6E, unless it can be demonstrated there will be no negative impacts upon the feature and its ecological functions. For the purposes of this assessment, Candidate SWH listed in Section 5 above is treated as significant. In accordance with rationale provided for each identified Candidate SWH category in Section 7.3.1 and Section 7.3.2 below, providing conformity is demonstrated for mitigation measures and other recommendations detailed in Section 8 below, the ecological features or functions of Candidate SWH are not anticipated to be negatively impacted by the proposed development.

7.3.1 Bat Maternity Colonies

Woodlands within the study area may provide suitable roosting habitat for Bat Maternity Colonies during the late spring period (approximately June). As described in Section 7.1.3 above in the context of SAR bats, an abundance of potentially suitable snags was observed within woodlands on and adjacent to the property, which were determined to exhibit features such as cracks, splits, peeled bark, and cavities.

Bat Maternity Colonies are limited to deciduous and mixed forest types (MNRF, 2015), therefore works within naturalized coniferous plantation (FOCM6-2; Figure 4) are not applicable in the context of Bat Maternity Colonies as defined by provincial criteria. Vegetation removals to accommodate the site access road within the FODM2-2a unit resulted in removals of approximately 0.14ha of woodland within candidate Bat Maternity Colony habitat, including clearance of six (6) low quality and one (1) high quality snag trees.

As outlined in MECP guidance documents and described in Section 7.1.3 above, extensive, continuous/unbroken forest within and adjacent to the property, and within the local landscape would retain potential bat habitat function in the post-construction setting. A suitable mitigation approach that includes a no-cut window from **April 1-September 30** would be anticipated to suitably avoid potential negative impacts to the ecological function of Bat Maternity Colonies.

Regardless of the above assessment, it is understood the Township intends to offset tree removals at a 3:1 ratio and install compensatory bat habitat structures (*e.g.* bat boxes/bat "condo") to offset losses to bat habitat, described in greater detail in Section 8.1.3 and Section 8.4 below.

7.3.2 Special Concern and Rare Wildlife Species

Eastern Wood-pewee

One (1) probable nest centroid for **Eastern Wood-pewee** (Special Concern) was documented in the northwest corner of the naturalized coniferous plantation (FOCM6-2a) polygon (Figure 2). According to the COSEWIC assessment for Eastern Wood-pewee (2012), the species prefers intermediate-aged deciduous and mixed forests for breeding purposes, and selects coniferous forests less frequently. Based on this information it can be inferred that deciduous and mixed woodland types generally provide higher quality breeding habitat for the species, while coniferous woodland types provide lower quality breeding opportunities. The COSEWIC assessment for Eastern Wood-pewee (2012) states that the home range/breeding territory patch size for Eastern Wood-pewee averages 1.70 +/- 0.33ha within deciduous forests and 1.83 +/- 0.26ha in pine plantations.

As illustrated in Figure 4, the proposed activity does not result in direct removal of the approximate breeding centroid for the documented individual. Further, an abundance of woodland will be retained on the property such that a suitable breeding territory (per size parameters described above) will be retained in the post-construction setting. Given the abundance of local habitat opportunities, many of which represent higher quality habitat features (*i.e.* adjacent deciduous and mixed forest), there is no expectation that site works would result in a negative impact to future breeding/nesting opportunities for the species. Regardless of the above, a suitable mitigation approach that includes a no-cut window from **April 1-August 31** would be anticipated to suitably avoid potential direct impacts to the Eastern Wood-pewee and associated local nesting. It is understood that tree clearing occurred on the property in March 2025 prior to the recommended “no-cut” window commencing April 1. As such, there is no expectation that tree clearing works resulted in negative impacts to habitat function for the species.

Monarch

Monarch were not observed on the property, however Common Milkweed (*Asclepias syriaca*) was observed infrequently within open meadow (MEGM3-1a, MEGM3-1c), open woodland (WOCM1), and a woodland edge (northern limit of FOMM2-2b) during the vascular plant inventory (Table 3, Figure 2). Common Milkweed (and other milkweed species) are considered vital to Monarch life processes, as the species requires milkweed for the feeding and maturation of larvae (MECP, 2025). The proposed site grading limits (Figure 4) includes a 30m natural, vegetated buffer from open areas on the property, which would also provide protection for any areas where Common Milkweed occurs on the property. It is anticipated that maintaining a 30m setback from open areas on the property would avoid negative impacts to Significant Wildlife Habitat functions for Monarch.

8.0 RECOMMENDATIONS

8.1 Species at Risk

With regard for the below recommendations, it is Azimuth's opinion that negative impacts to the SAR and/or SAR habitat would be avoided through implementation of mitigation measures and recommendations described throughout Section 8 of this report, thereby avoiding contravention of Section 9 or Section 10 under the provincial ESA that affords individual and habitat protections to Threatened and Endangered species.

It should be noted that the absence of a protected species within the study area does not indicate that they will never occur within the area. Given the dynamic character of the natural environment, there is a constant variation in habitat use. Care should be taken in the interpretation of presence of species of concern including those listed under the ESA. Changes to policy, or the natural environment, could result in shifts, removal, or addition of new areas to the list of areas currently considered candidate KNHFs. This report is intended as a point in time assessment of the potential for SAR to occur within the study area; not to provide long term "clearance" for SAR. While there is no expectation that the assessment should change significantly, it is the responsibility of the proponent to ensure that they are not in contravention of the ESA at the time that site works are undertaken. A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future site works.

8.1.1 Worker Training

Worker training would assist the on-site workers in the identification of the SAR with potential to occur in the area. Workers should be instructed to stop work and contact the MECP immediately if any SAR are encountered within the work area. Individuals working on site should ensure that SAR are not harmed during construction or killed by heavy machinery, vehicles or other equipment.

The contractor should educate all site personnel to ensure that, if identified, the SAR are not wantonly injured or killed, and to ensure that damage to features which could constitute habitat is avoided. Information should be conveyed through a SAR expert and include:

- Species habitat and identification;
- Requirements under the ESA including avoidance of harm to the species and damage to relevant habitat;
- Appropriate action to take if the species is encountered;
- How to record sightings and encounters; and,

- That care should be taken when undertaking construction activities in order to avoid harming the species or damaging/destroying habitat.

The expert should be a qualified biologist who specializes in ecology/biology, or SAR.

8.1.2 Forked Three-awned Grass Management Strategy

According to the COSEWIC (2002) and Ontario's Recovery Strategy for Forked Three-awned Grass (Jones, 2011), due to the species' strong affinity for early successional habitats a regime of periodic and/or light habitat disturbance is considered beneficial for the species. Such light and/or infrequent human disturbances function to expose sandy soil to promote seed bank germination, and deter spread and colonization of woody species (*e.g.* Scot's Pine) which are not conducive to the species' life cycle requirements (COSEWIC, 2002). The Recovery Strategy (Jones, 2011) even suggests that moderate use of light vehicle, all-terrain vehicles (ATVs), dirt bikes, and similar activities can contribute to the maintenance or Forked Three-awned Grass populations providing the activity does not create ruts or loosen the ground surface. Based on the above, complete sequestration of the site is not recommended to promote the long-term viability of the Forked Three-awned Grass population identified on the property. The following long-term management and maintenance recommendations are provided at this time:

- Existing passive recreational activities (*e.g.* hiking, dog-walking, cycling, nature appreciation) should be allowed to persist within and adjacent to documented locations and vegetation units where Forked Three-awned Grass has been identified;
- Motorized vehicle use should be limited to only necessary activities (*e.g.* property maintenance), and generally deterred for the purposes of recreation;
- Informal vehicle parking at the south edge of vegetation unit MEGM3-1a (Figure 2b) should be discontinued;
- Educational signage and interpretive displays should be installed around the property to inform the public of the species' presence and regional/provincial significance, and to deter trampling or collection of individuals; and,
- A habitat management strategy should be developed for the property, primarily focused on thinning/removal of Scot's Pine and other woody species within open (MEGM3-1a through c) and semi-open (WOCM1) vegetation units. Scot's Pine is not native to Ontario and exhibits invasive tendences (MNR, 2025b); reduction of species' coverage would increase the amount of available habitat for Forked Three-awned Grass, and benefit the ecological integrity of the property as a whole. Future habitat improvement/expansion works should occur outside of the species' growing period between **June 15** (before germination) and **October 15** (after frost kill)(Jones, 2011), and

carried out in a manner that minimizes soil disturbance associated with tree cutting and removals.

The proponent is also advised that all native soils exposed as a result of future grading works should be re-graded on a bi-weekly basis (*i.e.* once every two weeks) between June 15 and October 15, such that the future building site does not promote establishment of new or expanded populations of Forked Three-awned Grass from adjacent locations.

8.1.3 Bat Habitat Management Strategy

As a manner of offsetting potential bat roosting habitat associated with removals of 34 documented snag trees on the property, it is recommended that up to 34 compensatory bat boxes be installed as a component of the proposed development plan. Bat boxes should be multi-chambered and capable of supporting a minimum of +/-250 bats, and ideally designed according to the "Two-chamber Rocket Box" schematic available from Bat Conservation International, or equivalent design as approved by a qualified ecologist. Alternatively, the Township may elect to construct up to three (3) bat "condo" structures, capable of supporting up to 3,000 bats each (or, each equivalent to 12 two-chambered bat boxes = 36 bat boxes in total).

Bat boxes/bat condos should be installed in an open area adjacent to the retained woodland community (*e.g.* MEGM3-1a-b), although installation should exercise caution to not interfere with individuals or clusters of Forked Three-awned Grass within or proximal to the selected location. Location(s) should be selected at the recommendation of a qualified ecologist, and sited in a manner that optimizes proximity to high quality foraging areas and other potential roosting sites (*i.e.* other documented snag trees or snag clusters).

Woodland offsetting at a 3:1 ratio will also function to replace woodland bat roosting habitat losses in the long term, described in further detail in Section 8.4 below. It is anticipated that construction of bat boxes/bat condos will provide a suitable replacement for habitat losses in the short- to medium-term, to be ultimately offset in the long term through the establishment of new/expanded woodland at the selected Woodland Restoration site.

8.2 Migratory Breeding Birds

Activities involving the removal of vegetation should be restricted from occurring during the breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 (MBCA) and the *Fish and Wildlife Conservation Act,* 1997 (FWCA). Environment Canada outlines dates when activities in any region have potential to impact nests

at the Environment Canada Website (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html). In Zone C2 vegetation clearing should be avoided between **April 1 through August 31** of any given year. If work requires that vegetation clearing is required between these dates screening by an ecologist with knowledge of bird species present in the area could be undertaken to ensure that the vegetation has been confirmed to be free of nests prior to clearing.

8.3 Site Preparation and Operations

Diligent application of sediment and erosion controls (ESCs) and adherence to Best Management Practices (BMPs) for the duration of site works is recommended for the mitigation of direct, indirect, and cumulative impacts upon retained natural heritage features and functions. Recommendations related to implementation of ESCs and BMPs are listed below, and should be adhered to throughout the duration of the site activities:

- Installation and maintenance of ESCs are recommended for all future construction activities to minimize the extent of accidental or unavoidable impacts to adjacent vegetation communities and wildlife habitat.
- Prior to the commencement of site works, silt fencing should be applied along the length of directly adjacent natural or naturalized features.
- Routine inspection/maintenance of the silt fencing should occur throughout construction.
- ESCs should be maintained until vegetation is re-established post-construction.
- Materials storage on the property (*i.e*. soil stockpiles) should be located over 30m from natural features where feasible. Material storage areas should be contained with ESCs to avoid potential indirect impacts to natural features onsite.
- All site disturbance should be minimized to the extent possible.
- All maintenance activities (including refueling) required during future construction should be conducted at least 30m away from natural features to prevent accidental spillage of deleterious substances that may harm natural environments.
- Snow fencing or equivalent should be installed at the limit of the work area to prevent the accidental intrusion of machinery operations into adjacent undisturbed natural areas.
- The contractor is recommended to have a Contaminant and Spill Management Plan in place prior to initiation of works. This should include keeping an emergency spill kit on site at all times. In the event of a spill, the contractor must report it immediately to the provincial Spills Action Centre (SAC).

8.4 Woodland Restoration Plan

A detailed Woodland Restoration Plan should be prepared that illustrates a strategy for the offsetting of **2.39ha** of woodland losses at a 3:1 ratio, comprising a total Woodland Restoration area of **7.17ha**. If possible, the Woodland Restoration area should be sited in a location directly continuous with the overall Significant Woodland feature illustrated on Figure 3, and ideally near to the subject property location. Azimuth understands the Township is committed to implementing the Woodland Restoration Plan as close to the study area as feasible. Given the presence of Forked Three-awned Grass within open portions of the property (*e.g.* MEGM3-1a-c; Figure 2), no portion of the study area would be considered appropriate for woodland creation, as the species requires open-country habitats that would be compromised by woodland plantings.

Initial recommendations for implementation and management of the Woodland Restoration Plan area as follows:

- A preliminary site survey should occur to verify the location and extent of invasive species within the selected Woodland Restoration area, to inform where invasive species management should occur prior to proceeding with plant material installations and seed mix applications.
- Apply appropriate herbicide and/or conduct mechanical removal for woody and herbaceous invasive species within vegetation restoration areas. Herbicides should be applied during the appropriate season (*e.g.* late summer-early fall for herbaceous species, fall for woody species) by a Licensed Herbicide Applicator, according to recommended methodologies.
- Following initial dieoff, shrubby invasive species should be fully removed from the Vegetation Enhancement Zone. Existing tree cover at the canopy/subcanopy level should be maintained to the extent possible within restoration zones.
- Any necessary earth movement/topsoil placement shall be completed in advance of the commencement of local restoration works, to avoid damaging plant and seed materials.
- The Woodland Restoration area should be planted with native, locally-appropriate tree and shrub materials, preferably those reflective of natural woodland cover present in the area, including:
    - Tree Species:
        - Sugar Maple (*Acer saccharum*)
        - Red Maple (*Acer rubrum*)
        - American Beech (*Fagus grandifolia*)
        - Eastern Hop-hornbeam (*Ostrya virginiana*)

        - Largetooth Aspen (*Populus grandidentata*)
        - Trembling Aspen (*Populus tremuloides*)
        - Paper Birch (*Betula papyrifera*)
        - Eastern White Pine (*Pinus strobus*)
        - White Spruce (*Picea glauca*)
        - Eastern White Cedar (*Thuja occidentalis*)
        - Balsam Fir (*Abies balsamea*)
        - Black Cherry (*Prunus serotina*)
        - Northern Red Oak (*Quercus rubra*)
    - Shrub Species:
        - Chokecherry (*Prunus virginiana*)
        - Common Juniper (*Juniperus communis*)
        - Red Elderberry (*Sambucus racemosa*)
        - Alternate-leaved Dogwood (*Cornus alternifolia*)
        - Wild Black Currant (*Ribes americanum*)
- Shrub species (above) should not represent more than 10% of woody materials planted.
- Tree and shrub materials shall be planted as bare root stock or potted stock (minimum 1-gallon) at a minimum density of 2.5m on-centre.
- Native seed mixes are recommended with plant composition suitable for use in generally upland/dry-fresh conditions at a rate of at least 25 kilograms (kg)/ha. A suitable "nurse crop" is recommended to be combined with each native seed mix at a minimum density of 12kg/ha.
- Trees/shrubs should be installed from early October (coincident with leaf colour change) until freeze-up; or in the spring after frost is out of the soil until new foliage is partly unfurled (this occurring early to mid-May).
- Seed mixes should be applied in the fall between leaf-off (typically after October 15) and freeze-up (often mid-November). Spring application (March-May) is also possible, provided that no snow cover remains.
- Mulch should be applied, and trees and shrubs should be maintained for two years post-planting. Stem guards applied to deciduous trees may be subject to improper installation or damage due to animal activity (deer rubbing). Guards should be maintained and replaced as necessary for the first two years following installation.
- Monitoring of plantings should continue for two years after installation to ensure successful establishment. During the course of the inspections, the success of the plantings and degree of herbivory should be noted.
- For planted woody stock, a success rate of 80% of the original abundance of planted stems and 80% of the original diversity of woody stems is the recommended target after two years.

- Dead tree/shrub material should be replaced during the spring planting season of the following year.

9.0 CONCLUSIONS

Based upon our analysis, it is concluded that subject to the incorporation of the environmental protection measures and criteria described throughout this report, the proposed development is not anticipated to result in a negative impact upon KNHFs or their ecological functions.

At this time, Azimuth's findings are summarized as follows:

- The proposed development is consistent with the applicable natural heritage policies of the Provincial Planning Statement, *Endangered Species Act*, 2007, County of Simcoe Official Plan, Township of Tiny Official Plan, and the federal *Fisheries Act*.

- Our impact assessment has given full consideration to the habitat requirements of all SAR assumed and documented to occur in the area and results indicate the proposed site development is not expected to result in negative direct or indirect impacts to habitat of SAR providing conformance is demonstrated to mitigation measures described in Section 8.

- The proposed works are not expected to negatively impact the ecological functions of the Significant Woodland or Significant Wildlife Habitat outlined in Section 5 if the appropriate mitigation measures outlined in Section 8 are followed.

- Implementation of a Forked-three Awned Grass Management Strategy is recommended for retained populations present on the subject property, in accordance with Section 8.1.2 above.

- Implementation of Bat Habitat Management Strategy should be implemented in accordance with Section 8.1.3 above, as a means of compensating for woodland areas potentially utilized as roosting habitat by SAR bat species.

- A Woodland Restoration Plan should be implemented in accordance with recommendations outlined in Section 8.4 above, accommodating for a Woodland Restoration area the offsets losses to forest and plantation woodland units on the property at a 3:1 ratio.

10.0 REFERENCES

Birds Canada. Canadian Wildlife Service. University of Regina. WildResearch. Regreoupement QuébecOiseaux. 2019. Canadian Nightjar Survey Protocol. iii + 18 pp.

Bird Studies Canada. 2008. Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. Bird Studies Canada, Environment Canada - Canadian Wildlife Service, U.S. Environmental Protection Agency. 16 pp.

Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier (eds.). 2007. Atlas of the Breeding Birds of Ontario (OBBA). 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologies, Ontario Ministry of Natural Resources and Ontario Nature, Toronto, xxii + 706pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2002. COSEWIC assessment and status report on the Forked Three-awned Grass *Aristida basiramea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 29 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2012. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2021. COSEWIC assessment and update status report on the Eastern Hog-nosed Snake *Heterodon platirhinos* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 45 pp.

County of Simcoe. 2023. County of Simcoe Official Plan.

County of Simcoe. 2025. Interactive Map - County of Simcoe (GIS). (https://opengis.simcoe.ca/). Accessed July 2025.

Dobbyn, J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists.

Endangered Species Act, Ontario. 2007. An Act to protect species at risk and to make related changes to other Acts. Bill 184 Chapter 6, Statutes of Ontario 2007.

Fish and Wildlife Conservation Act, Ontario. 1997. S.O. 1997, c.41.

Government of Canada. 1985. Federal Fisheries Act. (http://lawslois.justice.gc.ca/eng/acts/f-14/). Accessed July 2025.

Government of Canada. 2014. Migratory Birds Convention Act. (http://laws-lois.justice.gc.ca/eng/acts/M-7.01/). Accessed July 2025.

Government of Canada. 2002. Species at Risk Act. (https://laws.justice.gc.ca/eng/acts/s-15.3/). Accessed July 2025.

Government of Canada. 2025. List of Wildlife Species at Risk. Available at: (https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/species-list.html). Accessed November 2024.

iNaturalist. 2025. (NHIC) Rare Species of Ontario. (https://www.inaturalist.org/projects/nhic-rare-species-of-ontario). Accessed July 2025.

Kraus, T. 2011. Recovery Strategy for the Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. i + 6 pp + Appendix vi + 24 pp. Adoption of the Recovery Strategy for the Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Canada (Seburn, 2009).

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

Lee, H.T. 2008. SOnt_ELC_Ecosystem_Table_Dec_2008. [*Unpublished*].

Jones, J.A. 2011. Recovery Strategy for the Forked Three-awned Grass (*Aristida basiramea*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. ii + 18 pp. + Appendix vii + 25 pp.

Ministry of the Environment, Conservation and Parks (MECP). 2022a. Maternity Roost Surveys (Forests/Woodlands). 3 pp.

Ministry of the Environment, Conservation and Parks (MECP). 2022b. Bat Survey Standards Note 2022. 2 pp.

Ministry of the Environment, Conservation and Parks (MECP). 2025. Species at Risk in Ontario List. (https://www.ontario.ca/page/species-risk). Accessed July 2025.

Ministry of Municipal Affairs and Housing (MMAH). 2024. Provincial Planning Statement.

Ministry of Natural Resources and Forestry (MNRF). 2014. DRAFT Survey Protocol for Eastern Whip-poor-will (*Caprimulgus vociferus*) in Ontario. Ontario Ministry of Natural Resources and Forestry, Species at Risk Branch, Peterborough. iii + 10 pp.

Ministry of Natural Resources and Forestry (MNRF). 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. 39pp.

Ministry of Natural Resources and Forestry (MNRF). 2016. Survey Protocol for Ontario's Species at Risk Snakes. Ontario Ministry of Natural Resources and Forestry, Species Conservation Policy Branch, Peterborough, Ontario. ii + 17 pp.

Ministry of Natural Resources (MNR). 2025a. Ontario Geohub, Wildlife Values Area. (https://geohub.lio.gov.on.ca/datasets/lio::wildlife-values-area/explore). Accessed July 2025.

Ministry of Natural Resources (MNR). 2025b. Natural Heritage Information Centre. (https://www.ontario.ca/page/natural-heritage-information-centre). Accessed July 2025.

Ontario Breeding Bird Atlas (OBBA) 2024. Nocturnal Owl Surveys in Central Ontario: Participant's Guide. (https://view.publitas.com/birds-canada-gykxaz9yrrpp/owl-surveycentral-on-citizen-science-guide-2023/page/1). Accessed February 2025.

Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide. Fish and Wildlife Branch, Wildlife Section, Science Development and Transfer Branch, Southcentral Science Section. Queen's Printer for Ontario. 151 pp.

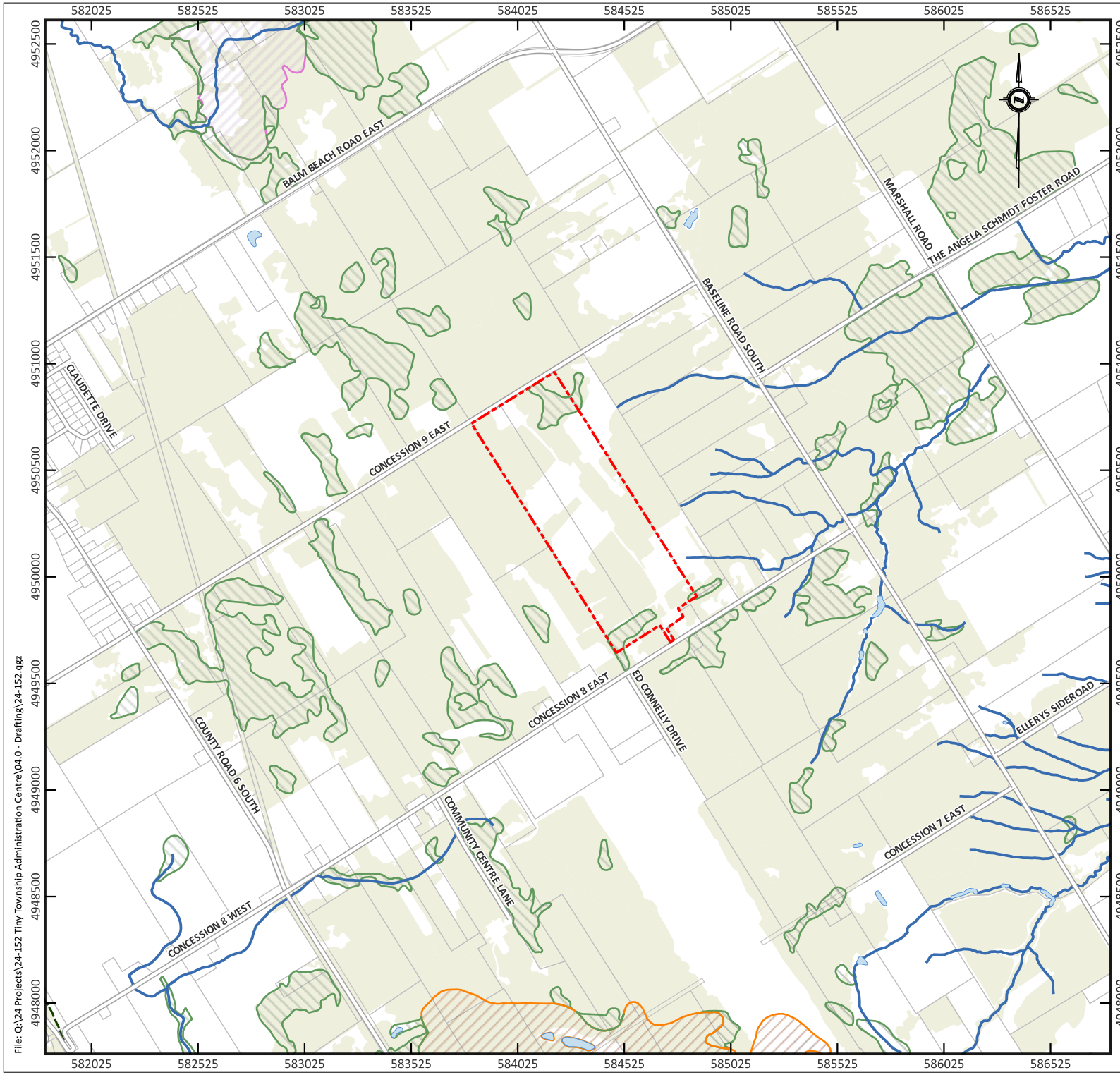
Ontario Ministry of Natural Resources (OMNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.

Ontario Nature. 2020. Ontario Reptile and Amphibian Atlas.

Planning Act, Ontario. 1990. RSO 1990, c P.13.

Toronto and Region Conservation Authority (TRCA). 2016. Forest Bird Monitoring Protocol. Terrestrial Long-term Fixed Plot Monitoring Program. Regional Watershed Monitoring and Reporting. January 2016. 15 pp.

Township of Tiny. 2023. Township of Tiny Official Plan.



LEGEND

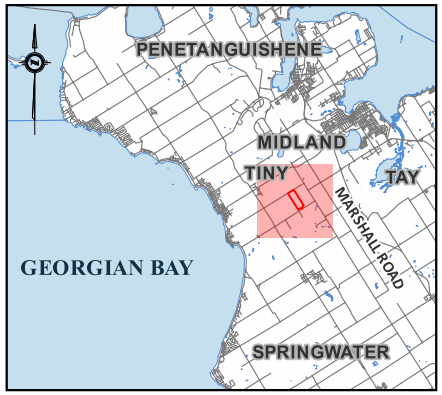
- Approx. Property Boundary
- Waterbody
- Mapped Watercourse
- Unevaluated Wetland
- Evaluated Wetland
- Provincially Significant Wetland
- Wooded Area
- Road

NOTES

1. Watercourse, Waterbody, Wetland, Woodland and ANSI layers are derived from MNRF GIS data, retrieved December 2022.
2. The metric grid displayed on the map corresponds to NAD83 / UTM zone 17N (EPSG:26917).

REGIONAL MAP

SCALE 1:500000



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KILOMETERS

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

SITE LOCATION

TINY TOWNSHIP ADMINISTRATION CENTRE
TINY, ON

DATE ISSUED:	AUGUST 2025
CREATED BY:	A.L.
PROJECT NO.:	24-152
BASE MAP:	MNRF

Figure No. 1

File: Q:\24 Projects\24-152 Tiny Township Administration Centre\04.0 - Drafting\24-152.qgz

LEGEND:

APPROX. PROPERTY BOUNDARY

ELC UPLAND COMMUNITIES:

FOMM2–2	DRY–FRESH WHITE PINE–SUGAR MAPLE MIXED FOREST
FOCM6–2	DRY–FRESH NATURALIZED RED PINE CONIFEROUS PLANTATION
FODM5–1	DRY–FRESH SUGAR MAPLE DECIDUOUS FOREST
WOCM1	DRY–FRESH CONIFEROUS WOODLAND
MEGM3–1	POVERTY OAT GRASS GRAMINOID MEADOW
TAGM1	TREE AGRICULTURE (CONIFEROUS PLANTATION)

AMPHIBIAN BREEDING SURVEY STATION

NOCTURNAL BREEDING BIRD SURVEY STATION

DAWN BREEDING BIRD SURVEY STATION

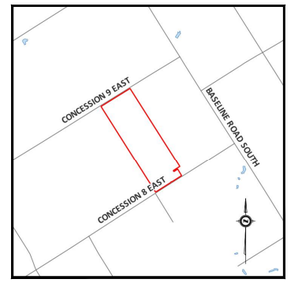
EPWE — EASTERN WOOD–PEWEE

BAT SNAG CLASSIFICATION:

CIRCLED – HIGH QUALITY

UNCIRCLED – LOW QUALITY

LOCATION PLAN



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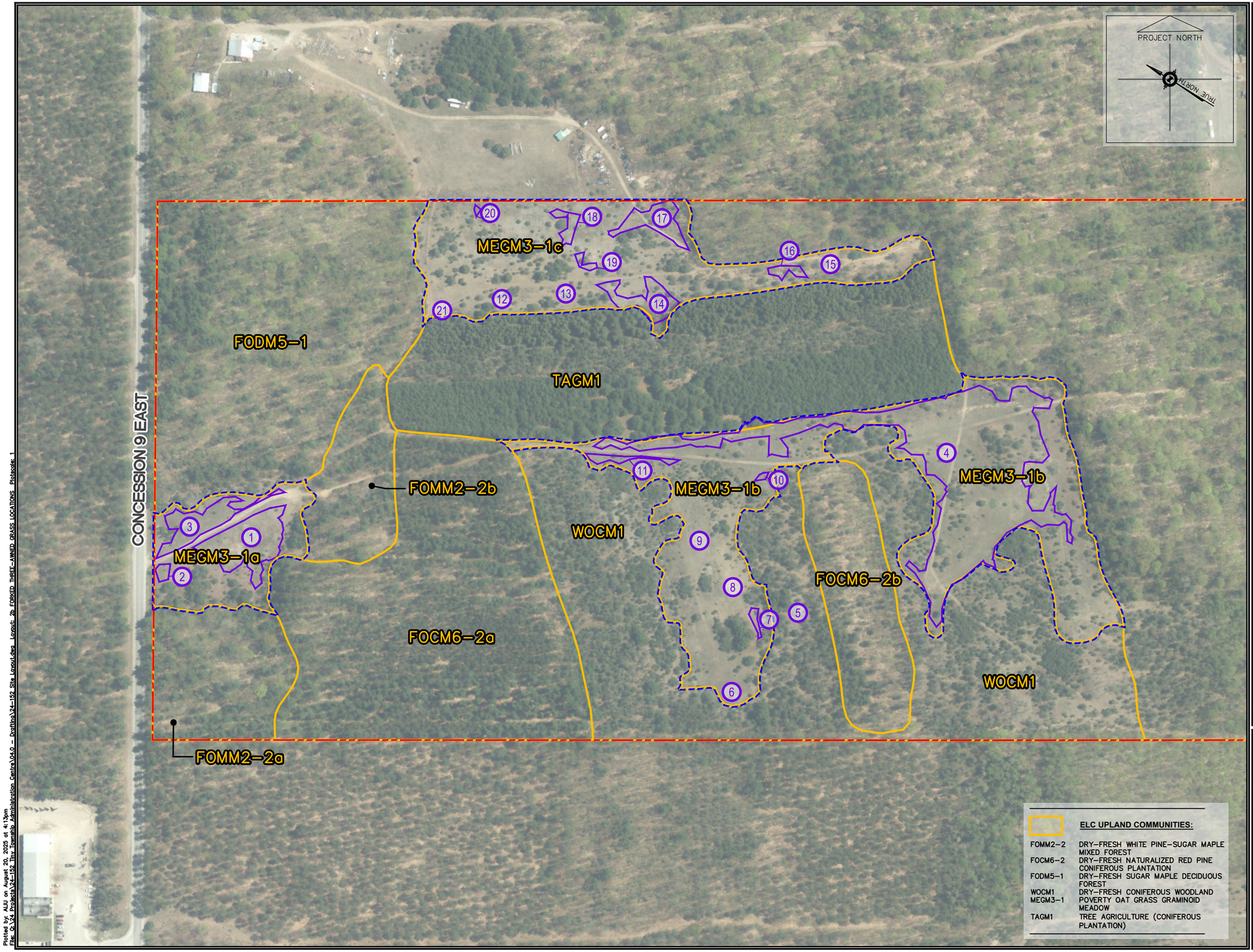
HORIZONTAL SCALE 1:3000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

ENVIRONMENTAL FEATURES

TINY TOWNSHIP ADMINISTRATION CENTRE
TINY, ON

DATE ISSUED:	*AUGUST 2025*	Figure No.
CREATED BY:	*A.L.*	2a
PROJECT NO.:	*24-152*	
REFERENCE:	*SIMCOE COUNTY*	

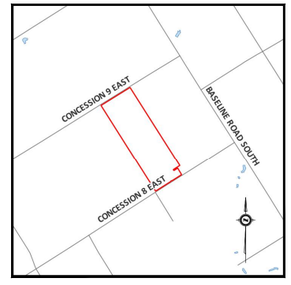


LEGEND:

- APPROX. PROPERTY BOUNDARY
- (#) AREA ID
- AREA BOUNDARY FOR SELECT REGIONS
- FORKED THREE–AWNED GRASS HABITAT

Area ID	Estimated # Plants
1	>10,000
2	20
3	2,500
4	>500,000
5	50
6	5
7	2,000
8	4
9	20
10	500
11	500
12	1
13	1
14	5,000
15	10
16	500
17	5,000
18	1,000
19	50
20	1,000
21	1

LOCATION PLAN



0 75.00 150.0

HORIZONTAL SCALE 1:3000

ELC UPLAND COMMUNITIES:

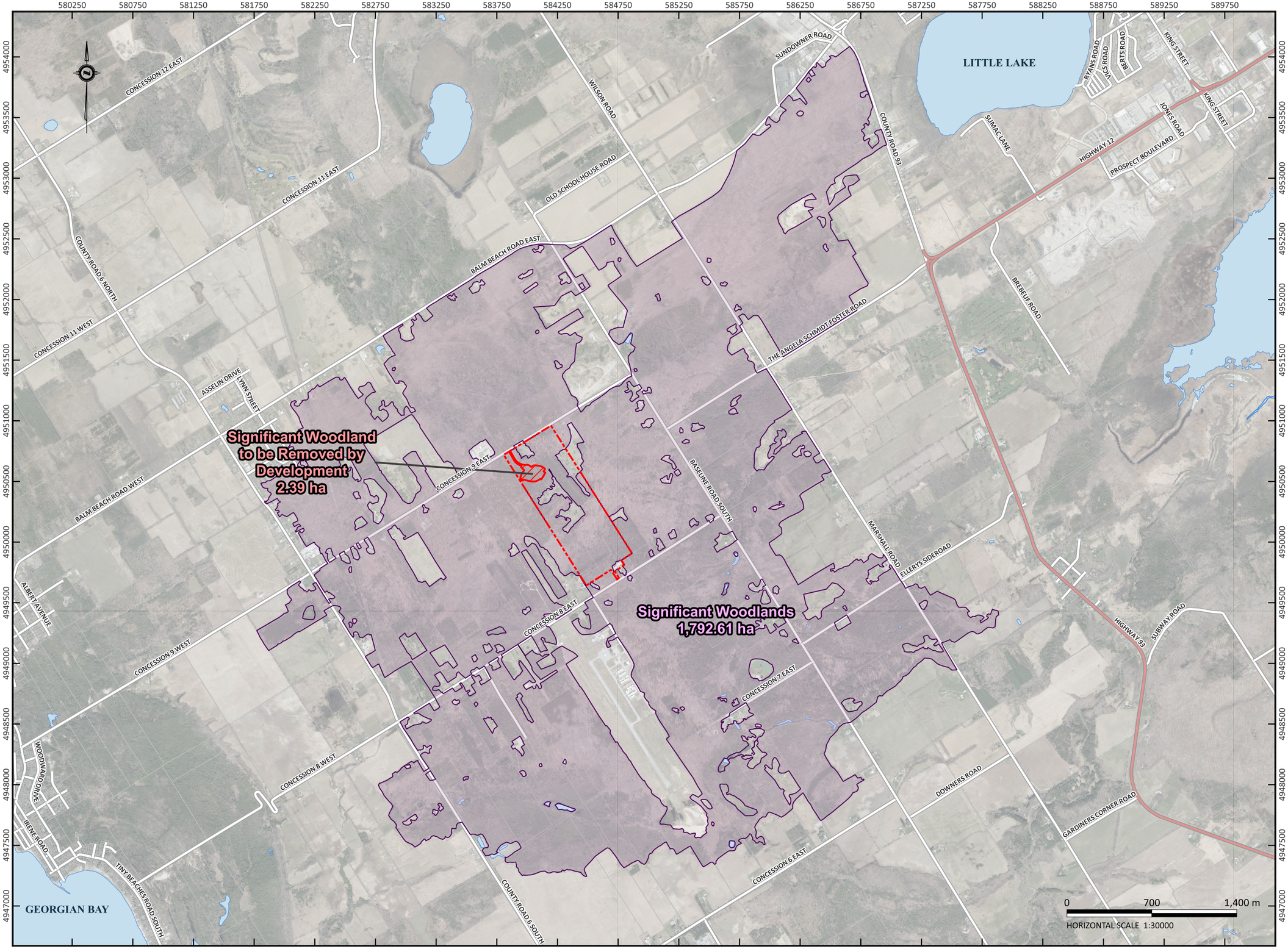
FOMM2–2	DRY–FRESH WHITE PINE–SUGAR MAPLE MIXED FOREST
FOCM6–2	DRY–FRESH NATURALIZED RED PINE CONIFEROUS PLANTATION
FODM5–1	DRY–FRESH SUGAR MAPLE DECIDUOUS FOREST
WOCM1	DRY–FRESH CONIFEROUS WOODLAND
MEGM3–1	POVERTY OAT GRASS GRAMINOID MEADOW
TAGM1	TREE AGRICULTURE (CONIFEROUS PLANTATION)

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

FORKED THREE-AWNED GRASS LOCATIONS

TINY TOWNSHIP ADMINISTRATION CENTRE TINY, ON

DATE ISSUED:	*AUGUST 2025*	Figure No. 2b
CREATED BY:	*A.L.*	
PROJECT NO.:	*24-152*	
REFERENCE:	*SIMCOE COUNTY*	



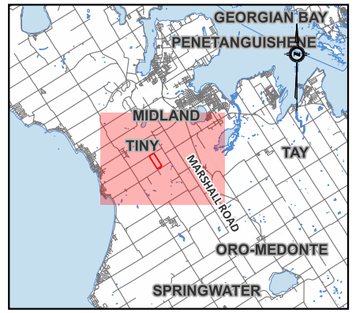
LEGEND

- Approx. Property Boundary
- Waterbody
- Road
- Highway
- Development Envelope
- Significant Woodlands

NOTES

1. Watercourse, Waterbody, Wetland, Woodland and ANSI layers are derived from MNRF GIS data, retrieved December 2022.
2. The metric grid displayed on the map corresponds to NAD83 / UTM zone 17N (EPSG:26917).

LOCATION MAP SCALE 1:500000



AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

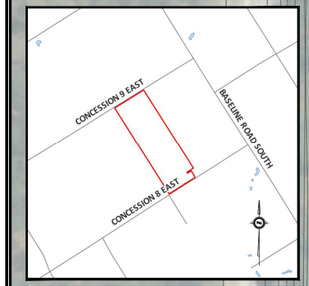
SIGNIFICANT WOODLAND

TINY TOWNSHIP ADMINISTRATION CENTRE
TINY, ON

DATE ISSUED:	AUGUST 2025	Figure No. 3
CREATED BY:	A.L.	
PROJECT NO.:	24-152	
BASE MAP:	MNRF	

File: Q:\24 Projects\24-152 Tiny Township Administration Centre\04.0 - Drafting\24-152.qgz

LOCATION PLAN



FODM5–1

TAGM1

WOCM1

FOMM2–2b

MEGM3–1a

FOCM6–2a

FOMM2–2a

EPWE

CONCESSION 9 EAST

PROJECT NORTH

TRUE NORTH

FUTURE INFORMATION AND WELCOME ROOM BUILDING

10.0m–300ø HDPE CULVERT E INV: 241.50 W INV: 241.01

20.0m–300ø HDPE CULVERT NE INV: 241.30 SW INV: 241.20

PROPOSED FIRE ROUTE

PROPOSED BIO–RETENTION CELL SEE DETAIL OF SECTION ON C–106.

MOUNTABLE CURB

BARRIER CURB

CURB CUT

CONC OUT

GEN

WASTE

TFC 3,310 m² FFE = 243.09

SEE INFILTRATION BASIN SECTION C–C ON C–106.

GRAVEL SHOULDER

HEAVY DUTY ASPHALT

BIO–RETENTION CELL

TOP OF CELL = 241.70

BOTTOM OF CELL = 241.20

3:1 MAX

20.0m–450ø HDPE CULVERT NE INV: 240.25 SW INV: 240.19

PROPOSED 3.0m WIDE ASPHALT WALKWAY

SEE ROAD CROSS SECTION D–D ON C–106.

PROPOSED OVERFLOW WEIR, SEE DETAIL OF SECTION ON C–106.

14.0m–300ø HDPE CULVERT N INV: 241.20 S INV: 241.27

PROPOSED STORAGE BUILDING

19.0m–300ø HDPE CULVERT W INV: 241.83 S INV: 241.90

FOCM6–2a ENCROACHMENT = 2.25ha

FOMM2–2a ENCROACHMENT = 0.14ha

229 CONCESSION 9 EAST

LEGEND:

- APPROX. PROPERTY BOUNDARY
- (#) AREA ID
- AREA BOUNDARY FOR SELECT REGIONS
- FORKED THREE–AWNED GRASS HABITAT
- 30m BUFFER FROM FORKED THREE–AWNED GRASS HABITAT

ELC UPLAND COMMUNITIES:

FOMM2–2	DRY–FRESH WHITE PINE–SUGAR MAPLE MIXED FOREST
FOCM6–2	DRY–FRESH NATURALIZED RED PINE CONIFEROUS PLANTATION
FODM5–1	DRY–FRESH SUGAR MAPLE DECIDUOUS FOREST
WOCM1	DRY–FRESH CONIFEROUS WOODLAND
MEGM3–1	POVERTY OAT GRASS GRAMINOID MEADOW
TAGM1	TREE AGRICULTURE (CONIFEROUS PLANTATION)

- EPWE — EASTERN WOOD–PEWEE

BAT SNAG CLASSIFICATION:

- CIRCLED – HIGH QUALITY
- UNCIRCLED – LOW QUALITY

- DEVELOPMENT ENVELOPE (WHITE)

Area ID	Estimated # Plants
1	>10,000
2	20
3	2,500
4	>500,000
5	50
6	5
7	2,000
8	4
9	20
10	500
11	500
12	1
13	1
14	5,000
15	10
16	500
17	5,000
18	1,000
19	50
20	1,000
21	1

0 37.50 75.0

HORIZONTAL SCALE 1:1500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

PROPOSED DEVELOPMENT

TINY TOWNSHIP ADMINISTRATION CENTRE TINY, ON

DATE ISSUED:	*AUGUST 2025*	Figure No. 4
CREATED BY:	*A.L.*	
PROJECT NO.:	*24-152*	
REFERENCE:	*SIMCOE COUNTY*	

Plotted by: ALU on August 20, 2025 at 4:49pm
File: Q:\24 Projects\24-152_Tiny Township Administration Centre\04.0 - Drafting\24-152_Site Layout.dwg Layout: 4 PROPOSED DEVELOPMENT Plotscale: 1

Table 1: Species at Risk Habitat Summary and Assessment, Tiny Township Administrative Centre

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Bank Swallow	*Riparia riparia*	THR	THR	Nests in burrows excavated in natural and human-made settings with vertical sand and silt faces. Commonly found in sand or gravel pits, road cuts, lakeshore bluffs, and along riverbanks (COSEWIC, 2013a). ESA Protection: Species and habitat protection	No excavated vertical features, sand or gravel pits providing potential nesting habitat. Species not observed during the dawn breeding bird survey program, or incidentally throughout the course of the field program.
Barn Swallow	*Hirundo rustica*	SC	THR	Ledges and walls of man-made structures such as buildings, barns, boathouses, garages, culverts and bridges. Also nest in caves, holes, crevices and cliff ledges (COSEWIC, 2011a). ESA Protection: N/A	Manmade structures were not identified within the study area limits. Species not observed during the dawn breeding bird survey program, or incidentally throughout the course of the field program.
Black Ash	*Fraxinus nigra*	END	No Status	Facultative wetland tree species frequently found in floodplain forests, swamps, seepage areas, shoreline margins and fens. Occupied sites are generally seasonally-flooded (COSEWIC, 2018). ESA Protection: Species and habitat protection.	Not identified during the vascular plant inventory.
Blanding's Turtle	*Emydoidea blandingii*	THR	END	Blanding's Turtles are a primarily aquatic species that prefer wetland habitats, lakes, ponds, slow-moving streams, etc., however they may utilize upland areas to search for suitable basking and nesting sites. In general, preferred wetland sites are eutrophic and characterized by clear, shallow water, with organic substrates and high density of aquatic vegetation (COSEWIC, 2005a). ESA Protection: Species and habitat protection	No Blanding's Turtles were observed throughout the course of the field program. No wetlands are located within the study area that would facilitate the majority of life processes for the species. No confirmed or potential Blanding's Turtle nesting sites identified within the study area limits, nor is the study area located in proximity to suitable wetlands. The study area does not occur on a route between suitable wetlands, such that overland transit between wetland habitat and/or nesting area units would be anticipated.
Bobolink	*Dolichonyx oryzivorus*	THR	THR	Nests primarily in forage crops (*e.g.* hayfields and pastures) dominated by a variety of species such as clover, Timothy, Kentucky Bluegrass, tall grass, and broadleaved plants. Also occurs in wet prairie, graminoid peatlands, and abandoned fields dominated by tall grasses. Does not generally occupy fields of row crops (*e.g* . corn, soybeans, wheat) or short-grass prairie. Sensitive to habitat size and has lower reproductive success in small habitat fragments (COSEWIC, 2010a). ESA Protection: Species and habitat protection	Grassland habitats are of insufficent size and openness to support suitable habitat conditions for the species. Intermittent tree cover throughout majority of meadow vegetation types is not consistent with typical open grassland/hayfield habitats typically occupied by the species. Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Branched Bartonia	*Bartonia paniculata*	THR	THR	Open graminoid or low shrub sphagnum bog or fen with scattered Larch and Black Spruce and peat substrate. (COSEWIC, 2003a) ESA Protection: Species and habitat protection	Not identified during the vascular plant inventory.
Broad Beech Fern	*Phygopteris hexagonoptera*	SC	SC	Rich soils in deciduous forests, such as Maple-Beech forests (MECP, 2022). ESA Protection: N/A	Not identified during the vascular plant inventory.
Butternut	*Juglans cinerea*	END	END	Commonly found in riparian habitats, but is also found in rich, moist, well-drained loams, and well-drained gravels. Butternut is intolerant of shade (COSEWIC, 2003b). ESA Protection: Species and habitat protection	Not identified during the vascular plant inventory.
Canada Warbler	*Cardellina canadensis*	SC	THR	Wet, mixed deciduous-coniferous forests with a well developed shrub layer. Shrub marshes, Red-Maple stands, cedar stands, Black Spruce swamps, larch and riparian woodlands along rivers and lakes (COSEWIC, 2008a). ESA Protection: N/A	Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Cerulean Warbler	*Dendroica cerulea*	THR	END	Associated with large tracts of mature deciduous forest with tall trees and an open understory. Found in both wet bottomland forests and upland areas (COSEWIC, 2010b). ESA Protection: Species and habitat protection	Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Chimney Swift	*Chaetura pelagica*	THR	THR	Nests primarily in chimneys though some populations (*i.e* . in rural northern areas) may nest in large cavity trees (COSEWIC, 2007a). Recent changes in chimney design may be a significant factor in recent declines in numbers (Cadman *et al* ., 2007). ESA Protection: Species and habitat protection	Manmade structures and/or old growth trees with large cavities not identified within the study area limits. Species was not identified throughout the dawn breeding bird survey program, evening breeding bird survey program, or incidentially throughout the course of the field program.
Common Five-lined Skink (Southern Shield population)	*Plestiodon fasciatus*	SC	SC	The Great Lakes/St. Lawrence Common Five-lined Skink population occur on the southern edge of the Canadian Shield on rocky outcrops embedded within coniferous and deciduous forest. This population has a strong association with rocky microhabitats and prefers exposed rock faces with few trees and plenty of cover rocks to help achieve their preferred body temperature. Other cover elements (i.e., logs on bedrock, logs in forest, rocks in forest) are less commonly used by this population as skinks rarely reached their preferred body temperature when utilizing them for shelter (COSEWIC, 2007b). ESA Protection: N/A	No Common Five-lined Skinks were observed throughout the course of the field program. The property is not located on the Canadian Shield, and exposed rocky outcrops were not observed throughout the study area limits. The study area is not anticipated to provide the microhabitat complexity required by the species, more typical of lands at the southern edge of the Canadian Shield.
Common Nighthawk	*Chordeiles minor*	SC	THR	Open habitats including sand dunes, beaches recently logged/burned over areas, forest clearings, short grass prairies, pastures, open forests, bogs, marshes, lakeshores, gravel roads, mine tailings, quarries, and other open relatively clear areas (COSEWIC, 2007c). ESA Protection: N/A	Species was not identified during the evening breeding bird survey program, or incidentially throughout the remainder of the field program.

Table 1: Species at Risk Habitat Summary and Assessment, Tiny Township Administrative Centre

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	THR	Habitat features include: well-drained soil; loose or sandy soil; open vegetative cover; brushland or forest edge; proximity to water; and climatic conditions typical of the eastern deciduous forest biome. In the Georgian Bay region, open grass, sand, human-impacted and forest habitats over rock, wetland, and aquatic habitats are preferable (COSEWIC, 2007d). ESA Protection: Species and habitat protection	No Eastern Hog-nosed Snakes were observed throughout the course of the field program. No American Toads were documented within the study area nor was suitable breeding habitat for American Toad identified. This species comprises the majorty of the species' diet in Canada, therefore the potential for the species to occur within the study area is **low**. Open areas on the property (MEGM3-1a through c) and outer edges (along meadow transitions) of semi-open woodlands (WOCM1) include intermittent areas of exposed sandy soil that may provide marginal potential as gestation habitat for Eastern Hog-nosed Snake. Other lands within the study area may provide more general habitat (foraging, thermoregulation, movement, *etc.*) for the species, noting that such functions should be considered marginal due to scarcity of prey. Refer to Section 4.3.1 for additional discussion.
Eastern Meadowlark	*Sturnella magna*	THR	THR	Most common in grassland, pastures, savannahs, as well as anthropogenic grassland habitats, including hayfields, weedy meadows, young orchards, golf courses, restored surface mines, *etc* . Occasionally nest in row crop fields such as corn and soybean, but there are considered low-quality habitat. Large tracts of grassland are preferred over smaller fragments and the minimum area required is estimated at 5ha (COSEWIC, 2011b). ESA Protection: Species and habitat protection	Grassland habitats are of insufficent size and openness to support suitable habitat conditions for the species. Intermittent tree cover throughout majority of meadow vegetation types is not consistent with typical open grassland/hayfield habitats typically occupied by the species. Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Eastern Musk Turtle	*Sternotherus oderatus*	SC	SC	Inhabit littoral zones of waterways such as rivers, lakes, bays, streams, ponds, canals, and swamps with slow to no current and soft bottoms. During the active season they prefer shallow water (<2m) with abundant vegetation. Most are found close to shore and do not venture onto land except to nest or access adjacent wetlands (COSEWIC, 2012a). ESA Protection: N/A	No Eastern Musk Turtles were observed throughout the course of the field program. Open wetlands or other wetlands are not located within the study area, therefore no suitable habitat for the species is anticipated to occur.
Eastern Red Bat	*Lasiurus borealis*	END	No status	Roosting habitat include deciduous and coniferous foress of any age class. Species tends to roost on large diameter and tall trees reaching the surrouding canopy (COSSARO, 2024). ESA Protection: Species and habitat protection	Mature deciduous and mixed woodland (FODM5-1, FOMM2-2) within the study area limits have potential to provide moderate to high quality maternity roosting habitat and day roosting habitat during the active season. Naturalized plantations, other plantations, and immature woodlands (FOCM6-2, TAGM1, WOCM1) may provide low quality maternity and day roosting habitat during the active season. Open areas (MEGM3-1) are not anticipated to provide potential day roosting or maternity roosting habitat for bats. Refer to Section 4.3.3 for additional discussion.
Eastern Small-footed Myotis	*Myotis lleibii*	END	END	Generally occurs in mountainous or rocky regions as well as in buildings, on the face of rock bluffs and beneath slabs of rock and stones. Hibernation is typically confined to caves and old mines (Best and Jennings, 1997). ESA Protection: Species and habitat protection	Caves, karst topography, and/or abandoned mines are absent within the study area, therefore potential hibernacula are not located within the study area limits. Exposed rocky outcrops, buffs, large rock slabs, and similar features were not observed throughout the study area limits. Manmade structures were not identified within the study area limits. Based on the above, no suitable habitat for the species is anticiapted to occur within the study area limits.
Eastern Whip-poor-will	*Antrostomus vociferus*	SC	THR	Semi-open forests or patchy forests with clearings, such as barrens or forests that are regenerating following major disturbances, are preferred nesting habitats (COSEWIC, 2009a). ESA Protection: N/A	Species was not identified during the evening breeding bird survey program, or incidentially throughout the remainder of the field program.
Eastern Wood-pewee	*Contopus virens*	SC	SC	Mostly in mature and intermediate-age deciduous and mixed forests having an open understory. It is often associated with forests dominated by Sugar Maple and oak. Usually associated with forest clearings and edges within the vicinity of its nest (COSEWIC, 2012b). ESA Protection: N/A	One (1) probable breeding territory for Eastern Wood-pewee confirmed in the western portion of the property, within the FOCM6-2a polygon.
Forked Three-awned Grass	*Aristida basiramea*	END	END	Species is restricted to dry, open sand barrens, low sand ridges or dunes, and post-glacial shorelines, often occurring in pine barrens but also occupying more weedy habitats. The species is frequently associated with sites where soil disturbance has occurred (COSEWIC, 2002). ESA Protection: Species and habitat protection.	Small to dense aggregations of the species identified durng the vascular plant inventory on September 17, 2024, generally within open meadow units (MEGM3-1a through c). Refer to Section 4.3.2 for additional discussion.
Golden-winged Warbler	*Vermivora chrysoptera*	SC	THR	Areas of early successional scrub surrounded by mature forests including dry uplands, swamp forests, and marshes (COSEWIC, 2006). ESA Protection: N/A	Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Henslow's Sparrow	*Ammodramus henslowii*	END	END	Requires grassland habitat and occurs more frequently and at higher densities in large patches of suitable habitat. Nests in tallgrass prairie, wet meadow, and marsh habitats as well as agricultural grasslands, lightly grazed pasture and grasslands on reclaimed surface mines (COSEWIC, 2011c). ESA Protection: Species and habitat protection	Grassland habitats are of insufficent size and openness to support suitable habitat conditions for the species. Intermittent tree cover throughout majority of meadow vegetation types is not consistent with typical open grassland/hayfield habitats typically occupied by the species. Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Hoary Bat	*Lasiurus cinereus*	END	No Status	Roosting habitat includes both deciduous and coniferous forests of any age class. Roost sites with overhead foliage and open flight space below are perferred, and typically occur near the edge of the crown and at high from the ground to prevent mammalian predation (COSEWIC, 2023). ESA Protection: Species and habitat protection	Mature deciduous and mixed woodland (FODM5-1, FOMM2-2) within the study area limits have potential to provide moderate to high quality maternity roosting habitat and day roosting habitat during the active season. Naturalized plantations, other plantations, and immature woodlands (FOCM6-2, TAGM1, WOCM1) may provide low quality maternity and day roosting habitat during the active season. Open areas (MEGM3-1) are not anticipated to provide potential day roosting or maternity roosting habitat for bats. Refer to Section 4.3.3 for additional discussion.
Least Bittern	*Ixobrychus exilis*	THR	THR	Breed strictly in marshes of emergents (usually cattails) that have relatively stable water levels and interspersed areas of open water (COSEWIC, 2009b). ESA Protection: Species and habitat protection	Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program. No wetlands located within the study area to support the species' life processes.

Table 1: Species at Risk Habitat Summary and Assessment, Tiny Township Administrative Centre

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Little Brown Myotis	*Myotis lucifugus*	END	END	Forests and regularly aging human structures as maternity roost sites. Regularly associated with attics of older buildings and barns for summer maternity roost colonies. Overwintering sites are characteristically mines or caves (MNRF, 2014) (COSEWIC, 2013b). ESA Protection: Species and habitat protection	Caves, karst topography, and/or abandoned mines are absent within the study area, therefore potential hibernacula are not located within the study area limits. Manmade structures were not identified within the study area limits. Mature deciduous and mixed woodland (FODM5-1, FOMM2-2) within the study area limits have potential to provide moderate to high quality maternity roosting habitat and day roosting habitat during the active season. Naturalized plantations, other plantations, and immature woodlands (FOCM6-2, TAGM1, WOCM1) may provide low quality maternity and day roosting habitat during the active season. Open areas (MEGM3-1) are not anticipated to provide potential day roosting or maternity roosting habitat for bats. Refer to Section 4.3.3 for additional discussion.
Louisiana Waterthrush	*Parkesia motacilla*	THR	SC	Occupies specialized habitat, showing a strong preferences for nesting and wintering along relatively pristine headwater streams and wetlands situated in large tracts of mature forest. Prefers running water, but also inhabits heavily wooded swamps and vernal or semi-permanent pools (COSEWIC, 2015). ESA Protection: Species and habitat protection	Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Massasauga (Great Lakes - St. Lawrence population)	*Sistrurus catenatus*	THR	THR	In Georgian Bay, Massasaugas use bedrock barrens, conifer swamps, beaver meadows, fens, bogs, and shoreline habitats. On the upper Bruce Peninsula, forested habitats are used during hibernation and open, wetland, and edge habitat with canopy closure <50% in mid-late summer (COSEWIC, 2012c). ESA Protection: Species and habitat protection	No Massasaugas were observed throughout the course of the field program. The property is not located on the Canadian Shield, and exposed rocky outcrops were not observed throughout the study area limits. The study area is not anticipated to provide the microhabitat complexity required by the species, more typical of lands at the southern edge of the Canadian Shield. As such, potential gestation, foraging, thermoregulation, and other habitat functions associated with rocky areas would not occur within the study area. No wetlands are located within the study area limits, therefore hibernation, foraging, thermoregulation, and other habitat functions associated with wetlands would not occur within the study area. Key habitat features required to support the speices' life processes do not occur within study area limits, therefore the species would not be expected to occur.
Monarch	*Danaus plexippus*	SC	SC	Breeding habitat is confined to sites where milkweeds, the sole food of caterpillars, grow. Milkweeds grow in a variety of environments, including meadows in farmlands, along roadsides and in ditches, open wetlands, dry sandy areas, short and tall grass prairie, river banks, irrigation ditches, arid valleys, and south-facing hills (COSEWIC, 2010c). ESA Protection: N/A	Monarch were not observed througout the course of the field program. Common Milkweed was observed occasionally throughout open areas on the property, therefore habitat for the species is anticipated to occur.
Northern Myotis	*Myotis septentrionalis*	END	END	Maternity roost sites are generally located within deciduous and mixed forests and focused in snags including loose bark and cavities of trees. Overwintering sites are characteristically mines or caves (COSEWIC, 2013b). ESA Protection: Species and habitat protection	Caves, karst topography, and/or abandoned mines are absent within the study area, therefore potential hibernacula are not located within the study area limits. Mature deciduous and mixed woodland (FODM5-1, FOMM2-2) within the study area limits have potential to provide moderate to high quality maternity roosting habitat and day roosting habitat during the active season. Naturalized plantations, other plantations, and immature woodlands (FOCM6-2, TAGM1, WOCM1) may provide low quality maternity and day roosting habitat during the active season. Open areas (MEGM3-1) are not anticipated to provide potential day roosting or maternity roosting habitat for bats. Refer to Section 4.3.3 for additional discussion.
Northern Map Turtle	*Grapetemys geographica*	SC	SC	Inhabits rivers and lakes where it basks on emergent rocks, banks, logs and fallen trees. Prefer shallow, soft-bottomed aquatic habitats with exposed objects for basking (COSEWIC, 2012d). ESA Protection: N/A	No Northern Map Turtles were observed throughout the course of the field program. Open wetlands or other wetlands are not located within the study area, therefore no suitable habitat for the species is anticipated to occur.
Peregrine Falcon	*Falco peregrinus*	SC	SC (*anatum/tundrius*)	Most nest on cliff ledges or crevices, but some will use tall buildings or bridges near good foraging areas. Nests are typically close to bodies of water (COSEWIC, 2007e). ESA Protection: N/A	No cliff ledges or tall buildings within the study area; no suitable habitat.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	Occurs in open deciduous forests, particularly those dominated by oak and beech, groves of dead trees, floodplain forests, orchards, cemeteries, savannas and savanna-like grasslands. Although the species occupies a range of habitat types, key habitat is characteristically composed of woodlands where tall trees are of large crcumference (i.e.mature cover) and are at a low density. A high density of snag trees is also an indicator of key habitat types (COSEWIC, 2007f). ESA Protection: Species and habitat protection	Mature deciduous and mixed woodlands (FODM5-1, FOMM2-2) within the study area are dense and feature a closed canopy, not conducive to the habitat requirements for the species. Plantations (FOCM6-2, TAGM1) are dominated by coniferous tree cover and not considered sufficient for the species' life processes. Other woodlands (WODM1) are open in character but are not sufficiently mature to promote the species' life processes. Species was not identified during the dawn breeding bird survey program, or incidentially throughout the remainder of the field program.
Silver-haired Bat	*Lasionycteris noctivagans*	END	No Status	Roosting habitat includes large and decaying coniferous or deciduous trees. Although rare, the species may roost in or on buildings, especially during migration (COSEWIC, 2023). ESA Protection: Species and habitat protection	Manmade structures were not identified within the study area limits. Mature deciduous and mixed woodland (FODM5-1, FOMM2-2) within the study area limits have potential to provide moderate to high quality maternity roosting habitat and day roosting habitat during the active season. Naturalized plantations, other plantations, and immature woodlands (FOCM6-2, TAGM1, WOCM1) may provide low quality maternity and day roosting habitat during the active season. Open areas (MEGM3-1) are not anticipated to provide potential day roosting or maternity roosting habitat for bats. Refer to Section 4.3.3 for additional discussion.
Snapping Turtle	*Chelydra serpentina*	SC	SC	Habitat is characterized by slow-moving water with a soft mud bottom and dense aquatic vegetation. Often located in ponds, sloughs, shallow bays or river edges and slow streams, or areas combining several of these wetland habitats (COSEWIC, 2008b). ESA Protection: N/A	No Snapping Turtles were observed throughout the course of the field program. Open wetlands or other wetlands are not located within the study area, therefore no suitable habitat for the species is anticipated to occur.

Table 1: Species at Risk Habitat Summary and Assessment, Tiny Township Administrative Centre

Common Name	Species Name	ESA	SARA	Key Habitats Used By Species[1]	Initial Assessment
Tri-colored Bat	*Perimyotis subflavus*	END	END	Maternity roost sites include forests and modified landscapes (barns or human-made structures). Overwintering sites include mines and caves (COSEWIC, 2013b). ESA Protection: Species and habitat protection	Caves, karst topography, and/or abandoned mines are absent within the study area, therefore potential hibernacula are not located within the study area limits. Manmade structures were not identified within the study area limits. Mature deciduous and mixed woodland (FODM5-1, FOMM2-2) within the study area limits have potential to provide moderate to high quality maternity roosting habitat and day roosting habitat during the active season. Naturalized plantations, other plantations, and immature woodlands (FOCM6-2, TAGM1, WOCM1) may provide low quality maternity and day roosting habitat during the active season. Open areas (MEGM3-1) are not anticipated to provide potential day roosting or maternity roosting habitat for bats. Refer to Section 4.3.3 for additional discussion.
Wood Thrush	*Hylocichla mustelina*	SC	THR	Found in moist, deciduous hardwood or mixed stands, often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches (COSEWIC, 2012e). ESA Protection: N/A	Wood Thrush was documented singing on one (1) occasion on adjacent lands during the dawn breeding bird survey program, however the species was only documented on a single occasion such that presumed breeding territories could not be assigned. Refer to Section 4.2.2.3 for additional discussion.
Yellow Rail	*Coturnicops noveboracensis*	SC	SC	Nest in wet marshy areas of short grass-like vegetation. The habitat must remain wet throughout the breeding season (COSEWIC, 2009c). ESA Protection: N/A	Species was not identified during the dawn breeding bird survey, evening breeding bird survey, or incidentially throughout the remainder of the field program.

[1] Habitat as outlined within the MECP's Species at Risk in Ontario website files (https://www.ontario.ca/page/species-risk-ontario), or Species Specific COSEWIC Reports referenced in this document.

Species at Risk in Ontario List (June 13, 2017)

Best, T., and J. Jennings. 1997. Mammalian Species, *Myotis leibii* . The American Society of Mammalogists. No. 547, pp. 1-6, 5 figs.

Cadman, M., D. Sutherland, G. Beck, D. Lepage and A. Couturier. 2007. Atlas of the Breeding Birds of Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field

COSEWIC. 2002. COSEWIC assessment and update status report on the Forked Three-awned Grass *Aristida basiraema* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 29 pp.

COSEWIC. 2003a. COSEWIC assessment and update status report on the Branched Bartonia *Bartonia paniculata* ssp. *paniculata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 14 pp.

COSEWIC. 2003b. COSEWIC assessment and status report on the Butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.

COSEWIC. 2005a. COSEWIC assessment and update status report on the Blanding's Turtle *Enydoidea blandingii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa.viii +40 pp.

COSEWIC. 2006. COSEWIC assessment and status report on the Golden-winged Warbler *Vermivora chrysoptera* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 30 pp.

COSEWIC. 2007a. COSEWIC assessment and update status report on the Chimney Swift *Chaetura pelagic* a in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp.

COSEWIC. 2007b. COSEWIC assessment and update status report on the Five-lined Skink *Eumeces fasciatus* (Carolinian population and Great Lakes/St. Lawrence population) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 50 pp.

COSEWIC. 2007c. COSEWIC assessment and status report on the Common Nighthawk *Chordeiles minor* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.

COSEWIC. 2007d. COSEWIC assessment and update status report on the Eastern Hog-nosed Snake *Heterodon platirhinos* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 36 pp.

COSEWIC. 2007e. COSEWIC assessment and status report on the Peregrine Falcon *Falco peregrinus* (*pealei* subspecies - *Falco peregrinus* and *pealei anatum/tundrius* - *Falco peregrinus anatum/tundrius*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 pp.

COSEWIC. 2007f. COSEWIC assessment and status report on the Red-headed Woodpecker *Melanerpes erythrocephalu* s in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.

COSEWIC. 2008a. COSEWIC assessment and status report on the Canada Warbler *Wilsonia Canadensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.

COSEWIC. 2008b. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.

COSEWIC. 2009a. COSEWIC assessment and update status report on the Whip-poor-will *Caprimulgus vociferus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 28 pp.

COSEWIC. 2009b. COSEWIC assessment and update status report on the Least Bittern *Ixobrychus exilis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.

COSEWIC. 2009c. COSEWIC assessment and status report on the Yellow Rail *Coturnicops noveboracensis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.

COSEWIC. 2010a. COSEWIC assessment and update status report on the Bobolink *Dolichonyx oryzivorus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 42 pp.

COSEWIC. 2010b. COSEWIC assessment and update status report on the Cerulean Warbler *Dendroica cerulea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.

COSEWIC. 2010c. COSEWIC assessment and status report on the Monarch *Danaus plexippus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.

COSEWIC. 2011a. COSEWIC assessment and update status report on the Barn Swallow *Hirundo rustica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.

COSEWIC. 2011b. COSEWIC assessment and update status report on the Eastern Meadowlark *Sturnella magna* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.

COSEWIC. 2011c. COSEWIC assessment and update status report on the Henslow's Sparrow *Ammodramus henslowii* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 37 pp.

COSEWIC. 2012a. COSEWIC assessment and status report on the Eastern Musk Turtle *Sternotherus odoratus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 68 pp

COSEWIC. 2012b. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.

COSEWIC. 2012c. COSEWIC assessment and update status report on the Massasauga *Sistrurus catenatus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 84 pp.

COSEWIC. 2012d. COSEWIC assessment and status report on the Northern Map Turtle *Graptemys geographica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 63 pp.

COSEWIC. 2012e. COSEWIC assessment and status report on the Wood Thrush *Hylocichla mustelina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.

COSEWIC. 2013a. COSEWIC assessment and update status report on the Bank Swallow *Riparia riparia* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.

COSEWIC. 2013b. COSEWIC assessment and update status report on the Little Brown Myotis *Myotis lucifugus* , Northern Myotis *Myotis septentrionalis* and Tri-colored Bat *Perimyotis subfalvus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.

COSEWIC. 2015. COSEWIC assessment and status report on the Louisiana Waterthrush *Parkesia motacilla* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 58 pp.

COSEWIC. 2018. COSEWIC assessment and status report on the Black Ash *Fraxinus nigra* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 95 pp.

COSEWIC. 2023. COSEWIC assessment and status report on the Hoary Bat *Lasiurus cinereus* , Eastern Red Bat *Lasiurus borealis* and Silver-haired Bat, *Lasionycteris noctivagans* , in Canada. Committee on the Status of Endangered Wildlfie in Canada. Ottawa. xxi + 100 pp.

COSSARO. 2024. Ontario species at risk evaluation report for Eastern Red Bat (Lasiurus borealis). Committee on the Statis of Species at Risk in Ontario.

Ministry of the Environment, Conservation and Parks (MECP). 2025. Species at Risk in Ontario (https://www.ontario.ca/page/species-risk-ontario)

Ministry of Natural Resources and Forestry (MNRF). 2014. Eastern Small-footed Bat. Queen's Printer for Ontario. https://www.ontario.ca/environment-and-energy/eastern-small-footed-bat

Table 2: Summary of Vegetation Communities, Tiny Township Administrative Centre

Unit	Description
WOODLAND	
FODM5-1 (Dry to Fresh Sugar Maple Deciduous Forest)	This mature deciduous woodland community is located in the northeast portion of the property fronting onto Concession Road 9 East, extending onto adjacent lands to the east of the site. No portion of the woodland comprises a sub-component of facultative or obligate wetland vascular plant species, inconsistent with municipal and provincial background resources (Appendix A). This vegetation community comprises Sugar Maple (*Acer saccharum*), American Beech (*Fagus grandifolia*), Red Oak (*Quercus rubra*), and Eastern White Pine (*Pinus strobus*) in dense canopy layer, with a similar subcanopy layer consisting of Sugar Maple, American Beech, White Birch (*Betula papyrifera*), and Eastern Hophornbeam (*Ostrya virginiana*) in descending order of density. The understory layer is sparse (<10% cover) is consists of American Beech and Sugar Maple, with occasional White Birch and Eastern Hemlock (*Tsuga candensis*) associates. The ground layer is moderately sparse (10-25% cover) and consists of Canada Mayflower (*Maianthemum canadense*) with Sugar Maple seedlings, Western Poison-Ivy (*Toxicodendron radicans var. rydbergii*), Bracken Fern (*Pteridium aquilinum*), Woodland Sedge (*Carex blanda*), and American Beech seedlings.
FOMM2-2a (Dry to Fresh White Pine-Sugar Maple Mixed Forest)	This mature mixed woodland community is located in the northwest portion of the property fronting onto Concession Road 9 East. This vegetation community includes Sugar Maple and Eastern White Pine in a dense canopy layer, with American Beech and Eastern Hophornbeam associates. The subcanopy layer is dense and is similarly composed of Sugar Maple, American Beech, White Birch, and Eastern Hophornbeam in descending order of density. The understory layer is moderately sparse (10-25% cover) and includes Sugar Maple, American Beech, and Eastern Hophornbeam, with a minor component of Glossy Buckthorn (*Frangula alnus*). The ground layer is moderately dense (25-60% cover) and consists of abundant Sugar Maple seedlings, with Canada Mayflower, Western Poison-Ivy and Bracken Fern associates.
FOMM2-2b (Dry to Fresh White Pine-Sugar Maple Mixed Forest)	This mature mixed woodland community is located in the north-central portion of the property between naturalized plantation (FOCM6-2a) and mature deciduous forest (FODM5-1) communities. The community is located at the confluence of multiple informal trails, leading to an improvised parking area at the southern edge of a meadow (MEGM3-1a). This vegetation community includes Sugar Maple and Eastern White Pine in a dense canopy layer, with American Beech and Eastern Hophornbeam associates. The subcanopy layer is dense and is similarly composed of Sugar Maple, American Beech, White Birch, and Eastern Hophornbeam in descending order of density. The understory layer is moderately dense (25-60% cover) and

Table 2: Summary of Vegetation Communities, Tiny Township Administrative Centre

Unit	Description
	includes Sugar Maple, American Beech, Glossy Buckthorn, and Eastern Hophornbeam. The ground layer is moderately dense (25-60% cover) and consists of Canada Mayflower, Bracken Fern, Sugar Maple seedlings, Field Basil (*Clinopodium vulgare*), and Western Poison-Ivy in descending order of density.
FOCM6-2a (Dry to Fresh Naturalized Red Pine Coniferous Plantation)	This woodland polygon represents a Red Pine (*Pinus resinosa*) plantation that has gradually naturalized since its establishment prior to 1954 (County of Simcoe, 2024). This unit is located in the northwest portion of the site, appearing continuous with naturalized Red Pine plantation beyond the western property boundary. This vegetation community is dominated by dense Red Pine with occasional White Pine in the canopy layer. The understory is moderately dense (25-60% cover) and consists of Red Oak, American Beech, White Pine, and White Birch in descending order of density, indicative of successional growth associated with the process or naturalization. The understory is similarly moderately dense (25-60% cover) and comprises American Beech, Red Oak, Smooth Serviceberry (*Amelanchier laevis*), and Glossy Buckthorn. The ground layer is sparse (<10% cover) and includes Wild Red Raspberry (*Rubus idaeas ssp. strigosus*), Canada Mayflower, Glossy Buckthorn seedlings, American Beech seedlings, Meadow Hawkweed (*Pilosella caespitosa*), and Wood Bluegrass (*Poa nemoralis*).
FOCM6-2b (Dry to Fresh Naturalized Red Pine Coniferous Plantation)	This woodland polygon represents a Red Pine plantation that has gradually naturalized since its establishment between 1954 and 1978 (County of Simcoe, 2024). This unit is located in the central portion of the site, dividing northern and southern open meadow nodes of MEGM3-1b on an east-west axis. Immature woodland dominated by Scot's Pine (*Pinus sylvestris*) surrounds this feature on all sides. This vegetation community is dominated by dense Red Pine with occasional White Pine in the canopy layer. The understory is moderately dense (25-60% cover) and consists of Sugar Maple, Red Oak, Red Maple (*Acer rubrum*), White Pine, and White Birch in descending order of density, indicative of successional growth associated with the process or naturalization. The understory is similarly moderately dense (25-60% cover) and comprises Red Maple, Red Oak, Scot's Pine, and Sugar Maple. The ground layer is moderately sparse (10-25% cover) and includes Canada Mayflower, Wild Red Raspberry, Common Blackberry (*Rubus alleghaniensis*), and Meadow Hawkweed in descending order of density.
WOCM1 (Dry-Fresh Coniferous Woodland)	This immature/open woodland polygon is dominated by young Scot's Pine, indicative of post-agricultural growth after farming was stopped on the property in the early-1990s (before 1997)(County of Simcoe, 2024). The extent of this polygon has gradually increased in since initial growth, occupying an increasing amount of the adjacent MEGM3-1b polygon both north and south of the FOCM6-2b plantation unit.

Table 2: Summary of Vegetation Communities, Tiny Township Administrative Centre

Unit	Description
	This vegetation community does not feature a closed or otherwise developed canopy or subcanopy layer. Moderately-mature Scot's Pine trees (<10m height) are dominant throughout approximately 50% of the polygon limits, with occasional White Spruce (*Picea glauca*), Trembling Aspen (*Populus tremuloides*), and Red Maple associates. The understory/shrub layer represents moderate cover (~25%) and is similarly dominated by Scot's Pine, with Trembling Aspen, Red Oak, and Red Maple associates. The ground layer is dense and is dominated by Poverty Oatgrass (*Danthonia spicata*), with Sheep Sorrel (*Rumex acetosella*), Spotted Knapweed (*Centaurea stoebe*), Canada Bluegrass (*Poa compressa*), Dewberry (*Rubus flagellaris*), and Meadow Hawkweed associates. Notably, one (1) small population (Area 5) of Forked Three-awned Grass (*Aristida basiramea*)(Endangered) was identified within the polygon limits, in an open sandy clearing north of the FOCM6-2b polygon and south of the adjacent MEGM3-1b meadow.
TAGM1 (Treed Agriculture)	This coniferous plantation was established on the property between 1989 and 1997 according to historical aerial photography (County of Simcoe, 2024) and includes three (3) north-south oriented strips of coniferous trees in dense rows. Species planted as part of plantation efforts include White Pine, White Spruce, and Scot's Pine. Due to density of plantings, the understory is very sparse (<<10% cover) except in the eastern Scot's Pine plantation area which is slightly more open in character and understory is moderately sparse (10-25% cover), consisting of Scot's Pine, Red Oak, Red Maple, and Wild Red Raspberry in descending order of density. The ground layer is similarly very sparse, except moderately dense in the eastern Scot's Pine plantation area, consisting of Wood Bluegrass, Canada Mayflower, Meadow Hawkweed, Northern Starflower (*Lysimachia borealis*), Shinleaf (*Pyrola elliptica*), and Spotted Knapweed.
MEADOW	
MEGM3-1a (Poverty Oat Grass Graminoid Meadow)	This open meadow community is located along the northern property boundary, directly south of Concession Road 9 East. This unit is bisected by an informal trail/driveway, leading to an improvised parking area at the southern edge of the unit, where it continues to the south, east, and west as a network of walking trails. This vegetation unit is very dry, and is characterized by open grassland complexed with Reindeer Lichen (*Cladonia rangiferina*) and minor intermittent sections of exposed sand. This vegetation community features a very sparse (<<10%) treed layer with occasional Scot's Pine, Trembling Aspen, Red Oak, and Largetooth Aspen (*Populus grandidentata*). The ground layer varies in density, and is composed of Poverty Oatgrass, Spotted Knapweed, Bracken Fern, Canada Bluegrass,

Table 2: Summary of Vegetation Communities, Tiny Township Administrative Centre

Unit	Description
	Western Poison-Ivy, Smooth Brome (*Bromus inermis*) and Daisy Fleabane (*Erigeron annuus*). Notably, multiple populations of Forked Three-awned Grass (Endangered) were identified within the polygon limits.
MEGM3-1b (Poverty Oat Grass Graminoid Meadow)	This open meadow community is located in the central portion of the property, and is bisected (all but its eastern edge) by immature woodland (WOCM1) and the southern naturalized plantation (FOCM6-2b) unit. A north-south oriented walking trail runs along the eastern edge of the polygon, meeting an east-west trail near its southern edge. This vegetation unit is very dry, and is characterized by open grassland complexed with Reindeer Lichen and minor intermittent sections of exposed sand. An informal driving range has been established in the southern portion of the polygon. This vegetation community features a sparse (<10%) treed layer with occasional Scot's Pine, Red Pine, Norway Spruce (*Picea abies*), White Pine, and Trembling Aspen. The ground layer varies in density, and is composed of Poverty Oatgrass, Spotted Knapweed, Forked Three-awned Grass, Sheep Sorrel, Canada Bluegrass, Daisy Fleabane, and Hoary Alyssum (*Berteroa incana*). Notably, multiple populations of Forked Three-awned Grass (Endangered) were identified within the polygon limits, including an extensive and dense cluster of the species occupying the majority of the southern node of the unit (Area 4). The northern node also featured the species, but comparatively less abundantly presumably due to competition from dense Poverty Oatgrass at this location.
MEGM3-1c (Poverty Oat Grass Graminoid Meadow)	This open meadow community is located in the central-eastern portion of the property. A north-south oriented walking trail runs through the western section of the polygon. This vegetation unit is very dry, and is characterized by open grassland complexed with Reindeer Lichen and minor intermittent sections of exposed sand. This vegetation community features a moderately sparse (10-25%) treed layer with occasional Scot's Pine, Norway Spruce, White Pine, and Red Oak. The ground layer varies in density, and is composed of Poverty Oatgrass, Spotted Knapweed, Daisy Fleabane, Canada Bluegrass, Sheep Sorrell, Bladder Campion (*Silene vulgaris*), Common Blackberry, and Meadow Hawkweed. Notably, multiple populations of Forked Three-awned Grass (Endangered) were identified within the polygon limits.

Table 3: Vascular Plant List, Tiny Township Administrative Centre Surveyor: D. Stuart, D. d'Entremont **AEC24-152**

			Vegetation Communities[2]										Conservation Rankings[3]			Regional[4]
FAMILY[1]	SCIENTIFIC NAME[1]	COMMON NAME[1]	FODM5-1	FOMM2-2a	FOMM2-2b	FOCM6-2a	FOCM6-2b	WOCM1	TAGM1	MEGM3-1a	MEGM3-1b	MEGM3-1c	GRANK	SRANK	TRACK	Simcoe
Aceraceae	*Acer negundo*	Manitoba Maple											G5	S5	N	
Aceraceae	*Acer rubrum*	Red Maple	X	X	X	X	X	X	X				G5	S5	N	
Aceraceae	*Acer saccharum*	Sugar Maple	X	X	X	X	X	X	X			X	G5	S5	N	
Anacardiaceae	*Rhus typhina*	Staghorn Sumac					X	X		X		X	G5	S5	N	
Anacardiaceae	*Toxicodendron radicans var. rydbergii*	Western Poison Ivy	X	X	X	X	X		X	X			G5	S5	N	
Apiaceae	*Aegopodium podagraria*	Goutweed						X					GNR	SE5	N	
Apiaceae	*Daucus carota*	Wild Carrot								X			GNR	SE5	N	
Apocynaceae	*Apocynum androsaemifolium*	Spreading Dogbane						X		X			G5	S5	N	
Apocynaceae	*Asclepias syriaca*	Common Milkweed			X			X		X		X	G5	S5	N	
Araliaceae	*Aralia nudicaulis*	Wild Sarsaparilla	X		X	X			X				G5	S5	N	
Asteraceae	*Ambrosia artemisiifolia*	Common Ragweed						X		X		X	G5	S5	N	
Asteraceae	*Antennaria howellii*	Howell's Pussytoes						X		X			G5	S5	N	
Asteraceae	*Centaurea stoebe*	Spotted Knapweed						X	X	X		X	GNR	SE5	N	
Asteraceae	*Cichorium intybus*	Wild Chicory										X	GNR	SE5		
Asteraceae	*Cirsium arvense*	Canada Thistle	X										G5	SE5	N	
Asteraceae	*Erigeron annuus*	Annual Fleabane						X		X		X	G5	S5	N	
Asteraceae	*Euthamia graminifolia*	Grass-leaved Goldenrod						X		X		X	G5	S5	N	
Asteraceae	*Leucanthemum vulgare*	Oxeye Daisy						X		X		X	GNR	SE5	N	
Asteraceae	*Matricaria discoidea*	Pineappleweed								X			G5	SE5	N	
Asteraceae	*Mycelis muralis*	Wall Lettuce	X										GNR	SE2	N	
Asteraceae	*Nabalus altissimus*	Tall Rattlesnakeroot							X				G5	S5	N	
Asteraceae	*Pilosella caespitosa*	Meadow Hawkweed	X		X	X	X	X	X			X	GNR	SE5	N	
Asteraceae	*Solidago altissima*	Tall Goldenrod				X							G5	S5	N	
Asteraceae	*Solidago caesia*	Blue-stemmed Goldenrod		X									G5	S5	N	
Asteraceae	*Symphyotrichum lanceolatum*	Panicled Aster						X					G5	S5	N	
Asteraceae	*Symphyotrichum lateriflorum*	Calico Aster						X		X			G5	S5	N	
Asteraceae	*Symphyotrichum urophyllum*	Arrow-leaved Aster					X	X	X			X	G4G5	S4	N	
Asteraceae	*Taraxacum officinale*	Common Dandelion					X						G5	SE5	N	

Table 3: Vascular Plant List, Tiny Township Administrative Centre Surveyor: D. Stuart, D. d'Entremont **AEC24-152**

			Vegetation Communities[2]										Conservation Rankings[3]			Regional[4]
FAMILY[1]	SCIENTIFIC NAME[1]	COMMON NAME[1]	FODM5-1	FOMM2-2a	FOMM2-2b	FOCM6-2a	FOCM6-2b	WOCM1	TAGM1	MEGM3-1a	MEGM3-1b	MEGM3-1c	GRANK	SRANK	TRACK	Simcoe
Asteraceae	*Tragopogon dubius*	Yellow Goatsbeard						X		X		X	GNR	SE5	N	
Betulaceae	*Betula papyrifera*	Paper Birch	X	X	X	X	X	X	X				G5	S5	N	
Betulaceae	*Ostrya virginiana*	Eastern Hop-hornbeam	X	X	X				X				G5	S5	N	
Boraginaceae	*Echium vulgare*	Common Viper's Bugloss								X			GNR	SE5	N	
Brassicaceae	*Berteroa incana*	Hoary Alyssum						X		X		X	GNR	SE5	N	
Brassicaceae	*Turritis glabra*	Tower Mustard								X			G5	S5	N	
Caprifoliaceae	*Lonicera canadensis*	Canada Fly Honeysuckle	X										G5	S5	N	
Caprifoliaceae	*Lonicera tatarica*	Tatarian Honeysuckle	X			X	X		X				GNR	SE5	N	
Caprifoliaceae	*Viburnum rafinesqueanum*	Downy Arrowwood						X					G5	S5	N	
Caryophyllaceae	*Dianthus armeria*	Deptford Pink						X		X		X	GNR	SE5	N	
Caryophyllaceae	*Silene vulgaris*	Bladder Campion	X				X	X	X	X		X	GNR	SE5	N	
Clusiaceae	*Hypericum perforatum*	Common St. John's-wort				X		X	X	X		X	GNR	SE5	N	
Cornaceae	*Cornus sericea*	Red-osier Dogwood					X						G5	S5	N	
Cupressaceae	*Juniperus communis*	Common Juniper	X				X			X			G5	S5	N	
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar	X										G5	S5	N	
Cyperaceae	*Carex arctata*	Drooping Woodland Sedge	X	X	X	X	X		X				G5	S5	N	
Cyperaceae	*Carex blanda*	Woodland Sedge	X	X	X	X	X						G5	S5	N	
Cyperaceae	*Carex brevior*	Short-beaked Sedge						X		X			G5	S4	N	
Cyperaceae	*Carex deweyana*	Dewey's Sedge		X									G5	S5	N	
Cyperaceae	*Carex gracillima*	Graceful Sedge	X										G5	S5	N	
Cyperaceae	*Carex interior*	Inland Sedge								X			G5	S5	N	
Cyperaceae	*Carex muehlenbergii*	Muhlenberg's Sedge						X		X		X	G5	S4S5	N	
Cyperaceae	*Carex peckii*	Peck's Sedge	X	X			X						G5	S5	N	
Cyperaceae	*Carex pensylvanica*	Pennsylvania Sedge	X	X	X	X	X						G5	S5	N	
Cyperaceae	*Carex tonsa*	Deep-green Sedge											G5	S5	N	
Dennstaedtiaceae	*Pteridium aquilinum*	Bracken Fern	X	X	X	X	X	X		X			G5	S5	N	
Dryopteridaceae	*Dryopteris intermedia*	Evergreen Wood Fern	X			X							G5	S5	N	
Dryopteridaceae	*Dryopteris marginalis*	Marginal Wood Fern				X							G5	S5	N	

Table 3: Vascular Plant List, Tiny Township Administrative Centre Surveyor: D. Stuart, D. d'Entremont **AEC24-152**

			Vegetation Communities[2]										Conservation Rankings[3]			Regional[4]
FAMILY[1]	SCIENTIFIC NAME[1]	COMMON NAME[1]	FODM5-1	FOMM2-2a	FOMM2-2b	FOCM6-2a	FOCM6-2b	WOCM1	TAGM1	MEGM3-1a	MEGM3-1b	MEGM3-1c	GRANK	SRANK	TRACK	Simcoe
Fabaceae	*Desmodium canadense*	Canada Tick-trefoil								X			G5	S4	N	
Fabaceae	*Lotus corniculatus*	Garden Bird's-foot Trefoil								X			GNR	SE5	N	
Fabaceae	*Melilotus albus*	White Sweet-clover								X			G5	SE5	N	
Fabaceae	*Trifolium pratense*	Red Clover								X			GNR	SE5	N	
Fabaceae	*Vicia cracca*	Tufted Vetch							X			X	GNR	SE5	N	
Fagaceae	*Fagus grandifolia*	American Beech	X	X	X	X	X	X	X	X		X	G5	S4	N	
Fagaceae	*Quercus rubra*	Northern Red Oak	X		X	X	X	X	X	X		X	G5	S5	N	
Juncaceae	*Juncus tenuis*	Path Rush										X	GNR	S5	N	
Lamiaceae	*Clinopodium vulgare ssp. vulgare*	Wild Basil	X	X	X			X		X		X	G5T5	S5	N	
Lamiaceae	*Prunella vulgaris*	Common Self-heal						X					G5	S5	N	
Liliaceae	*Convallaria majalis*	European Lily-of-the-valley		X	X								G5	SE5	N	
Liliaceae	*Maianthemum canadense*	Wild Lily-of-the-valley	X	X	X	X	X	X	X				G5	S5	N	
Liliaceae	*Maianthemum racemosum*	Large False Solomon's Seal	X										G5T5	S5	N	
Liliaceae	*Polygonatum pubescens*	Hairy Solomon's Seal	X	X	X								G5	S5	N	
Liliaceae	*Trillium grandiflorum*	White Trillium	X	X									G5	S5	N	
Lycopodiaceae	*Diphasiastrum digitatum*	Southern Ground-cedar				X		X					G5	S5	N	
Monotropaceae	*Monotropa uniflora*	Indian-pipe	X	X	X	X		X	X				G5	S5	N	
Oleaceae	*Fraxinus americana*	White Ash	X	X	X	X		X					G4	S4	N	
Oleaceae	*Fraxinus pennsylvanica*	Red Ash					X						G4	S4	N	
Onagraceae	*Oenothera biennis*	Common Evening-primrose						X		X		X	G5	S5	N	
Orchidaceae	*Cypripedium acaule*	Pink Lady's-slipper					X	X					G5	S5	N	
Orchidaceae	*Epipactis helleborine*	Broad-leaved Helleborine		X									GNR	SE5	N	
Orobanchaceae	*Conopholis americana*	American Cancerroot				X							G5	S4	N	
Orobanchaceae	*Epifagus virginiana*	Beechdrops	X	X	X	X							G5	S5	N	
Oxalidaceae	*Oxalis stricta*	Upright Yellow Wood-sorrel			X					X		X	G5	SE5	N	R-5
Pinaceae	*Abies balsamea*	Balsam Fir	X										G5	S5	N	
Pinaceae	*Picea abies*	Norway Spruce						X				X	G5	SE3	N	
Pinaceae	*Picea glauca*	White Spruce	X				X	X	X				G5	S5	N	

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			Vegetation Communities[2]										Conservation Rankings[3]			Regional[4]
FAMILY[1]	SCIENTIFIC NAME[1]	COMMON NAME[1]	FODM5-1	FOMM2-2a	FOMM2-2b	FOCM6-2a	FOCM6-2b	WOCM1	TAGM1	MEGM3-1a	MEGM3-1b	MEGM3-1c	GRANK	SRANK	TRACK	Simcoe
Pinaceae	*Picea pungens*	Blue Spruce										X	G5	SE1	N	
Pinaceae	*Pinus resinosa*	Red Pine		X		X	X	X					G5	S5	N	
Pinaceae	*Pinus strobus*	Eastern White Pine	X	X	X	X	X	X	X			X	G5	S5	N	
Pinaceae	*Pinus sylvestris var. sylvestris*	Scots Pine		X		X	X	X	X	X		X	GNRTN	SE5	N	
Pinaceae	*Tsuga canadensis*	Eastern Hemlock	X										G4G5	S5	N	
Plantaginaceae	*Plantago lanceolata*	English Plantain								X			G5	SE5	N	
Plantaginaceae	*Plantago major*	Common Plantain			X			X		X			G5	SE5	N	
Poaceae	*Agrostis gigantea*	Redtop						X				X	G4G5	SE5	N	
Poaceae	*Aristida basiramea*	Forked Threeawn Grass						X	X	X		X	G5	S2	Y	R-2
Poaceae	*Bromus ciliatus*	Fringed Brome						X				X	G5	S5	N	
Poaceae	*Bromus inermis*	Smooth Brome								X			G5T5	SE5	N	
Poaceae	*Dactylis glomerata*	Orchard Grass											GNR	SE5	N	
Poaceae	*Danthonia spicata*	Poverty Oatgrass					X	X		X		X	G5	S5	N	
Poaceae	*Dichanthelium depauperatum*	Starved Panicgrass								X		X	G5	S4	N	
Poaceae	*Digitaria sanguinalis*	Hairy Crabgrass								X		X	G5	SE5	N	
Poaceae	*Elymus repens*	Quackgrass						X		X		X	GNR	SE5	N	
Poaceae	*Festuca rubra*	Red Fescue						X		X		X	G5	S5	N	
Poaceae	*Oryzopsis asperifolia*	Rough-leaved Mountain Rice	X	X									G5	S5	N	
Poaceae	*Phleum pratense*	Common Timothy						X					GNR	SE5	N	
Poaceae	*Poa compressa*	Canada Bluegrass			X			X		X		X	GNR	SE5	N	
Poaceae	*Poa nemoralis*	Eurasian Woodland Bluegrass	X	X	X	X	X		X				G5TU	SE4	N	
Poaceae	*Poa pratensis*	Kentucky Bluegrass				X		X	X	X			G5	S5	N	
Poaceae	*Schizachyrium scoparium*	Little Bluestem								X			G5	S4	N	
Poaceae	*Sporobolus cryptandrus*	Sand Dropseed								X		X	G5	S4	N	
Polygonaceae	*Fallopia scandens*	Climbing False Buckwheat						X		X		X	G5	S4S5	N	
Polygonaceae	*Polygonum aviculare*	Prostrate Knotweed								X			G5	S4?	N	
Polygonaceae	*Rumex acetosella*	Sheep Sorrel				X	X	X	X	X		X	GNR	SE5	N	
Primulaceae	*Lysimachia borealis*	Northern Starflower	X	X	X	X	X	X	X				G5	S5	N	

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			Vegetation Communities[2]										Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FODM5-1**	**FOMM2-2a**	**FOMM2-2b**	**FOCM6-2a**	**FOCM6-2b**	**WOCM1**	**TAGM1**	**MEGM3-1a**	**MEGM3-1b**	**MEGM3-1c**	**GRANK**	**SRANK**	**TRACK**	**Simcoe**
Pyrolaceae	*Chimaphila umbellata*	Common Pipsissewa	X						X				G5	S5	N	
Pyrolaceae	*Pyrola elliptica*	Shinleaf	X	X	X	X		X	X			X	G5	S5	N	
Ranunculaceae	*Actaea rubra*	Red Baneberry							X				G5	S5	N	
Ranunculaceae	*Anemone cylindrica*	Long-headed Anemone										X	G5	S4	N	
Ranunculaceae	*Anemone virginiana*	Tall Anemone						X					G5	S5	N	
Rhamnaceae	*Frangula alnus*	Glossy Buckthorn	X	X	X	X	X	X	X			X	GNR	SE5	N	
Rosaceae	*Amelanchier laevis*	Smooth Serviceberry	X	X		X	X		X				G5	S5	N	
Rosaceae	*Crataegus sp.*	a Hawthorn										X	N/A	N/A	N/A	
Rosaceae	*Fragaria virginiana*	Wild Strawberry		X		X	X	X	X			X	G5	S5	N	
Rosaceae	*Potentilla argentea*	Silvery Cinquefoil								X			GNR	SE5	N	
Rosaceae	*Potentilla recta*	Sulphur Cinquefoil					X	X	X	X		X	GNR	SE5	N	
Rosaceae	*Prunus serotina*	Black Cherry	X		X			X	X				G5	S5	N	
Rosaceae	*Prunus virginiana*	Chokecherry	X	X		X		X	X			X	G5	S5	N	
Rosaceae	*Rubus allegheniensis*	Allegheny Blackberry		X	X	X	X	X	X	X		X	G5	S5	N	
Rosaceae	*Rubus flagellaris*	Northern Dewberry						X		X		X	G5	S4	N	
Rosaceae	*Rubus idaeus ssp. strigosus*	North American Red Raspberry		X		X	X	X	X				G5T5	S5	N	
Rosaceae	*Rubus odoratus*	Purple-flowering Raspberry										X	G5	S5	N	R-5
Rosaceae	*Sorbus aucuparia*	European Mountain-ash		X					X				G5	SE4	N	
Rubiaceae	*Mitchella repens*	Partridgeberry		X			X						G5	S5	N	
Salicaceae	*Populus grandidentata*	Large-toothed Aspen	X		X			X		X			G5	S5	N	
Salicaceae	*Populus tremuloides*	Trembling Aspen	X	X	X		X	X		X			G5	S5	N	
Scrophulariaceae	*Verbascum thapsus*	Common Mullein						X		X		X	GNR	SE5	N	
Scrophulariaceae	*Veronica officinalis*	Common Speedwell			X				X				G5	SE5	N	
Solanaceae	*Physalis heterophylla*	Clammy Ground-cherry						X		X		X	G5	S4	N	
Taxaceae	*Taxus canadensis*	Canada Yew			X								G5	S4	N	
Ulmaceae	*Ulmus americana*	White Elm						X					G4	S5	N	
Vitaceae	*Vitis riparia*	Riverbank Grape		X	X	X	X						G5	S5	N	

[1] Nomenclature based on Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC; MNR, 2025)

Table 3: Vascular Plant List, Tiny Township Administrative Centre Surveyor: D. Stuart, D. d'Entremont **AEC24-152**

			Vegetation Communities[2]									Conservation Rankings[3]			Regional[4]
FAMILY[1]	**SCIENTIFIC NAME[1]**	**COMMON NAME[1]**	**FODM5-1**	**FOMM2-2a**	**FOMM2-2b**	**FOCM6-2a**	**FOCM6-2b**	**WOCM1**	**TAGM1**	**MEGM3-1a**	**MEGM3-1b**	**MEGM3-1c**	**GRANK**	**SRANK**	**TRACK**	**Simcoe**

[2] ELC Codes based on Ecological Land Classification for Southern Ontario manual (Lee et al., 1998, 2008)

[3] Conservation Rankings: From Ontario Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (https://www.ontario.ca/page/natural-heritage-information-centre)

[4] Riley, J.L. 1989. Distribution and Status of the Vascular Plants of Central Region, Ontario. Ministry of Natural Resources. Parks and Recreational Areas Section, OMNR, Open File Ecological Report SR8902, Central Region, Richmond Hill, Ontario. XiX + 110 pp.

			Location[1,2]																											Conservation Rankings[3]				
			1			2			3			4			5			6			7			8			Adjacent Lands	Incidental					
FAMILY	SCIENTIFIC NAME	COMMON NAME	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3			GRANK	SRANK	ESA	SARA	TRACK
Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing		C																		S							G5	S5			N
Cardinalidae	*Pheucticus ludovicianus*	Rose-breasted Grosbeak	S																										G5	S5B			N
Cardinalidae	*Piranga olivacea*	Scarlet Tanager																										✓	G5	S5B			N
Cathartidae	*Cathartes aura*	Turkey Vulture																	FO										G5	S5B,S3N			N
Certhiidae	*Certhia americana*	Brown Creeper					S																						G5	S5			N
Columbidae	*Zenaida macroura*	Mourning Dove					S						S														S		G5	S5			N
Corvidae	*Corvus brachyrhynchos*	American Crow																				A					C		G5	S5			N
Corvidae	*Corvus corax*	Common Raven								C			C/FO			C													G5	S5			N
Corvidae	*Cyanocitta cristata*	Blue Jay							C/FO	C			T/A/C		A	C		C							A/T/C		T/A/C		G5	S5			N
Fringillidae	*Spinus tristis*	American Goldfinch		C					C/FO										C						P/C				G5	S5			N
Icteridae	*Molothrus ater*	Brown-headed Cowbird							H																				G5	S5			N
Laridae	*Larus delawarensis*	Ring-billed Gull										C/FO	FO																G5	S5			N
Paridae	*Poecile atricapillus*	Black-capped Chickadee		S/C						S/C					S	C		S	S/C		C	S			C		S/C		G5	S5			N
Parulidae	*Leiothlypis ruficapilla*	Nashville Warbler							S			S	S		S			S											G5	S5B			N
Parulidae	*Mniotilta varia*	Black-and-white Warbler				S									S														G5	S5B			N
Parulidae	*Seiurus aurocapilla*	Ovenbird	S			S			S			S	S		S	S		S	S			S			S		S		G5	S5B			N
Parulidae	*Setophaga americana*	Northern Parula																										✓	G5	S5B			N
Parulidae	*Setophaga coronata*	Yellow-rumped Warbler							S																				G5	S5B,S4N			N
Parulidae	*Setophaga fusca*	Blackburnian Warbler				S				S									S		S			S					G5	S5B			N
Parulidae	*Setophaga pensylvanica*	Chestnut-sided Warbler							S																				G5	S5B			N
Parulidae	*Setophaga pinus*	Pine Warbler		S					C			S	S		S	S		S	S								S		G5	S5B,S3N			N
Parulidae	*Setophaga ruticilla*	American Redstart																	S									✓	G5	S5B			N
Parulidae	*Setophaga virens*	Black-throated Green Warbler	S	S		S	S			S			S					S				S							G5	S5B			N
Passerellidae	*Melospiza melodia*	Song Sparrow							C/H															C/H					G5	S5			N
Passerellidae	*Spizella passerina*	Chipping Sparrow								P/C/H						S		S	S										G5	S5B,S3N			N
Passerellidae	*Spizella pusilla*	Field Sparrow								S					S	S/H					S			S	H				G5	S4B,S3N			N
Passerellidae	*Zonotrichia albicollis*	White-throated Sparrow																										✓	G5	S5			N
Phasianidae	*Bonasa umbellus*	Ruffed Grouse										T																	G5	S5			N
Picidae	*Colaptes auratus*	Northern Flicker		C									S												A/T/C				G5	S5			N
Picidae	*Sphyrapicus varius*	Yellow-bellied Sapsucker																										✓	G5	S5B,S3N			N
Regulidae	*Regulus satrapa*	Golden-crowned Kinglet																	C										G5	S5			N
Sittidae	*Sitta canadensis*	Red-breasted Nuthatch								S			S			S		S	S						S				G5	S5			N
Sittidae	*Sitta carolinensis*	White-breasted Nuthatch					S			S			S																G5	S5			N
Strigidae	*Strix varia*	Barred Owl																										✓	G5	S5			N
Troglodytidae	*Troglodytes aedon*	House Wren								C																	S		G5	S5B			N
Turdidae	*Catharus guttatus*	Hermit Thrush										S	S														S		G5	S5B,S4N			N
Turdidae	*Hylocichla mustelina*	Wood Thrush																									S		G4	S4B	SC	THR	Y
Turdidae	*Turdus migratorius*	American Robin	S			S			S									A											G5	S5			N
Tyrannidae	*Contopus virens*	Eastern Wood-pewee										S	S														S		G5	S4B	SC	SC	Y
Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher					S																		C				G5	S5B			N
Vireonidae	*Vireo gilvus*	Warbling Vireo					S																						G5	S5B			N
Vireonidae	*Vireo olivaceus*	Red-eyed Vireo				S	S		S	S		S			S	S		S	S		S	S			S		S		G5	S5B			N
Vireonidae	*Vireo solitarius*	Blue-headed Vireo																	S										G5	S5B			N

[1] **Visit 1**: 30 May 2024, Observer: D. Stuart, Temperature 11°C, Cloud Cover 0% , Wind: B1-3, Precipitation: Nil, Search Time 08:29 to 10:00; **Visit 2**: 28 June 2024, Observer: D. Stuart, Temperature 14°C, Cloud Cover 0% , Wind: B1, Precipitation: Nil, Search Time 07:40 to 09:35

			Location[1,2]																							Conservation Rankings[3]				
			1			2			3			4			5			6			7			8			Adjacent Lands	Incidental					
FAMILY	SCIENTIFIC NAME	COMMON NAME	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3	Visit 1	Visit 2	Visit 3			GRANK	SRANK	ESA	SARA	TRACK

[2] Breeding Bird Evidence Codes: X - Species observed, C - Call heard, FO - Flyover (Species presence); H - Species observed in its breeding season in suitable nesting habitat, S - Singing male (Possible Breeding); P - Pair observed , T - Territorial behaviour, A - Agitated behaviour or anxiety calls of adult, V - Visiting a probably nest site, N - Nest building or excavation of nest hole (Probable Breeding); DD - Distraction display or injury feigning, NU - Used Nest or egg shells, FY - Recently fledged young, AE - Adult leaving or entering nest sites, FS - Adult carrying fecal sac, CF - Adult carrying food for young, NE - Nest containing eggs, NY - Nest with young seen or heard (Confirmed Breeding).

[3] Conservation Rankings: From Ontario Ministry of Natural Resources, Natural Heritage Information Centre (https://www.ontario.ca/page/natural-heritage-information-centre)

Table 5: Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Stopover and Staging Areas (Terrestrial) **Rationale:** Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. Information Sources • Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. • Reports and other information available from Conservation Authorities • Sites documented through waterfowl planning processes (*e.g.* EHJV implementation plan) • Field Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • SWHMiST Index #7 provides development effects and mitigation measures.	Fields with sheet water not observed. No suitable habitat within the study area.
Waterfowl Stopover and Staging Areas (Aquatic) **Rationale:** Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Information Sources • Environment Canada • Naturalist clubs often are aware of staging/stopover areas • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (*e.g.* EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Areas	Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH. • The combined area of the ELC ecosites and a 100m radius area is the SWH. • Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWHMiST Index #7 provides development effects and mitigation measures.	Shoreline wetlands with potential for abundant food supply not observed. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
	Brant Canvasback Ruddy Duck				
Shorebird Migratory Stopover Area **<u>Rationale:</u>** High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	• Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. • Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. • Sewage treatment ponds and storm water ponds do not qualify as a SWH. <u>Information Sources</u> • Western hemisphere shorebird reserve network • Canadian Wildlife Service (CWS) Ontario Shorebird Survey • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs • Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	Studies confirming: • Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #8 provides development effects and mitigation measures.	Beach areas, bars, and seasonally-flooded muddy shoreline habitat associated with shorebird migratory stopover areas not observed. No suitable habitat within the study area.
Raptor Wintering Area **<u>Rationale:</u>** Sites used by multiple species of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl **<u>Special Concern:</u>** Short-eared Owl Bald Eagle	<u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. <u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or	• The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. • Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland. • Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands. • Field area of the habitat is to be windswept with limited snow depth or accumulation. • Eagle sites have open water, large trees and snags available for roosting. <u>Information Sources:</u> • OMNRF Ecologist or Biologist Field Naturalist Clubs • Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area • Data from Bird Studies Canada	Studies confirm the use of these habitats by: • One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #10 and #11 provides development effects and mitigation measures.	Idle/fallow meadow (MEGM3-1a through c) below minimum size threshold to provide potential Raptor Wintering Area habitat. Meadow sizes are calculated at follows: • MEGM3-1a: 1.12ha • MEGM3-1b: 5.70ha • MEGM3-1c: 2.83ha Collectively or individually, none of the open meadows on the property meet the minimum 15ha size threshold for consideration as Raptor Wintering Area. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
		adjacent to lakes with open water (hunting area).	• Results of Christmas Bird Counts Reports and other information available from Conservation Authorities.		
Bat Hibernacula **<u>Rationale:</u>** Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	• Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. • Active mine sites should not be considered as SWH • The locations of bat hibernacula are relatively poorly known. <u>Information Sources</u> • OMNRF for possible locations and contact for local experts • Natural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of Northern • Development and Mines for location of mine shafts. • Clubs that explore caves (*e.g*. Sierra Club) • University Biology Departments with bat experts.	• All sites with confirmed hibernating bats are SWH. • The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farms • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects. • SWHMiST Index #1 provides development effects and mitigation measures.	No caves, mine shafts, underground foundations and karsts. No suitable habitat within the study area.
Bat Maternity Colonies **<u>Rationale:</u>** Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	• Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario. • Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. <u>Information Sources</u> • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts.	• Maternity Colonies with confirmed use by; ○ >10 Big Brown Bats ○ >5 Adult Female Silver-haired Bats • The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #12 provides development effects and mitigation measures.	General and detailed bat snag surveys completed in May and December 2024 confirmed that bat snags >25cm DBH occur within woodlands on the property, likely exceeding 10 snags/ha within mature woodlands on the property. The following ELC polygons have potential to be considered Bat Maternity Colonies: • FODM5-1 • FOMM2-2a • FOMM2-2b
Turtle Wintering Areas **<u>Rationale:</u>** Generally sites are the only known sites in the area. Sites with the	Midland Painted Turtle **<u>Special Concern:</u>** Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen.	• Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site	Wetlands and open water features are not located within the study area limits. No suitable habitat.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
highest number of individuals are most significant.		Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. Information Sources • EIS studies carried out by Conservation Authorities. • Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. • OMNRF Ecologist or Biologist • Field Naturalist clubs • Natural Heritage Information Center (NHIC)	is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May) • Congregation of turtles is more common where wintering areas are limited and therefore significant • SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat.	
Reptile Hibernaculum **Rationale:** Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	**Snakes:** Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake **Special Concern:** Milksnake Eastern Ribbonsnake **Lizard:** **Special Concern** (Southern Shield population)**:** Five-lined Skink	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	• For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. • Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. • Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. • Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. Information Sources • In spring, local residents or landowners may have observed the emergence of snakes on their property (*e.g.* old dug wells). • Reports and other information available from Conservation Authorities. • Field Naturalists clubs • University herpetologists • Natural Heritage Information Center (NHIC) • OMNRF ecologist or biologist may be aware of locations of wintering skinks	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (*e.g.* foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) • Note: If there are Special Concern Species present, then site is SWH • Note: Sites for hibernation possess specific habitat parameters (*e.g.* temperature, humidity, *etc.*) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (*e.g.* mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH. • SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula. • Presence of any active hibernaculum for skink is significant. • SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.	No features were identified on the property that could provide suitable reptile hibernacula. No suitable habitat within the study area.
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns.	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas,	Studies confirming: • Presence of 1 or more nesting sites with 8or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season.	No exposed/eroding soil banks located within the study area. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.		Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas • Bird Studies Canada; *NatureCounts* http://www.birdscanada.org/birdmon/ • Field Naturalist Clubs.	• A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #4 provides development effects and mitigation measures.	
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) **Rationale:** Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. Information Sources • Ontario Breeding Bird Atlas, colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from CAs. • MNRF District Offices • Local naturalist clubs	Studies confirming: • Presence of 5 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells. • SWHMiST Index #5 provides development effects and mitigation measures.	No listed ELC codes or evidence of any listed species observed. No suitable habitat within the study area.
Colonially-Nesting Bird Breeding Habitat (Ground) **Rationale:** Colonies are important to local bird population, typically	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources	Studies confirming: • Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant.	No rocky island/peninsula observed. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
sites are only known colony in area and are used annually.		trees or shrubs (Brewer's Blackbird) MAM1 – 6; MAS1 – 3; CUM CUT CUS	• Ontario Breeding Bird Atlas , rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from CAs. • Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area • MNRF District Offices • Field Naturalist clubs	• The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #6 provides development effects and mitigation measures.	
Migratory Butterfly Stopover Areas **<u>Rationale:</u>** Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral <u>Special Concern</u> Monarch	Combination of ELC Community Series; need to have present one Community Series from each land class: <u>Field:</u> CUM CUT CUS <u>Forest:</u> FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario. • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. <u>Information Sources</u> • OMNRF (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 **or** >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. • SWHMiST Index #16 provides development effects and mitigation measures.	Not located within 5km of Lake Ontario.
Landbird Migratory Stopover Areas **<u>Rationale:</u>** Sites with a high diversity of species as well as	All migratory songbirds. Canadian Wildlife Service Ontario website. All migratory songbirds. Canadian Wildlife Service Ontario website:	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant. • Sites have a variety of habitats; forest, grassland and wetland complexes.	Studies confirm: • Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant.	Not located within 5km of Lake Ontario.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
high numbers are most significant.		SWD	• The largest sites are more significant. • Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH . <u>Information Sources</u> • Bird Studies Canada • Ontario Nature • Local birders and naturalist club • Ontario Important Bird Areas (IBA) Program	• Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #9 provides development effects.	
Deer Yarding Areas **<u>Rationale:</u>** Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	• Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. • The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. • OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual". • Woodlots with high densities of deer due to artificial feeding are not significant.	No Studies Required: • Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. • Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO). • Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures.	See Deer Winter Congregation Area assessment below. Not identified as a Deer Yarding Area by MNR, or by municipal mapping resources.

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Winter Congregation Areas **<u>Rationale:</u>** Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	• Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. • Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands . • If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. • Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> • MNRF District Offices • LIO/NRVIS	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #2 provides development effects and mitigation measures.	Not identified as Deer Winter Congregation Area by MNR, or by municipal mapping resources.

Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Cliffs and Talus Slopes **Rationale:** Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. Information Sources • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF District • Natural Heritage Information Center (NHIC) has location information available on their website • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes • SWHMiST Index #21 provides development effects and mitigation measures.	No cliffs or talus slopes identified during the field program.
Sand Barren **Rationale;** Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.	A sand barren area >0.5ha in size. Information Sources • MNRF Districts • Natural Heritage Information Center (NHIC) has location information available on their website. • Field Naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Sand Barrens • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.) • SWHMiST Index #20 provides development effects and mitigation measures.	No sand barrens identified during the field program. Intermittent bare patching was observed within open meadow units (MEGM3-1a through c) and outer edges (near meadow interfaces) of open woodland (WOCM1), however patches were minor in size and substantially <0.5ha.
Alvar **Rationale;** Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Species:** 1) *Carex crawei* 2) *Panicum philadelphicum* 3) *Eleocharis compressa* 4) *Scutellaria parvula* 5) *Trichostema brachiatum* These indicator species are very specific to Alvars within Ecoregion 6E.	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	An Alvar site > 0.5 ha in size. Information Sources • Alvars of Ontario (2000), Federation of Ontario Naturalists. • Ontario Nature – Conserving Great Lakes Alvars. • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	• Field studies that identify four of the five **Alvar Indicator Species** at a Candidate Alvar site is Significant. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses. • SWHMiST Index #17 provides development effects and mitigation measures.	No alvar identified during the field program

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Old Growth Forest **Rationale;** Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. Information Sources • OMNRF Forest Resource Inventory mapping • OMNRF Districts. • Field Naturalist clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments	Field Studies will determine: • If dominant trees species are >140 years old, then the area containing these trees is Significant Wildlife Habitat. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present). • The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics. • SWHMiST Index #23 provides development effects and mitigation measures.	Based on historical aerial photography available form the County of Simcoe (2025), woodlands in the northern section of the property existed upon collection of the earliest available air photo in 1954 (+/-70 years ago). Mature woodlands on the property (FODM5-1, FOMM2-2a, FOMM2-2b) do not appear to exceed 140 years in age, based on a visual estimate by Azimuth. Further, no portion of mature woodlands are located >100m from a woodland edge where located within the study area, therefore minimum criteria for Old Growth Forest are not met.
Savannah **Rationale:** Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #18 provides development effects and mitigation measures.	No savannah identified during the field program.
Tallgrass Prairie **Rationale:** Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources • Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). • SWHMiST Index #19 provides development effects and mitigation measures.	No tallgrass prairie identified during the field program. Open areas feature occasional prairie indicators such as Sand Dropseed (*Sporobolus cryptandrus*) and a single Little Bluestem (*Schizachyrium scoparium*) plant within meadow unit MEGM3-1a, however such occurrences are not indicative of tallgrass prairie community composition.
Other Rare Vegetation Communities **Rationale:** Plant communities that	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH.	No rare vegetation communities identified during the field program.

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
often contain rare species which depend on the habitat for survival.	Type that is Provincially Rare is Candidate SWH.		• Natural Heritage Information Center (NHIC) has location information available on their website • OMNRF Districts • Field Naturalist clubs • Conservation Authorities	• SWHMiST Index #37 provides development effects and mitigation measures.	

1.2.2 Specialized Habitat for Wildlife

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Nesting Area **Rationale;** Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. • Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. Information Sources • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from Conservation Authorities.	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMiST Index #25 provides development effects and mitigation measures.	Wetlands and open water features are not located within the study area limits. No suitable habitat.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat **Rationale;** Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey **Special Concern** Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. • Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy. • Nests located on man-made objects are not to be included as SWH (*e.g.* telephone poles and constructed nesting platforms). Information Sources • Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. • MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. • Nature Counts, Ontario Nest Records Scheme data. • OMNRF Districts	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August.	Wetlands, large rivers, or open water features are not located within the study area limits. No active or inactive Osprey or Bald Eagle nests were observed during the field survey program.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			• Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented • Reports and other information available from Conservation Authorities. • Field Naturalists clubs	• Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • SWHMiST Index #26 provides development effects and mitigation measures.	
Woodland Raptor Nesting Habitat **<u>Rationale:</u>** Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> • OMNRF Districts. • Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH . (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest). • Barred Owl – A 200m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial. (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWHMiST Index #27 provides development effects and mitigation measures.	No raptor nesting activity was observed during the field survey program. No portion of the study area occurs within interior forest located >200m from a woodland edge. No suitable habitat within the study area.
Turtle Nesting Areas **<u>Rationale;</u>** These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <u>Information Sources</u> • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. • SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	No exposed mineral soils within 100m of permanent or semi-permanent standing water that could be utilized for turtle nesting. Wetlands and open water features are not located within the study area limits. No suitable habitat.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
			turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Center (NHIC) • Field Naturalist clubs		
Seeps and Springs **<u>Rationale;</u>** Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <u>Information Sources</u> • Topographical Map • Thermography • Hydrological surveys conducted by Conservation Authorities and MOE. • Field Naturalists clubs and landowners. • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat. • SWHMiST Index #30 provides development effects and mitigation measures.	No seeps and springs documented within forests during Azimuth's field investigations.
Amphibian Breeding Habitat (Woodland). **<u>Rationale:</u>** These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more	• Presence of a wetland, pond or woodland pool (including vernal pools) >500m^2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records. • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property.	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWHMiST Index #14 provides development effects and mitigation measures.	No wetlands or woodland breeding pools were documented within the study area limits. The evening breeding amphibian survey (April 2024) did not document any calling amphibians within the property limits. No suitable habitat.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
amphibian populations.		likely to be used due to reduced risk to migrating amphibians.	• OMNRF District • OMNRF wetland evaluations • Field Naturalist clubs • Canadian Wildlife Service • Amphibian Road Call Survey • Ontario Vernal Pool Association: http://www.ontariovernalpools.org		
Amphibian Breeding Habitat (Wetlands) **<u>Rationale;</u>** Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (*e.g.* Bull Frog) may be adjacent to woodlands.	• Wetlands>500m^2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> • Ontario Herpetofaunal Summary Atlas (or other similar atlases) • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations • Reports and other information available from Conservation Authorities	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. **or;** Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST Index #15 provides development effects and mitigation measures.	No permanent water bodies or ponds within the study area located >120m from a woodland. Refer to the amphibian habitat assessment described under Amphibian Breeding Habitat (Woodland) above.
Woodland Area-Sensitive Bird Breeding Habitat **<u>Rationale:</u>** Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren **Special Concern:**	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. • Interior forest habitat is at least 200 m from forest edge habitat. <u>Information Sources</u> • Local bird clubs. • Canadian Wildlife Service (CWS) for the location of forest bird monitoring. • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information available from Conservation Authorities.	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #34 provides development effects and mitigation measures.	No portion of the study area occurs within interior forest located >200m from a woodland edge. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
	Cerulean Warbler Canada Warbler				

Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Marsh Breeding Bird Habitat **Rationale;** Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan **Special Concern:** Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	• Nesting occurs in wetlands. • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. Information Sources • OMNRF District and wetland evaluations. • Field Naturalist clubs • Natural Heritage Information Center (NHIC) Records. • Reports and other information available from Conservation Authorities. • Ontario Breeding Bird Atlas	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; **or** breeding by any combination of 5 or more of the listed species. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. • Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #35 provides development effects and mitigation measures.	Wetlands and open water features are not located within the study area limits. No suitable habitat.
Open Country Bird Breeding Habitat Sources Defining Criteria **Rationale;** This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow **Special Concern** Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. • Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). • Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. • The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs. • Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • SWHMiST Index #32 provides development effects and mitigation measures.	The study area does not provide habitat for grassland birds exceeding the minimum 30ha threshold. Meadow sizes are calculated at follows: • MEGM3-1a: 1.12ha • MEGM3-1b: 5.70ha • MEGM3-1c: 2.83ha No suitable habitat within the study area.
Shrub/Early Successional Bird Breeding Habitat **Rationale;** This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher **Special Concern:** Yellow-breasted	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha in size. • Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (*i.e.* no row-cropping, haying or live-stock pasturing in the last 5 years). • Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. • Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	The study area does not provide habitat for shrub/early successional birds exceeding the minimum 10ha threshold. Open immature woodland (WOCM1) within the study area occupies 5.81ha, below the 10ha size threshold to support habitat for the species. No suitable habitat within the study area.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
on CWS (2004) trend records.	Chat Golden-winged Warbler		• Ontario Breeding Bird Atlas • Reports and other information available from Conservation Authorities.	• SWHMiST Index #33 provides development effects and mitigation measures.	
Terrestrial Crayfish **<u>Rationale:</u>** Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (*Fallicambarus fodiens*) Devil Crayfish or Meadow Crayfish; (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult. • SWHMiST Index #36 provides development effects and mitigation measures.	No crayfish chimneys were documented during Azimuth's field investigations.
Special Concern and Rare Wildlife Species **<u>Rationale:</u>** These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information" : http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species *e.g.* specific nesting habitat or foraging habitat. • SWHMiST Index #37 provides development effects and mitigation measures.	Potential breeding habitat for Special Concern species including Eastern Wood-pewee, and presumed Monarch habitat were detected during the site investigation.

Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SHW	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Movement Corridors **Rationale;** Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. • Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat. • Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (**Amphibian Breeding Habitat –Wetland)** of this Schedule. Information Sources • MNRF District Office • Natural Heritage Information Center (NHIC) • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. • Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. • SWHMiST Index #40 provides development effects and mitigation measures.	No Amphibian Breeding Habitat - Wetland function, therefore no potential Amphibian Movement Corridor function within study area.
Deer Movement Corridors **Rationale:** Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when **Deer Wintering Habitat** is confirmed as SWH from Table 1.1 of this schedule. • A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. • Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). Information Sources • MNRF District Office • Natural Heritage Information Center (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs	• Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. • Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. • Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway. • Shorter corridors are more significant than longer corridors. • SWHMiST Index #39 provides development effects and mitigation measures.	No Deer Wintering Habitat present, therefore no potential Deer Movement Corridor function within study area.

Exceptions for EcoRegion 6E

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 **Rationale:** The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears.	**Mast Producing Areas** Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	• Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species. • Forested habitats need to be large enough to provide cover and protection for black bears.	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). Information Sources Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50%composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	Site not located on Bruce Peninsula.
6E- 17 **Rationale:** Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	Lek Sharp-tailed Grouse	CUM CUS CUT	• The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. • Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. • Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) • Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting Information Sources • OMNRF district office • Bird watching clubs • Local landowners • Ontario Breeding Bird Atlas	Studies confirming lek habitat are to be completed from late March to June. • Any site confirmed with sharp-tailed grouse courtship activities is considered significant • The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat • SWHMiST Index #32 provides development effects and mitigation measures	Site not located on Manitoulin Island.

APPENDICES

Appendix A: Municipal and Provincial Background Information
Appendix B: Agency Correspondence
Appendix C: Photographic Record
Appendix D: Owl Nest Surveys Technical Memorandum
Appendix E: Site Grading Plan

APPENDIX A

Municipal and Provincial Background Information

COUNTY OF SIMCOE

For the Greater Good

SCHEDULE 5.1

To the County of Simcoe Official Plan

LAND USE DESIGNATIONS

Designations

- Settlements
- Greenlands
- Agricultural
- Rural
- Strategic Settlement Employment Areas and Economic Employment Districts
- Lands not subject to this plan
- Settlement Area Boundary Under Appeal
- (1) General Location of Site-Specific Appeals
- Lands Subject to Non-Decision

Reference Data

- Settlement Area Boundary
- Built Boundaries
- Special Development Area: Friday Harbour Resort
- Greenbelt Plan - Protected Countryside (Refer to Schedule 5.3.3 For Details)
- Niagara Escarpment Plan Area (Refer to Schedule 5.3.1 For Details)
- Oak Ridges Moraine Conservation Plan Area (Refer to Schedule 5.3.2 For Details)
- Provincial Highway
- County Road
- Trans Canada Pipeline
- Lake Simcoe Protection Plan - Watershed Boundary

** Greenbelt Plan – Protected Countryside, Oak Ridges Moraine Conservation Plan Area and Niagara Escarpment Plan Area are included within the Greenbelt Plan Area*

This schedule must be referred to in conjunction with the text of the County of Simcoe Official Plan

Office Consolidation February 2023

Printed: 2023/02/14

COUNTY OF SIMCOE

For the Greater Good

SCHEDULE 5.2.2

To the County of Simcoe Official Plan

STREAMS AND EVALUATED WETLANDS

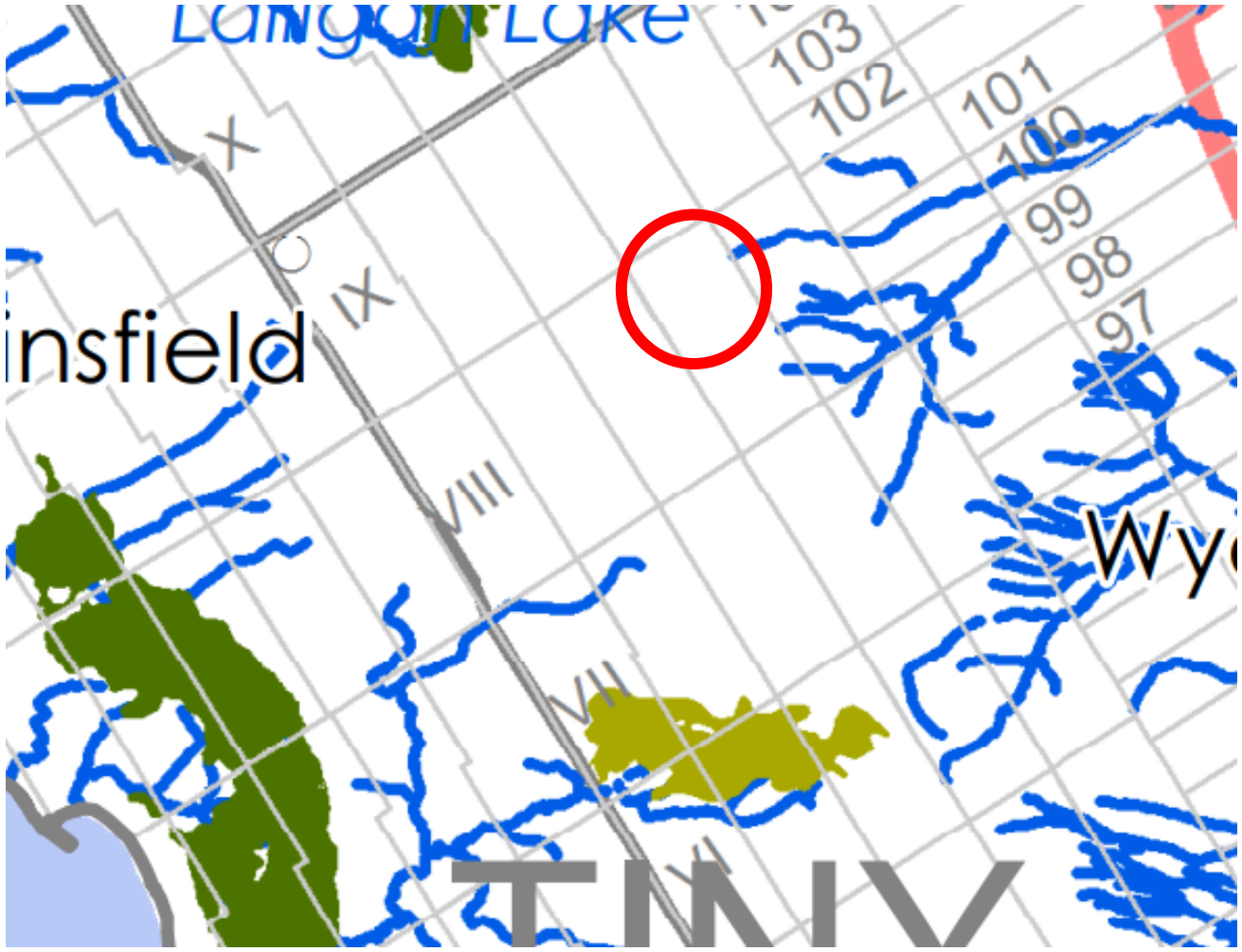
- Provincially Significant Wetland
- Locally Significant Wetland
- Watercourse
- Lands not subject to this plan

This schedule must be referred to in conjunction with the text of the County of Simcoe Official Plan - November 25, 2008

Source: Midhurst District MNR

Approved by OMB on May 9, 2016

Printed: 2016/05/19



COUNTY OF SIMCOE

For the Greater Good

SCHEDULE 5.2.3

To the County of Simcoe Official Plan

AREAS OF NATURAL AND SCIENTIFIC INTEREST

- Oak Ridges Moraine ANSI
- ANSI - Provincial
- ANSI - Regional
- Lands not subject to this plan

This schedule must be referred to in conjunction with the text of the County of Simcoe Official Plan - November 25, 2008
Source: Ministry of Natural Resources

Approved by the OMB on April 19, 2013

Printed: 5/17/2013

TOWNSHIP OF TINY

Schedule A
Land Use

LEGEND

Land Use Designations:

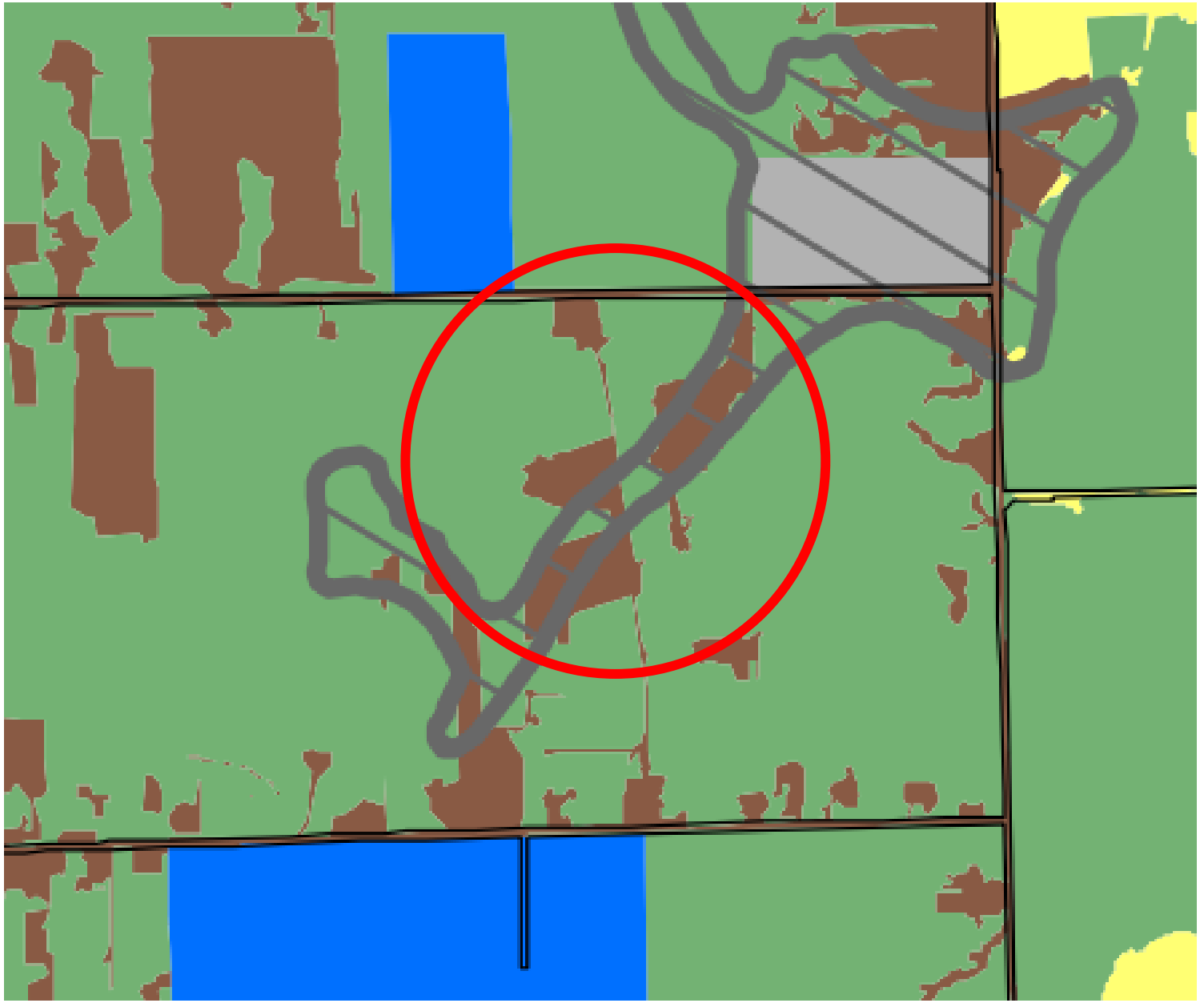
- Environmental Protection
- Greenlands
- Settlement Area
- Shoreline
- Country Residential
- Employment Area
- Agricultural
- Rural
- Mineral Aggregate Resources I

Overlay Designations:

- Mineral Aggregate Resources II
- Non-Decision Lands (see B.3.1.1)
- Non-Decision Lands (LPAT Appeal)

Base Information:

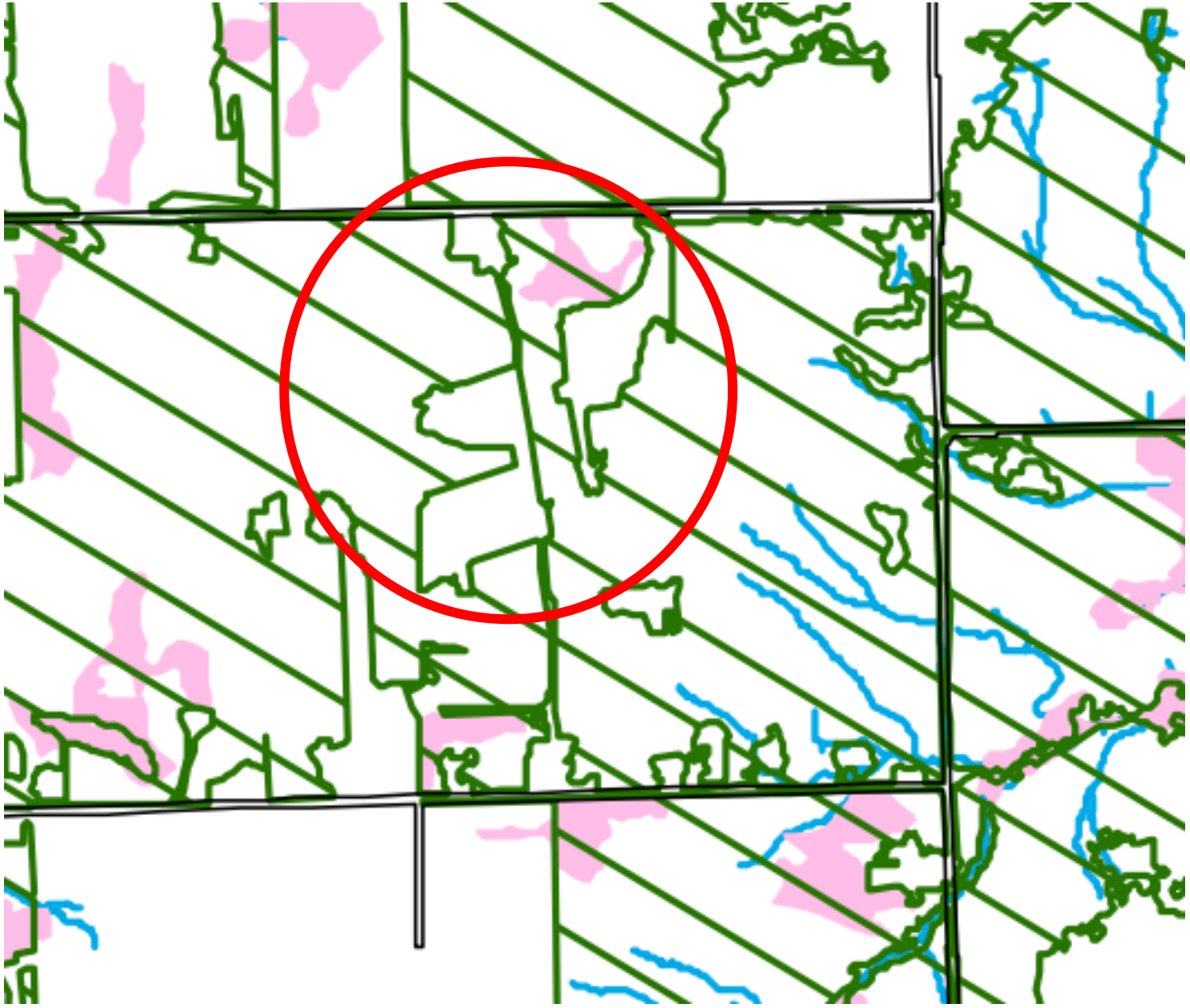
- Settlement Area Boundary (see B.3.1.1)
- Beausoleil First Nation Land
- Federal Land
- Awenda Provincial Park
- Inland Lake Outline
- Roads



TOWNSHIP OF TINY

Schedule B

Natural Heritage Features



LEGEND

- Provincially Significant Wetland
- Other Evaluated Wetlands
- Other Wetlands 2 Ha or larger
- Significant Woodlands
- Significant Valleylands
- Provincially Significant ANSI
- Regionally Significant ANSI
- Nipissing Ridge
- Watercourses

Overlay Designations:

- Non-Decision Lands (see B.3.1.1)

Base Information:

- Settlement Area Boundary (see B.3.1.1)
- Beausoleil First Nation Land
- Federal Land
- Awenda Provincial Park
- Inland Lake Outline
- Roads

County of Simcoe - Web Map

0 100 200 300m

1 : 9,028

Nov. 6, 2024

Ontario

Ministry of Natural Resources

Make-a-Map: Natural Heritage Areas

24-152 Tiny Township Administration Centre

Map created:11/6/2024

Notes:

Natural Heritage Information Centre Mapping (MNR)

Legend

- Assessment Parcel
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland
- Conservation Reserve
- Provincial Park

0.3 0 0.16 0.3 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources(OMNR) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

APPENDIX B

Agency Correspondence

From:	Dan Stuart
To:	Dan Stuart
Subject:	RE: Terms of Reference - Environmental Impact Study for Tiny Township Admin Centre
Date:	November 6, 2024 12:24:19 PM
Attachments:	image001.png image002.png image003.png image004.png image006.png image007.png image008.png image009.png image010.png image011.png image012.png

---

From: Tim Leitch <tleitch@tiny.ca>
Sent: Friday, May 17, 2024 4:17 PM
To: Dan Stuart <dstuart@azimuthenvironmental.com>
Cc: Janet Stewart <jstewart@unitydesignstudio.ca>; Jean-François Robitaille <jrobitaille@tiny.ca>
Subject: FW: Terms of Reference - Environmental Impact Study for Tiny Township Admin Centre

Good afternoon Dan,

I did submit this scope to SSEA, and they had some comments noted below and in red within your original text.

All in all, everything looks great.

Please proceed and if you have any questions or concerns with the comments please advise.

Hope you have a great long weekend.

Thank you for the service you are providing,

Tim Leitch
Director of Public Works
Public Works Department

Township of/Canton de Tiny

The Corporation of the Township of Tiny
130 Balm Beach Road West, Tiny, Ontario, L0L 2J0
tleitch@tiny.ca 705.526.4204

Tiny Connect

From: Michelle Hudolin <MHudolin@severnsound.ca>
Sent: Thursday, May 16, 2024 2:42 PM
To: Tim Leitch <tleitch@tiny.ca>

Cc: Julie Cayley <JCayley@severnsound.ca>; Melissa Carruthers <MCarruthers@severnsound.ca>; Lex McPhail <LMcPhail@severnsound.ca>
Subject: RE: Terms of Reference - Environmental Impact Study for Tiny Township Admin Centre

Hi Tim,

I have reviewed the scope of work proposed for the EIS.

I offer a few specific items of clarification related to protocols/methodologies, shown in red text in the Azimuth scope of work portion of the email thread below.

I also offer the following more general EIS comments, which are not likely a surprise to Azimuth but I include them for clarity.

- The EIS should inform the proposal and establish what portions of the subject lands can be developed based on an ecological rationale (e.g., assist in defining a development envelope which takes into consideration appropriate buffers/setbacks/vegetation protection zones from natural heritage features). Depending on on-site conditions and features, the developable portion(s) of the lands may or may not be consistent with initial concept(s). The EIS should also provide recommendations to avoid and/or mitigate the potential for negative environmental impacts on any features/ecological functions (including establishing appropriate buffers to natural heritage features based on an ecological rationale that will protect the features and their associated functions from anticipated or potential impacts of development) prior to, during or after future site alteration/development, and identify opportunities for enhancement, restoration, or monitoring.
- With respect to Species At Risk and Significant Wildlife Habitat, assessment of some features (e.g., woodland area-sensitive bird breeding habitat, bat maternity/roosting habitat) requires species-specific surveys and specialized survey effort or protocols/methodologies in the appropriate season(s), time of day and weather conditions.
- Information on the location of many federal and provincial SAR should be treated as sensitive data, and in these cases, information must be disclosed to the municipality and applicable agencies in a manner that does not make it part of public record (e.g., mapping/ information provided separate from the main report, subject to restricted access).

Best regards,
Michelle

Michelle Hudolin | Manager Watershed Resilience
Severn Sound Environmental Association
Tel: 705-534-7283 ext. 202 **|** MHudolin@severnsound.ca

www.severnsound.ca | Twitter @SSEA_SSRAP | Instagram @severnsoundea

_____

OFFICE OPEN- by appointment only
The SSEA office is open by appointment, please call 705-534-7283 if you would like to visit us in-person. Our staff will continue to operate in a hybrid setting in the office and remotely. We expect this to cause delays in our ability to respond to requests. Thank you for your patience!

Azimuth has begun work on the Environmental Impact Study (EIS) for the Tiny Township Administrative Centre, a component of which includes clearing of a Terms of Reference for our study. We understand that the Township is planning to retain Severn Sound Environmental Association (SSEA) as a peer review agency for natural heritage, therefore please feel free to connect me directly with SSEA if that would be more expedient.

It is understood that the Township is planning to construct the new administration centre in approximately the center of

the property (see attached) with the building location to be accessed from the north. Azimuth's field program will therefore focus on the proposed development footprint and adjacent lands (within 120m of the development limit; i.e. the "study area") in accordance with provincial standards, however the remainder of the property will also be reviewed for sensitive natural heritage features at a high level.

The following Terms of Reference is proposed toward completion of the EIS:

- Search the Township, County, Ministry of Natural Resources and Forestry (MNRF), Ministry of the Environment, Conservation and Parks (MECP), and Fisheries and Oceans Canada (DFO) records to obtain available background information and current data related to natural heritage features and functions in the area;
- Initiate consultation with the Township and/or the SSEA and confirm the Terms of Reference for the scope of the EIS during the initial stages of the contract;
- Conduct a field study to document existing natural heritage features, functions, and species. Surveys include:
    - Evaluate/ map vegetation community types based on Ecological Land Classification methods (spring/summer 2024);
    - Two (2) vascular plant inventories (spring/summer 2024);
    - Complete a detailed screening for Butternut (Endangered), Black Ash (Endangered), and Forked Three-Awned Grass (Endangered) within the study area, using species-appropriate protocols;
    - One (1) bat "snag" (habitat tree) assessment during the leaf-off season, including a general survey for snag clusters (before late April 2024); depending on the initial findings, bat acoustic monitoring may be required, consistent with provincial protocols/guidance;
    - One (1) amphibian breeding survey (April 2024)(note: no calling amphibians were heard within the study area during the April 2024 survey, therefore additional surveys are not proposed);
    - Two (2) dawn breeding bird surveys (May-June 2024)(note: "open" areas are primarily semi-treed such that grassland breeding birds [Bobolink and Eastern Meadowlark] are not anticipated), using minimum 10-minute survey period in order to be consistent with the early morning Forest Bird Monitoring Program protocol,;
    - Three (3) evening breeding bird surveys (May-June 2024) consistent with provincial protocols for detection of nightjars (e.g., Eastern Whip-poor-will);
    - Record all incidental wildlife observations during site visits.
- Complete an assessment of potential Species at Risk and Significant Wildlife Habitat and their habitats that could be present within the study area;
- Assess the potential direct and indirect impacts of the proposed works on the natural heritage features and functions identified within the study area.

At this time Azimuth requests that the Township/SSEA indicate concurrence with the above proposed Terms of Reference toward completion of the EIS. We would also like to take this opportunity to request any natural heritage background information from the Township/SSEA that may be helpful in completing the EIS.

Please feel free to contact me if you would like to discuss any aspects of the project.

Kind regards,

Dan Stuart, M.Env.Sc.
Ecology Lead/Partner

Azimuth Environmental Consulting, Inc.
642 Welham Road
Barrie, Ontario, L4N 9A1
Office: 705-721-8451 x208
Fax: 705-721-8926
Cell: 705-794-0975
www.azimuthenvironmental.com

Providing services in hydrogeology, terrestrial and aquatic ecology, and arborist assessment

APPENDIX C

Photographic Record

Photograph 1: Typical composition of FODM5-1 polygon, showing mature forest with open understory conditions – May 30, 2024

Photograph 2: Typical composition of FOMM2-2a polygon, showing mature forest understory and ground layer – May 30, 2024

Photograph 3: FOMM2-2b polygon near northern edge, with moderate understory density compared with other woodlands onsite – June 28, 2024

Photograph 4: Typical composition FOCM6-2a polygon, showing mature Red Pine (background) with successional undergrowth – May 30, 2024

Photograph 5: Concentration of deciduous undergrowth within FOCM6-2a polygon in area where Red Pine canopy is relatively thin – May 30, 2024

Photograph 6: Typical canopy composition of mature, coniferous Red Pine within FOCM6-2a polygon – May 30, 2024

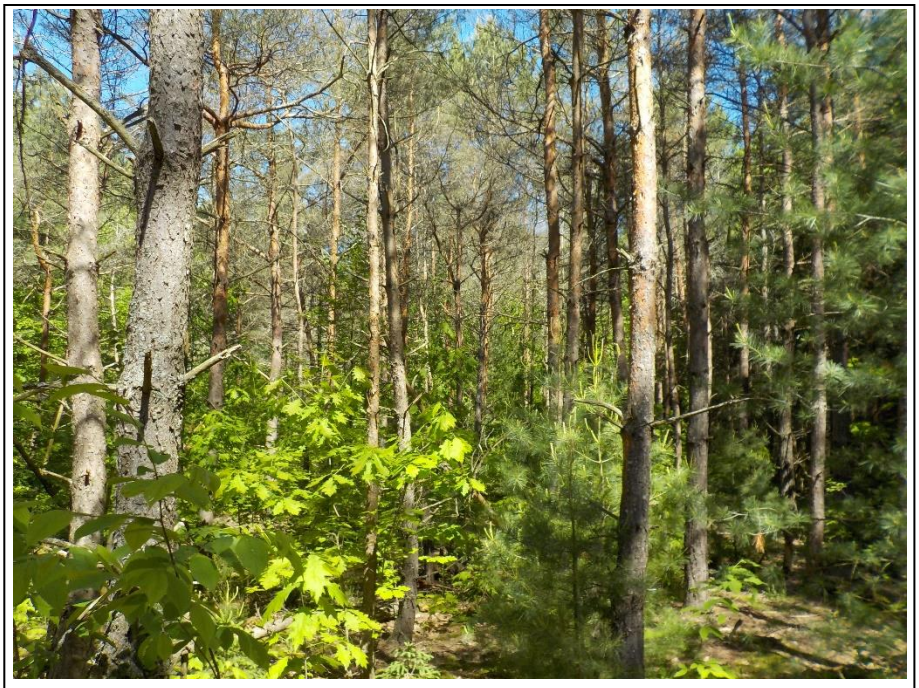
Photograph 7: Typical conditions within FOCM6-2b polygon, showing mature planted Red Pine and successional undergrowth – May 30, 2024

Photograph 8: Pink Lady's-slipper (*Cypripedium acaule*) individual observed within FOCM6-2b polygon – May 30, 2024

Photograph 9: Typical composition WOCM1 polygon, showing immature, open woodland conditions with representative ground cover – June 28, 2024

Photograph 10: Intermittent sandy/exposed soils area near outer edge of WOCM1 polygon; immature semi-treed coniferous cover – June 28, 2024

Photograph 11: Typical composition within closed segments of TAGM1 polygon (White Pine in this location) – May 30, 2024



Photograph 12: Typical composition within open segments of TAGM1 polygon (Scot's Pine in this location) – May 30, 2024

Photograph 13: Overview of MEGM3-1a from north end facing south, within Forked Three-awned Grass Area #1 – September 17, 2024

Photograph 14: Example of habitat node occupied with high density of Forked Three-awned Grass plants (Area #1) – September 17, 2024

Photograph 15: Overview of southern node of MEGM3-1b from central area facing east toward TAGM1 polygon – June 28, 2024

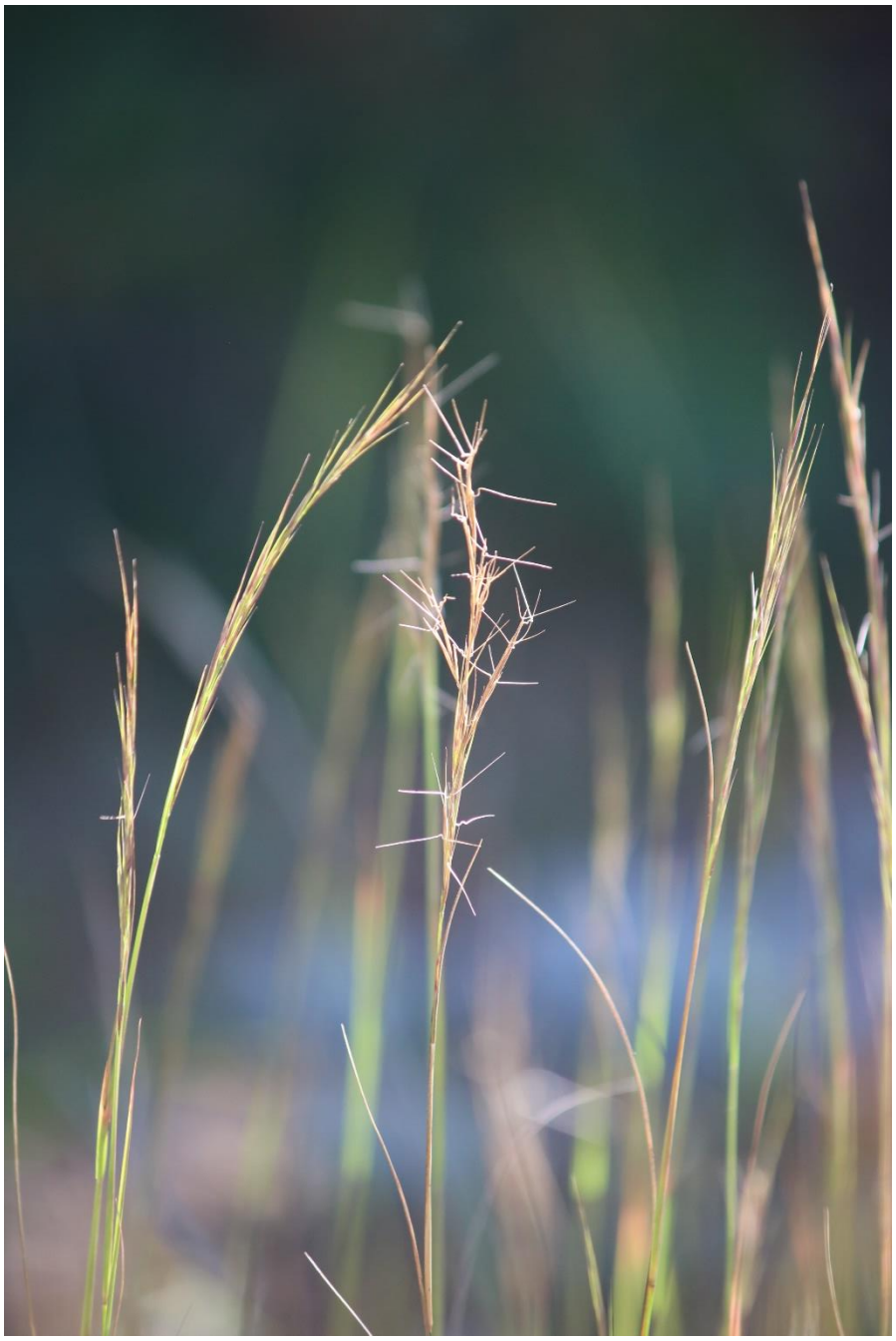
Photograph 16: Overview of northern node of MEGM3-1b from eastern trail facing west toward WOCM1 area and western property line – June 28, 2024

Photograph 17: View form central-west portion of MEGM3-1c polygon facing north, with dense Poverty Oatgrass in foreground – June 28, 2024

Photograph 18: Very dry ground cover toward southern edge of MEGM3-1c polygon, near Forked Three-awn Grass Area #16 – June 28, 2024

Photograph 19: Forked Three-awned Grass individual showing loosely spiralled awn, diagnostic for verification of species – September 17, 2024

Photograph 20: Dense cluster of Forked Three-awned Grass growing within MEGM3-1b polygon (Area #4) – September 17, 2024



Photograph 21: Typical appearance and growth pattern of Forked Three-awned Grass in September when readily identifiable – September 17, 2024

APPENDIX D

Owl Nest Surveys Technical Memorandum

Technical Memorandum

To: **Tim Leitch, The Corporation of the Township of Tiny**

Re: **Owl Nest Surveys – Part of Lot 10, Concession 8, Township of Tiny**

From: Jordan Wrobel, Azimuth Environmental Consulting, Inc.

AEC Project: 24-152

Date: February 21, 2025

1.0 BACKGROUND INFORMATION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by The Corporation of the Township of Tiny (the 'proponent') to provide surveys for active owl nests protected under Ontario's *Fish and Wildlife Conservation Act*, 1997 (FWCA). The surveys involved one (1) nocturnal owl call-back survey followed by a visual screening of the development envelope for owl nests the following day at Part of Lot 10, Concession 8 (Tiny Township Administration Centre property) in Tiny, Ontario. The attached Figure 1 shows the owl point count stations and the woodlands where tree removals are proposed that were screened as part of Azimuth's assessment.

2.0 FIELD INVESTIGATION

Two (2) Azimuth ecologists completed the nocturnal owl call-back survey on February 19, 2025 between approximately 7:28pm and 9:05pm. Surveys occurred at four (4) point count station within the proposed tree removal area (study area) and involved broadcasting calls from four (4) species of interest; Barred Owl, Eastern Screech Owl, Great Horned Owl, and Long Eared Owl. At each station a recording of each target owl species' call was broadcasted on a speaker for 30 seconds followed by a one (1) minute silent listening period, and this was repeated once. This was repeated for each owl species listed above, and took approximately 15 minutes to complete at each station. The owl recordings were obtained from the Ontario Breeding Bird Atlas (OBBA) website. This survey protocol was guided by the Nocturnal Owl Surveys in Central Ontario: Participant's Guide (OBBA, 2024).

One (1) Barred Owl was observed at Station #4 following the first Barred Owl call-back recording. The Barred Owl approached and perched on a pine tree 5 metres (m) northwest of Station #4, and remained for the duration of the survey (approximately 15 minutes). No calls or other behaviours were observed from the owl, and the owl departed shortly after the completion of the survey. Approximately, five (5) minutes later a Barred Owl was repeatedly calling from the FODM5-1 (Dry-Fresh Sugar Maple

Deciduous Forest) located east from the tree removal area. The approximate location of the Barred Owl calling is illustrated on Figure 1. It is anticipated the Barred Owl observed at Station #4 and heard calling from the FODM5-1 community are the same individual, and the call-back recording attracted the owl during the survey period. In addition, it is anticipated that the Barred Owl may have established a breeding territory in the FODM5-1 community as it displayed territorial behaviour (repeated calling) in this area.

Two (2) Azimuth ecologists surveyed the study area the following day on February 20, 2025 between approximately 11:20am and 1:00pm. Trees within the study area were inspected methodically by qualified professional ecologists for evidence of active owl or other raptor nesting and behavioural indicators that raptors may be nesting. Any observations of active or vacant/disused raptor nests were to be noted. The nesting survey also consisted of noting the number of raptor species present based on visual and/or auditory observations.

No evidence of an active owl or other raptor nesting in the study area was found. Three (3) inactive American Crow nests were observed in the study area, established in a past breeding season.

3.0 RECOMMENDATIONS

Based on the results of Azimuth's owl nesting survey, no evidence of owl or other raptor nesting was documented or is expected to be occurring within or immediately adjacent to the proposed tree clearance area. We recommend the clearing of these trees takes place without delay to minimize the potential for new nesting to occur between the nesting survey date and initiation of clearing activities. Contractors working on-site should be made aware of the potential for owls and other raptors nesting to occur.

The contractor should be aware that any disturbance/destruction of an owl or other raptor nest could be considered a contravention of the FWCA. Appropriate site contacts should be made aware of any new or previously unidentified nests found in the study area.

Please do not hesitate to call/email us if you have questions/concerns or require additional information.

4.0 REFERENCES

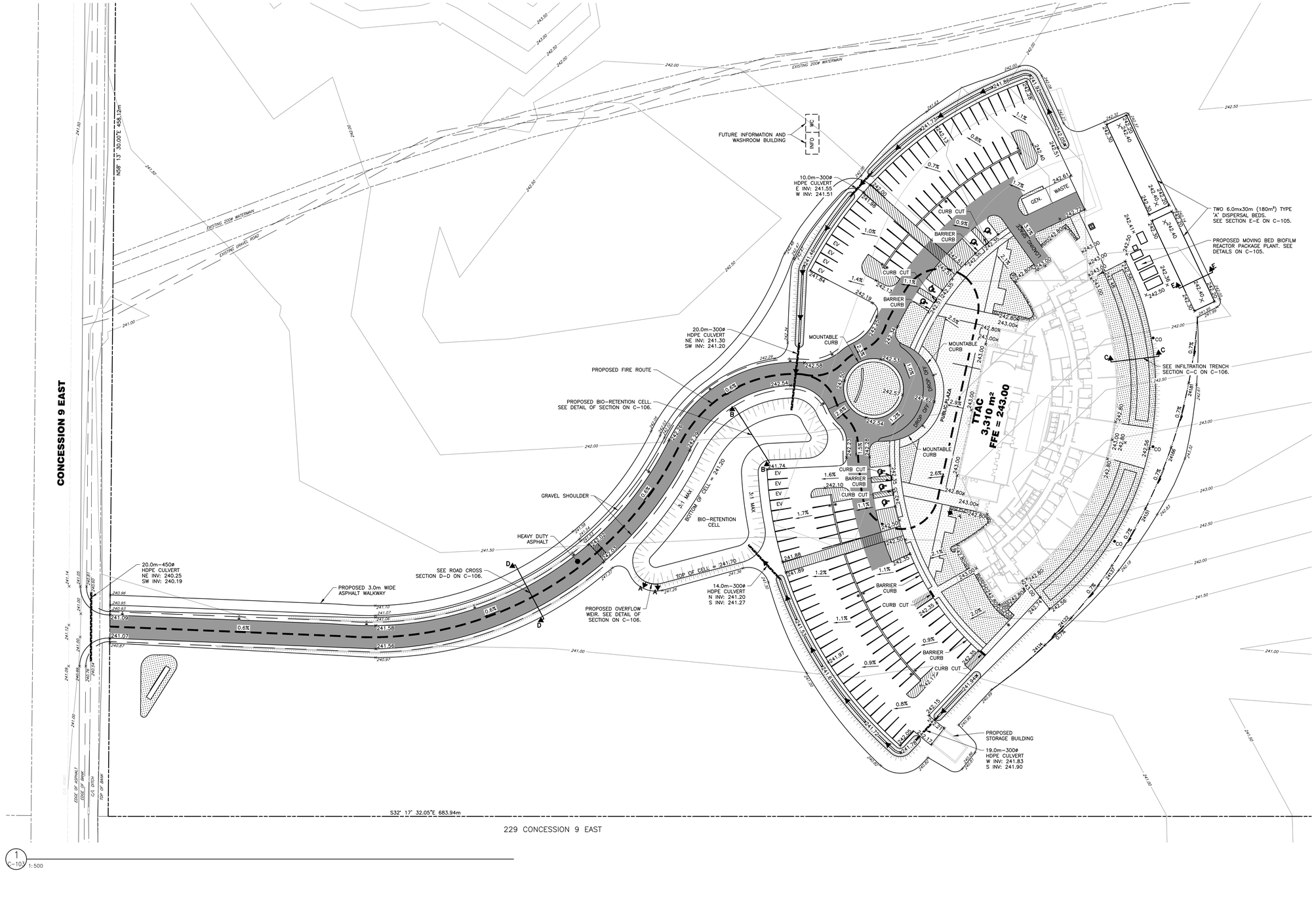
Ontario Breeding Bird Atlas (OBBBA) 2024. Nocturnal Owl Surveys in Central Ontario: Participant's Guide. (https://view.publitas.com/birds-canada-gykxaz9yrrpp/owl-survey-central-on-citizen-science-guide-2023/page/1). Accessed February 2025.

Figure 1

Owl Call-back Station Locations

APPENDIX E

Site Grading Plan



1 C–103 1:500

Unity

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705 743 3311
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TATHAM ENGINEERING

ISSUE / REVISIONS

1	TENDER 'B' - EARLY SITE WORKS	2025-07-14

NOTICE:
The issuance of this record drawing is a representation by the architect that the construction, enlargement or alteration of the building is in general, as opposed to precise, conformity with the design prepared and provided by the architect, but is not a representation that the construction, enlargement or alteration of the building is in conformity with a design that has been prepared or provided by others.

The revisions to these contract documents, reflecting the significant changes in the Work made during construction, are based on data furnished by the contractor to the architect. The architect shall not be held responsible for the accuracy or completeness of the information provided by the contractor.

TENDER B - EARLY SITE WORKS
PRELIMINARY

LICENSED PROFESSIONAL ENGINEER
July 14/25
A. OVERHOLT
100516012
PROVINCE OF ONTARIO

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

PROJECT No. 124114
START DATE 2023-12-01

Township of Tiny

TOWNSHIP OF TINY ADMINISTRATIVE CENTRE

255 Concession Rd. 9 E,
Tiny, ON

Drawing Title:

SITE GRADING PLAN

Drawing No.:

C-103