Scoped Environmental Impact Study
Pt. Lot 20, Conc. 8, Township of West Grey

Oct 2024

Prepared For:	Kyle Barlow
Prepared By:	Aster Environmental Services Ltd.
Date:	Oct 10, 2024
Project ID:	AES24040

Aster Environmental Services Ltd. / www.aster-enviro.com
705-627-3588 / admin@aster-enviro.com

Date: October 10, 2024
Project ID: AES24040

Kyle Barlow

Circulated via email to: kylebarlow91@gmail.com

***Subject*:** **Scoped Environmental Impact Study, Part Lot 20, Concession 8, Roll No. 420522000301710, Township of West Grey**

Dear Kyle:

Aster Environmental Services Ltd. has prepared the attached report to address applicable submission requirements for your application(s).

We trust that the enclosed addresses the scope of work agreed upon in our contract and/or as established through consultation with the approval agency.

Best regards,

Aster Environmental Services Ltd.

MFrancis

Mike Francis, M.E.S., H.B.Sc., E.P.
Principal – Senior Ecologist

Table of Contents

Report Figures

Report Appendices

1) INTRODUCTORY CONTEXT & BACKGROUND

Aster Environmental Services Inc. (hereafter 'Aster Environmental' or 'AES') was retained by Kyle Barlow (hereafter 'proponent') to prepare a scoped Environmental Impact Study (EIS) report pertaining to a property described as Part of Lot 20, Concession 8 (Roll No. 420522000301710), in the Township of West Grey (the 'subject property'; see **Figure 1**). The area of the subject property is approximately 0.38 ha, located in a section of the municipality that is largely represented by rural residences, agricultural cover, and broad areas of natural cover. The subject property represents a single existing lot-of-record, presumably severed in the past from the adjoining larger parcel with the intent of creating a residential building lot. The parcel is located directly at the intersection of two rural roads, Sideroad 40 and Concession 8.

The subject property is zoned entirely as Natural Environment (NE), which we understand has been assigned to align with 'hazard' feature mapping of the Saugeen Valley Conservation Authority (SVCA). The SVCA has historically regulated most or all of the property per the agency's designated regulatory authority under the *Conservation Authorities Act*. Notwithstanding, it is understood that the SVCA has recently revised the limits of their regulated hazard mapping, a product of a recent inspection of the site at the request of the proponent. We note that planning within this portion of the municipality is administered by the County of Grey through the County's Official Plan (2023 consolidation; OP). The subject property is designated in the OP as 'Hazard Lands', presumably reflective of SVCA mapping prior to recent refinements. Appendix B to the County OP assigns overlays of Significant Woodlands to most of the subject property, while Schedule C identifies a 'Natural Heritage System (NHS) Linkage' overlapping the property and adjacent lands. Various land use maps and schedules are provided in **Appendix 1**, with the subject property highlighted for reference.

It is our understanding that the proponent is seeking to construct a single residential dwelling on the subject property. To accomplish this, is it understood that portions of the property must be re-zoned from NE to a permissive category. As noted, recent revisions to the SVCA mapping provide a pathway for refinement to the NE zoning; however, the presence other natural heritage features and existing planning designations also trigger further review of the natural environment. Specifically, the existing Significant Woodland and NHS Linkage layers in the County OP require further consideration. Additionally, the presence of mapped Provincially Significant Wetland (PSW) on the local landscape warrants review of potential impacts to this feature and its functions. To support the application for re-zoning and construction of a dwelling, the Township and the County have requested submission of a scoped EIS, the scope of which has been determined through consultation and agreement with County ecology staff.

The initial goal of this assessment is to determine the presence, extent, and function of natural heritage features distributed throughout the subject property and a defined study area. This allows for a review of potential impacts to such features and associated functions that may occur as a result of the proposal to construct a dwelling. The EIS also includes consideration for compliance with commonly applicable environmental regulations, including the provincial *Endangered Species Act*, federal *Fisheries Act*, and federal *Migratory Birds Convention Act*. The EIS may also be used accompany any potential required applications for regulatory permits (e.g., Conservation Authority), as required to facilitate the proposed development. The report offers recommended measures to mitigate any identified potential impacts and a general conclusion regarding the appropriateness of the proposal from a natural heritage perspective.

2) ASSESSMENT APPROACH

The approach and methods used to carry out this assessment include the following general stages:

1. Confirm an understanding of key project context, including the trigger and purpose for conducting the study and the nature of proposed development or activity (as outlined in **Section 1**).
2. Identify a study area in which to focus assessment efforts.
3. Gather background biophysical information for the study area to become familiar with existing natural heritage feature mapping and records of features and species of conservation interest prior to the site investigation.
4. Conduct a comprehensive site investigation and targeted survey methods (where appropriate) to further support an assessment of the presence or absence of natural heritage features that are considered significant and warranting of protection, *e.g.*, woodlands, wetlands, linkages, habitat for endangered or threatened species, etc.
5. Determine whether implementation of the proposed development/activity will result in negative impacts to significant natural heritage features and identify pathways by which such impacts can be mitigated via avoidance, minimization, and/or compensation measures.
6. Provide an assessment of consistency and conformity of the proposed development/activity with applicable municipal, provincial, and federal environmental policies and regulations.

2.1 Identification of Study Area

The primary focus of this assessment is the subject property on which development is proposed (see **Figure 1** and **Figure 2**). A study area is further defined as a 120 m radius around the limit of the property. The 120 m assessment radius is a measure that is intended to ensure appropriate consideration for natural heritage features and functions of adjacent lands, consistent with direction in the Natural Heritage Reference Manual (NHRM) under the Provincial Policy Statement (PPS).

Notwithstanding, there may be limitations to the extent of investigations that can take place within a 120 m radius. For example, the study area generally includes consideration for adjacent privately-owned lands; however, access to privately-owned lands is typically not sought as part of a scoped EIS. Assessment of inaccessible portions of the study area are typically limited to a desktop review and only discussed if/where relevant. Additionally, in some cases, the presence of roadways may be used as a logical break in the continuous extent of the study area. While lands opposite roadways (or other anthropogenic infrastructure) may be within 120 m of proposed development, such physical separation may also serve to provide a functional (physical, ecological, and hydrologic) separation between development and natural features that would otherwise be considered relevant.

2.2 Review of Background Information Sources

Background biophysical information pertaining to the study area was collected from a variety of sources. These include:

- **County of Grey Official Plan** & Schedules (2023 Consolidation).
- **Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Areas and Natural Heritage Information Centre (NHIC)** database regarding information on occurrences of SAR and provincially tracked species (squares: 17NK2501, 17NK2502); accessed Oct 2024, at: http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).

- **Ontario Breeding Bird Atlas (OBBA) database and the Atlas of the Breeding Birds of Ontario, 2001–2005** (Cadman et al. 2007) regarding birds that were documented to be breeding in the vicinity of the study area during the 2001–2005 period (accessed Oct 2024 at: http://www.birdsontario.org/atlas/squareinfo.jsp).
- **Ontario Reptile and Amphibian Atlas (ORAA)** database regarding records of reptiles and amphibians that have been observed within the vicinity of the study area (accessed Oct 2024 at: http://www.ontarioinsects.org/herpatlas/herp_online.html).
- **Department of Fisheries and Oceans – Aquatic Species at Risk Mapping:** https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html
- **Atlas of the Mammals of Ontario** (Dobbyn 1994) regarding mammal records within and adjacent to the study area.
- **Species at Risk (SAR) range maps** (accessed Oct 2024 at: http://www.ontario.ca/environment-and-energy/species-risk-ontario-list).
- **iNaturalist** (accessed Oct 2024 at: https://www.inaturalist.org).
- **Physiography of Southern Ontario** (Chapman and Putnam 2007) for information pertaining to the physiography and soils of the study area and adjacent lands.
- Digital Ontario base maps and aerial photography resources.

2.3 Site Assessment Methods

The sections below outline the various methods used to characterize and assess potential natural heritage features and associated functions within the study area.

2.3.1 Functional Habitat Assessment

Aster Environmental relies first and foremost on a functional assessment approach. We first focus on evaluating the biophysical conditions of a site, including classifying vegetation communities, identifying hydrologic features (wetlands, watercourses), and characterizing other physical characteristics. We review existing background mapping to determine if significant features have been previously identified within the study area, or if the planning authority has already undertaken a comprehensive review of natural heritage features. For example, if a planning authority has already undertaken a jurisdictional review of significant woodlands, then we may simply rely on this resource to determine the presence/absence and extent of such features.

We then consider the potential for significant species within an area of interest based on general habitat requirements, background occurrence records, etc. If conditions are suitable within the study area for a species that may be known to occur in a local area, it is often simplest to assume that such a species is present, rather than undertake targeted assessments to demonstrate absence. Species-specific habitat preferences and/or affinities may be determined from published reports, unpublished documents, and direct experience.

The above method is considered far more practical than immediately deferring to targeted biophysical surveys that may be superfluous in achieving the goal of the study. For example, if a wetland feature is present within 120 m from a proposed development, we would first determine if the development can demonstrate functional avoidance of the feature before undertaking detailed assessments to characterize biological functions of the wetland (*e.g.*, undertaking turtle and/or amphibian surveys, *etc.*). Similarly, if a specific bird species of conservation concern is known to occur locally to the study area, and suitable habitat conditions are present within the study area, it may be simplest to assume its potential presence and provide the impact assessment accordingly. Alternatively, if habitat features

are demonstrably absent from a study area, then targeted surveys would not be considered warranted to further support conclusions of the assessment.

2.3.2 Targeted Wildlife Assessment

In certain circumstances, Aster Environmental completes further species-specific or otherwise targeted assessments in accordance with applicable standard methods and protocols (or modified versions thereof). Targeted survey efforts may be undertaken due to one or more triggers, such as a specific request from an approval authority. In some cases, when a species of conservation concern may occur in conflict with a development proposal, it becomes critical to confirm presence/absence to inform mitigation planning or potential authorization requirements (e.g., Endangered Species Act authorization/permits).

Given the scoped nature of this study, a robust targeted survey program was not considered necessary to inform an impact assessment, as most habitat functions can reasonably be estimated based on the form and structure of on-site vegetation communities. The likely presence/absence of most discrete constraints (e.g., species of conservation concern) was expected to be identifiable based on a scoped approach. The proposed work plan was circulated to Grey County staff and confirmed to be satisfactory to meet the goal of the application.

2.3.3 Physical Assessment (Topography, Surficial Geology, & Drainage)

The geophysical setting of the study area was determined using various background resources, including topographic maps, provincial soil survey data, and aerial imagery. On-site investigations further characterize general physical conditions, describing notable features such as steeply sloping land, interesting micro-topographical conditions, exposed bedrock, etc. While soil conditions are not always analysed, soil sampling may be undertaken where determination of specific soil conditions would influence other ecological characterization of the site, e.g., determining the presence/absence of hydric soils to inform wetland mapping. The potential for drainage features was determined through the review of background mapping resources and further assessed during the on-site investigation.

2.3.4 Vegetation Assessment

Natural vegetation communities within the study area were reviewed in accordance with applicable Ecological Land Classification (ELC) community tables (Lee et al., 1998), which is generally intended for use in Ecoregion 6E. ELC defines ecological units or communities based on bedrock, climate (temperature, precipitation), physiography (soils, slope, aspect), and corresponding vegetation. Use of the system permits biologists and other land managers to use a common language to describe vegetation communities that in turn facilitates the identification of communities likely to support certain natural heritage features or functions.

In our experience, the ELC classification key is not comprehensive, and improvised classifications are occasionally used to describe communities, e.g., anthropogenic features. Vegetation communities were delineated via aerial photo interpretation and subsequently confirmed and refined in the field using a general wandering survey approach. The boundaries of any identified wetland boundaries were delineated in accordance with the “50% wetland vegetation rule” as directed by the Ontario Wetland Evaluation System (OWES), where feasible.

2.3.4.1 Vascular Plant Survey

Vascular plants are typically inventoried during vegetation community classification efforts and other on-site surveys. Additional observations may be recorded incidentally as part of any other field data collection efforts. AES maintains a working list of observed vascular plant species and collects field samples of unidentified species for future verification. The species list is reviewed to determine if any

observed species are identified as having a conservation status that is relevant within the jurisdiction. Conservation status may include a listing as special concern, threatened, or endangered under the provincial ESA and/or a sub-national conservation rank of S1-S3, as administered by the provincial Natural Heritage Information Center (NHIC).

2.3.5 On-Site Investigation

The background review of biophysical information and general preliminary assessment informed the scoping of field data collection activities undertaken during the 2024 season. The single site investigation was undertaken on Sept 29th by a qualified ecologist, focused on characterizing and (where applicable) delineating natural heritage features that are considered relevant within the jurisdiction, e.g., woodlands, wetlands, and wildlife habitat, including potential habitat for threatened or endangered species. The site investigation was timed appropriately to assess presence/absence of constraining species, including potential rare vascular plants. Conditions during the on-site investigation were described as full sun, low wind, with temperatures ranging from 15-18 degrees. Approximately 3 hours were spent conducting the on-site survey, beginning at approximately 9 am.

Overall, the level of on-site data collection effort was considered appropriate given the location and natural heritage context of the study area. Any discrete feature boundaries were delineated with a high-accuracy GPS, and all relevant features were photographed and catalogued for inclusion in this report (**Appendix 2**). Existing conditions, as characterized through our on-site investigations, are described in **Section 3**.

2.4 Significant Natural Heritage Feature Assessment

Provincial and local planning policies employ varying terms for natural heritage features and designations that have recognized ‘statuses’ within the applicable planning jurisdiction. Although located within the municipal jurisdiction of the Township of West Grey, it is our understanding that planning in this portion of the municipality is administered by the County of Grey, under the County Official Plan. Therefore, the terminology used in this report is consistent with those significant natural heritage features receiving protections under the County’s OP, including the following:

- Wetlands (including provincially significant wetlands)
- Fish Habitat
- Areas of Natural and Scientific Interest (Life Science)
- Significant Woodlands
- Significant Valleylands
- Significant Wildlife Habitat
- Habitat of Endangered and Threatened Species
- Core Areas & Linkages

While the OP identifies additional features including Karst, Hazard Lands, and ‘Hazardous Forest Types for Wildland Fire’, these features are not assessed with this report. This report is focused on natural heritage features, while the noted excluded features may require review by other technical professionals if determined to be of interest to the County in this specific application. The listed applicable features are assessed in accordance with standard technical guidance documents, including the following:

- *County of Grey Official Plan*
- *Ontario Wetland Evaluation System – Southern Manual (2022)*
- *Natural Heritage Reference Manual (NHRM) for the Natural Heritage Policies of the Provincial Policy Statement* (MNRF 2010)
- *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF 2015).
- *General habitat descriptions, recovery strategies, and other official technical documents related to species listed as endangered or threatened under the Endangered Species Act.*

The potential presence/absence of relevant species of conservation interest, such as endangered and threatened species, are assessed using a combination of the background information review outlined in **Section 2.2** and the habitat-based approach outlined in **Section 2.3.1**. Our assessment of KNHF/KHFs is provided in **Section 4** of this report.

2.5 Impact Assessment and Mitigation Planning

The impact assessment process is a systematic evaluation of the potential environmental consequences and risks of a proposed project or development. It is typically predictive and interpretative, relying on a melding of hard data and professional judgement. Once a specific site is sufficiently characterized through an existing conditions assessment, site characteristics are defined for their significance and sensitivities. The impact assessment then focuses on predicting how significant and sensitive features may be subject to change, degradation, or outright elimination through the life of the development/activity. It is further determined whether such impacts may occur through direct or indirect means.

Where negative impacts to a feature are expected, a review is undertaken to determine the potential scale of impacts and opportunities for mitigation. The ultimate goal is to outline a mitigation plan that allows for avoidance or compensation of anticipated impacts, thereby achieving a scenario of 'no negative impacts' and/or 'no net negative impacts'. Site-specific mitigation can take any combination of the following forms:

- **Avoidance:** identifying an alternative approach that avoids the predicted impact.
- **Minimization:** refining the proposal to reflect a scenario where predicted impacts are either negligible or acceptable.
- **Active Mitigation:** developing a plan to mitigate various impact pathways through the development process, the successful implementation of which will avoid impacts.
- **Offsetting:** undertaking one or more measures to compensate for unavoidable impacts, thereby pursuing a scenario of no *net* negative impacts.

Aster Environmental's impact assessment and recommended mitigation measures/plan are provided in **Section 5.**

2.6 Conformity & Compliance Review

There are several environmental policies (*e.g.*, statutes, regulations, plans, guidance documents, etc.) to which most development applications or other related activities are required to conform/comply. A general assessment of the proposed development's consistency and conformity with these environmental policies is offered in **Section 6**.

- Federal *Fisheries Act*, R.S.C. 1985
- Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22
- Provincial Policy Statement, 2020, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13

- Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2010.
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.

- Provincial *Endangered Species Act*, S.O. 2007, c. 6
- Ontario Regulation 41/24 under the Conservation Authorities Act, R.S.O. 1990, c. C.27
- County of Grey Official Plan (2023 Consolidation)
- Township of West Grey Zoning Bylaw (2017 Consolidation)

3) EXISTING CONDITIONS – STUDY AREA CHARACTERIZATION

3.1 General Site Conditions & Land Uses

The subject property measures approximately 0.38 ha. The subject property represents a single existing lot-of-record, presumably severed in the past from the adjoining larger parcel with the intent of creating a residential building lot. This parcel supports a mostly continuous woodland canopy, with only the northwest corner containing some partial open 'cultural' cover. The property supports no existing structures or anthropogenic land uses. The only sign of prior activities includes several cut trees stumps from former logging activities.

Surrounding properties support a mix of land uses, including larger residential properties to the west and northeast. There is a County-owned managed forest directly north of Concession 8, and a large, seemingly vacant forested parcel to the east of Sideroad 40. Land use on the broader local landscape is a mix of both extensive natural cover, agricultural lands, and rural residential properties. The nearest settlement is Markdale, located approximately 5 km to the northeast.

3.2 Topography, Physiography, and Drainage

The study area is contained within the broader physiographic region known as the Horseshoe Moraines (Chapman and Putnam 1984). The property is situated within an area mapped as a glacial spillway, part of a network of former glacial melt channels on the local landscape. On either side of the mapped spillway are broad areas of kame moraine, extensive mounds of glacial depositional materials. These kame features are part of a local 'kame and kettle' complex that includes many small kettle lakes such as Farden Lake which occurs approximately 500 m to the north.

According to Ontario Soil Survey (AgMaps 2024), the subject property and other upland portions of the local landscape are dominated by Pike Lake Loam. These soils are characterized by calcareous gravelly materials on irregular moderate to steeply sloping lands. Drainage is good to excessive due to large particle size, and these soils may be subject to erosion risks in cultivated areas (Gillespie and Richards 1954). Soils directly to the southeast are described as 'Muck', associated with the core of the low-lying corridor of Traverston Creek. Based on a qualitative review, soil conditions on the property appear representative of the aforementioned Pike Lake Loam. Soils on the property generally appear dry to fresh with evident surface stones and no surface organic deposits.

The study area is located within the Saugeen River watershed. There are no defined surface drainage features within the limits of the subject property; however, Traverston Creek occurs approximately 70 m to the southeast. Traverston Creek is an upper order tributary to the Rocky Saugeen River, which itself is one of the main upper branches of the Saugeen River. Where it occurs within and adjacent to the study area, Traverston Creek is estimated to be a coldwater feature, fed primarily by groundwater contributions originating from the extensive surrounding upland moraines. The feature

appears to traverse throughout a primarily forested corridor, with small openings of organic marsh present in the southeastern portion of the study area. Observed channel structure adjacent to the study area was described as 1 m bank full width, 30 cm bank full depth, and variable substrate of sand, silt, and small gravel.

3.3 Vegetation Conditions

Existing vegetation communities within the study area were assessed through a combination of background review and on-site investigation. A desktop exercise was undertaken to map vegetation community boundaries using background information sources and current aerial photographs; the mapped vegetation communities were then ground-truthed to a high level and refined where necessary during the site investigation. Vegetation community mapping with general classifications based on Lee et al (1998) is provided on **Figure 2**; however, given that the subject property contains only a single ecosite, and adjacent lands could not be directly assessed, discussion of vegetation conditions is broken down below by the verified conditions observed on the subject property vs the interpreted conditions of adjacent lands (rather than individual ecosite descriptions). All plant species observed within the study area are considered common locally and provincially.

3.3.1 Subject Property

The subject property is characterized by a single ecosite described on **Figure 2** as Coniferous Forest (FOC). This is a high-level classification assigned to all coniferous-dominant forest within the study area; however, the portion observed within the direct limits of the property is best described as Fresh White Cedar Coniferous Forest Type (FOC4-1). This is a highly successional ecosite composed almost entirely of dense, even-aged Eastern White Cedar (*Thuja occidentalis*). There are abundant signs of former tree harvesting, with the current canopy mostly representative of coppice growth of cut cedars. The canopy supports minor associates of Trembling Aspen (*Populus tremuloides*), American Elm (*Ulmus americana*), White Ash (*Fraxinus americana*), and Black Cherry (*Prunus serotina*). Trace occurrences of Tamarack (*Larix laricina*) appear near the southern limit of the parcel, an indication of increasing soil moisture along the subtle slope toward the adjacent Traverstone Creek riparian corridor.

Sub-canopy structure within the on-site woodland is limited to suppressed White Cedar stems and occasional cedar regeneration in small canopy openings. The shrub-height layer includes sparse lower White Cedar, occasional Common Buckthorn (*Rhamnus cathartica*), and a senescing layer of mixed dogwood (*Cornus alternifolia, C. rugosa*) toward the western limit of the property. Groundcover is mostly absent under the very dense canopy; however, occasional small openings support a generic mix including Wild Basil (*Clinopodium vulgare*), Goldenrod (*Solidago canadensis, S. rugosa*), Self-heal (Prunella vulgaris), Helleborine (*Epipactis helleborine*), woodland sedges (*Carex pedunculata, C. eburnea*), and patchy moss cover.

Soil moisture appears ‘fresh’ in general, with no signs of seasonal surface pooling or soft surface soils that might indicate organic accumulations. Trees on site appear mostly healthy, with very few dead-standing trees observed, and these limited to small diameter Elm/Ash and suppressed cedar stems. In addition to the main forest ecosite, there is a small inclusion of ‘cultural thicket/woodland’ (CUT/CUW) occurring in the northwestern corner of the parcel. This area contains a low mix of White Cedar, Black Cherry, American Elm, Nannyberry (*Viburnum lentago*), Hawthorne (*Cratageus sp.*), and dense Grape (*Vitis riparia*). This is presumably an area of grown-in former pastureland.

3.3.2 Adjacent Lands

Vegetation composition on adjacent lands was reviewed from the edge of the subject property, the roadside, and aerial imagery. Woodland cover to the south is generally consistent with composition on

the property, being dominated by dense White Cedar. Tamarack begins to become more prevalent a short distance to the south, indicating continued transition to wetland; however, the exact limit of wetland on adjacent lands can only be estimated (see **Figure 2**). East of Sideroad 40 includes areas mapped as PSW, containing more diversity of canopy cover, including Balsam Fir and some additional hardwood cover. Without further direct assessment of these areas, we assume the areas mapped as PSW are representative of coniferous swamp. Lands to the west include a large open cultural meadow, including various areas that appear to be maintained as grassed lawn. North of Concession 8 is a managed forest that appears to be composed of row-planted coniferous plantation.

3.4 Fish & Wildlife Habitat

The combined results of Aster Environmental's background review and on-site assessment indicate that the subject property is not supporting fish habitat. Nearby Traverston Creek is contained within 120 m from the subject property; however, the nearest reach of this watercourse is on the opposite side of a roadway and functionally disconnected from the property. Therefore, we do not provide further assessment of the potential fish habitat function of this watercourse.

The extent and diversity of natural land cover on the local landscape has inherent potential to support various habitat functions for local wildlife. The local landscape contains large patches of continuous natural cover, including a mosaic of woodlands. These areas can be expected to support a diverse range of common and sensitive wildlife species.

No targeted survey efforts were undertaken with respect to general mammalian diversity; however, all incidental species observations were documented during our on-site investigation, which included White-tailed Deer (*Odocoileus virginianus*) and Red Squirrel (*Tamiasciurus hudsonicus*). We expect there is potential for various other mammalian species to occur, such as Eastern Coyote (*Canis latrans*) Raccoon (*Procyon lotor lotor*), and Black Bear (*Ursus americanus*). Additionally, the property has some limited potential to support one or more bat species. Potentially significant habitat functions related to mammals, including bats, are discussed under **Section 4.**

In addition to mammals, we expect that the subject property and adjacent lands has the potential to support various migratory and resident bird species. On-site investigations were undertaken outside of the breeding bird season. Any incidental observations would be expected to consist of only year-round resident species or late migrants. Species documented while on site included Black-capped Chickadee (*Poecile atricapillus*), Blue Jay (*Cyanocitta cristata*), American Crow (*Corvus brachyrhynchos*), and Ruby-Crowned Kinglet (*Regulus calendula*). Potential occurrences of bird species of conservation concern are assessed in **Section 4** based on combination of habitat assessment and review of background databases.

Targeted anuran or reptile surveys were not considered necessary to inform this scoped review; however, our site visit was undertaken at a time that would allow for evaluation of potentially suitable habitat features. Importantly, the subject property contains no specialized habitat for herptiles (e.g., open-water wetlands, woodland breeding pools, bedrock openings, etc.). Regardless, it is possible that common anurans and reptiles could occur within the property during the course or regular seasonal movements. Wetland ecosites to the east and southeast of the property would reasonably be expected to support anuran breeding habitat and potential limited turtle habitat.

We note that the subject property and/or surrounding landscape may represent habitat for one or more species protected under the ESA, as evidenced by existing records within the NHIC database, as well as indicative habitat features observed by Aster Environmental staff during the assessment. All relevant observations of wildlife species and/or habitat features, including individuals of species at risk or other species of conservation concern, are discussed in **Section 4** of this report within the context of significant natural heritage features.

4) SIGNIFICANT NATURAL HERITAGE FEATURE ASSESSMENT

Based on review of the biophysical information collected during background information gathering, and analysis of the existing conditions of the subject property as described above, the following applicable Significant Natural Heritage Features (SNHFs) are present (or potentially present) within the study area.

- Wetlands
- Significant Woodlands
- Habitat of Endangered & Threatened Species
- Significant Wildlife Habitat
- Natural Heritage System Core Areas & Linkages

All potentially relevant SNHFs of the County's OP are listed in the section below, with rationale provided regarding the conclusion of presence/absence of each feature.

4.1 Wetlands (Including PSWs)

The eastern portion of the study area contains a portion of a wetland ecosite/complex, represented by a conifer swamp and, to further to the south, a mix of swamp thicket and marsh. These wetlands are mapped as part of the Traverston Creek Wetland, an evaluated PSW complex (see **Figure 1** and **Figure 2**). The wetland is assumed to be influenced hydrologically by groundwater emergence from the lower slopes of local moraine landforms. This is a very common mode of wetland influence on the local landscape, resulting in assemblages of plant species with affinities for regular groundwater connections, such as Tamarack.

We also note that background provincial wetland mapping indicates the presence of additional 'unevaluated wetland' coverage associated with the southwest portion of the property and adjacent lands to the southwest. Our site investigation did not identify wetlands occurring on the subject property or immediately adjacent lands; however, it is clear that the woodland associated with the subject property does gradually transition to a wetland condition beyond the southern boundary of the property. As viewed from the roadside and via drone, the canopy of the woodland gradually transitions from an upland cedar structure to dominance by Tamarack, which is generally regarded as a wetland obligate species in southern Ontario. Our estimate of the wetland limit on adjacent lands is provided on **Figure 2**. Regarding existing mapped PSW areas, we generally assume that the mapped limits are accurate for the purpose of this assessment.

Although wetlands within the study area cannot be directly assessment, we estimate that various significant functions can be attributed to these features, both ecological and hydrological. For example, given the setting of the feature on the landscape, these wetlands clearly contribute cold groundwater into the associated Traverston Creek. This aids in supporting potential cold water aquatic communities. Ecosites within this wetland complex may support various significant, wetland-specific habitat functions, such as habitat for turtles, anurans, marsh birds, etc.

Additional discussion, including a review of potential impacts to wetlands resulting from implementation of the proposed plan, is provided in **Section 5.1**.

4.2 Areas of Natural and Scientific Interest (Life Science)

It is the responsibility of the Ministry of Natural Resources and Forestry (MNRF) to designate and administer mapping for areas of natural and scientific interest (ANSIs). Based on available background mapping, the nearest life science ANSI occurs >500 m southeast of the subject property. No further assessment undertaken.

4.3 Fish Habitat

Traverston Creek traverses the local landscape and is assumed to support fish habitat. At its closest point, the stream occurs approximately 70 m from the southeastern corner of the subject property, and >100 m from the proposed development footprint. However, this closest point of the watercourse is also located on the opposite (east) side of Sideroad 40 and therefore, both physically and hydrologically separated from the proposed development. On the west side of Sideroad 40, the closest extent of the stream is ~170 m from the southern property limit and >200 m from the proposed development footprint. Given this context, it is our opinion that the any fish habitat functions associated with Traverston Creek are not relevant to the proposed development. No further discussion provided.

4.4 Significant Valleylands

Significant valleylands represent valleys or other landform depressions with recognized significant attributes, such as supporting natural vegetation cover with associated ecological linkages and corridors. Valleylands are typically associated with a watercourse feature. Designation of significant valleylands is ultimately the responsibility of the relevant planning authority; however, site-specific designation of these feature can be undertaken using standardized criteria endorsed by the province and/or the planning authority.

Applicable OP documents or other resources do not appear to designate lands within the study area as significant valleylands. The study area supports areas of mildly sloping topography and a watercourse corridor; however, the local corridor for Traverston Creek does not support a well-defined valley landform and does not appear representative of a significant valleyland. No further assessment undertaken.

4.5 Significant Woodlands

Significant woodland features represent areas of forested cover with recognized significant attributes, such as large contiguous blocks of woodland, woodlands with unique characteristics, and/or woodlands that support economic values, cultural values, or other ecosystem services. It is generally the responsibility of the applicable planning authority to designate significant woodland on a comprehensive basis; however, where appropriate, identification of candidate significant woodland can be undertaken on a site-specific basis using standardized criteria endorsed by the province and/or the planning authority.

Based on our background review, the local planning authority (i.e., County of Grey) has undertaken a comprehensive exercise to identify select significant natural heritage features within the local jurisdiction, including significant woodland. Specifically, Appendix B – Map 3 to the County OP provides an overlay for significant woodland that covers most of the subject property and large swaths of the surrounding landscape (see **Appendix 1**). The total area of continuous woodland overlapping the study area is >1000 ha, which is further contiguous with other larger woodland patches across the landscape, separated only by local concession roads. In general, the extent of woodland in West Grey and broader Grey County is very high in comparison to other southern Ontario jurisdictions.

Additional discussion, including a review of potential impacts to woodland resulting from implementation of the proposed plan, is provided in **Section 5.2**.

4.6 Habitat of Endangered and Threatened Species

To assess the potential presence of individuals and/or habitat for endangered and threatened species within the study area, AES conducted the following:

- Review the range maps for all species designated as endangered and threatened in Ontario, as per Schedules 2 and 3 of Ontario Regulation 230/08 [(Species at Risk in Ontario List (SARO List)], located here: https://www.ontario.ca/laws/regulation/080230. In our experience, the potential presence of most provincially endangered and/or threatened species can be ruled out based on their limited geographical ranges in the province and/or a lack of specific habitat conditions that are required to carry out key life processes.
- Reviewed the NHIC database for existing records of element occurrences for endangered or threatened species (17NK2501, 17NK2502). Databases of iNaturalist, OBBA, and ORAA were also reviewed as of Oct 2024.
- On-site investigation undertaken in 2024, during which vegetation conditions were characterized for habitat-based assessment.

Information from the above assessment process was used to inform a site-specific screening, as contained in **Appendix 3**. The screening is based on a list of species that are known to occur within the regional jurisdiction (*i.e.*, Grey/Bruce). Through this screening, the species discussed below were identified as having the potential to be present within the study area. Where relevant, potential impacts to these species are discussed further in **Section 5**.

4.6.1 Endangered Bat Species (*Myotis lucifugus, M. septentrionalis*)

These species, assessed as a species guild (related species with similar habitat characteristics), include two bat species listed as endangered in Ontario. Bats are highly mobile; however, individuals and groups of the noted bat species are also recognized as having some degree of fidelity to suitable local sites for daily and seasonal 'roosting' activities. While some species (*i.e.*, *Myotis lucifugus*) exhibit a preference for roosting in anthropogenic structures, natural roosting sites are also important. Natural roosting sites are generally associated with mature forests containing a sufficient density of large trees in various stages of decay, otherwise known as 'snags'. Snags provide features such as cavities and/or loose bark, on which bats rely for shelter and thermoregulation throughout the active season.

Most of the study area supports established tree cover, as described in **Section 3.3**. Based on our qualitative review, tree cover within the property itself is not well suited to supporting bat roosting habitat. The on-site tree canopy is relatively young and lacking large, older trees that are typically best suited to supporting bat roosts. The canopy is also very dense, being composed of second-growth White Cedar that would not support easy access and egress to roosting sites. We also did not observe any high-quality roosting trees during the course of our site assessment. Based on our observations, we do not expect that the site is representing functional or important habitat for endangered bat species; however, we also acknowledge that it would be impossible to state that individual bats could not occur during the active season

Further discussion, including an assessment of potential impacts to individuals of endangered bat species resulting from implementation of the proposed plan, is provided in **Section 5.3.**

4.7 Significant Wildlife Habitat

Significant wildlife habitat (SWH) is represented by a range of habitat features that are recognized as providing specialized or otherwise important functions for various forms of wildlife. Designation of confirmed SWH is ultimately the responsibility of the relevant planning authority, and it is our understanding that no specific SWH designations have been applied to the study area. Notwithstanding, candidate SWH can be identified on a site-specific basis, often triggered through a proposed change in land use or a large-scale development application.

To ensure due diligence in this regard, AES has reviewed applicable technical guidance for the identification of specific SWH features and functions as contained in the SWH Criteria Schedules for Ecoregion 6E (MNRF 2015). A preliminary assessment/screening of the criteria schedules is contained within **Appendix 4**. As outlined in the screening, the results of Aster Environmental's field program and background review indicate that the following SWH features/functions have the potential to occur within the study area, though not necessarily within the subject property.

4.7.1 Bat Maternity Colonies

This function may occur in association with forests across the local and regional landscape, including within the study area. Refer to **Section 4.7.1** for discussion regarding the potential for bat maternity habitat to be present on the subject property. While the discussion in **Section 4.7.1** is provided specifically for endangered bat species, the assessment and conclusions are comparable to species that are not protected under the ESA.

4.7.2 Waterfowl Nesting Habitat

This function may occur on the local landscape where upland habitat occurs adjacent to marsh ecosites, such as occurs to the southeast of the subject property. The potential function of this area is assumed to be limited, as the structure of the marsh habitat on adjacent lands appears to lack large area of standing water that would be favored by waterfowl. Moreover, we do not expect that the subject property itself would support any waterfowl nesting function.

4.7.3 Amphibian Breeding Habitat & Movement Corridors

The local portion of the wetland complex associated with the Traverston Creek corridor is reasonably expected to support amphibian breeding habitat, likely limited to anurans. The significance of this habitat is unknown but may be limited by an apparent lack of large standing water areas. The local landscape would also be expected to support movement corridors for anurans, likely limited to movement along the Traverston Creek corridor. There is no amphibian breeding habitat present on the property itself, nor would the property be expected to support movement corridors between areas of habitat.

4.7.4 Marsh Bird Breeding Habitat

Marsh bird species include a mix of specialist species that prefer or require marsh settings to establish successful nests. The southeastern portion of the study area supports a small area of marsh vegetation, part of the Traverston Creek PSW complex. Based on roadside observations, we do not expect that this marsh ecosite would be suitable for most marsh specialist species listed in the SWH Criteria Schedules; however, it may be suitable for one indicator species, Green Heron. The identification of SWH in this category is typically undertaken by conducting in-season breeding bird surveys. As such surveys were not undertaken, it can be conservatively assumed that this function could occur in association with portions of the study area where marsh habitat is present. There is no marsh bird breeding habitat present on the property itself.

4.7.5 Special Concern and Rare Wildlife Species

AES conducted a review of the list of species designated as special concern in Ontario, as per Schedule 4 of Ontario Regulation 230/08, located here: https://www.ontario.ca/laws/regulation/080230. We further reviewed several biodiversity databases for existing records of element occurrences for special concern or rare species, including: NHIC, iNaturalist, OBBA, and ORAA. On-site investigations further supported a review of what species may

be relevant to the subject property/study area. The NHIC database lists records of the following species within the data squares that overlap the study area:

- Eastern Wood-Pewee (*Contopus virens*; Special Concern)
- American Hart's-tonque Fern (*Asplenium scolopendrium var. americanum*; Special Concern)

In general, we do not expect that either of these species is present within the study area. The coniferous-dominant forests on the local landscape do not reflective the habitat conditions preferred by Eastern Wood-Pewee. Additionally, American Hart's-tongue Fern is a conservative, calciphitic lithophyte, generally restricted to high quality hardwood forests where is grows on exposed escarpment rocks and limestone boulders. No individuals or evidence of suitable habitat was observed during the site visit.

In addition to NHIC records, based on our on-site investigation, we suspect that habitat for the following species may be present within the study area:

- Midland Painted Turtle (*Chrysemys picta marginata*; Special Concern [SARA, but not ESA])
- Snapping Turtle (*Chelydra serpentina*; Special Concern)
- Canada Warbler (*Cardellina canadensis*; Special Concern)
- Golden-winged Warbler (*Vermivora chrysoptera*; Special Concern)

Both Midland Painted Turtle and Snapping Turtle rely on open water wetlands and exposed mineral substrates to carry out key life process such as basking, nesting, and overwintering. Marsh habitat to the southeast of the subject property may support general basking, movement, and foraging habitat for either species. It is unknown if these marsh areas represent suitable overwintering habitat, although this is estimated to be unlikely due to a lack of standing water area. Aside from local road shoulders, no obvious potential turtle nesting sites were observed.

Canada Warbler and Golden-winged Warbler may also be expected to occur on the local landscape. The former exhibits preference of boreal-type woodlands, which are reflected in local woodlands and swamps dominated by Tamarack, Balsam Fir, and other northern-typical tree species. The latter prefers maturing shrub thickets and thicket swamps, conditions which occur to some extent within the marsh/swamp complex to the southeast of the subject property.

Importantly, we do not expect that the subject property itself provides functional habitat for any of the above-noted species. As discussed, there are no wetland conditions on the property that could support turtle habitat, and the observed dense, second-growth cedar cover is not preferred by either noted bird species. Therefore, potential habitat for special concern species is strictly limited to adjacent lands. Additional discussion, including a review of potential impacts to habitat functions for the noted species resulting from implementation of the proposed plan, is provided in **Section 5.4**.

4.8 Core Areas & Linkages

This category of significant natural heritage feature refers to features/areas identified as either a 'core area' or 'linkage' within Schedule C to the County's OP. Based on our review of Schedule C (see **Appendix 1**), the study area is contained within an identified linkage area, and proximate to a core area to the east. Section 7.1 of the County's OP states the following regarding linkage areas:

> *Linkages are identified to provide connectivity between Core Areas and establish a connected natural environmental system. They support natural processes that are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. Linkages are identified based on several factors including using the areas of greatest natural cover (terrestrial and/or aquatic, as well as areas of deep interior habitat), while focusing on the shortest distance between Core Areas.*

A corridor width of 200 metres was used to identify Linkages. This width was identified in Grey County based on the fact that interior habitat is generally identified as habitat 100 metres from the edge.

Linkages are not necessarily located in pristine natural environment, but partially occur through agricultural fields. This Plan does not prohibit agricultural uses and operations in these areas; the fields may provide appropriate habitat for species and/or offer opportunities for stewardship.

The boundaries of Linkages can be refined in the local official plan, but must meet the definition and criteria. Conversely, the precise location of the Linkage may be moved depending on further study.

Based on the criteria discussed above, the linkage area identified on Schedule C in association with the subject property appears logical. However, natural area linkage functions on the local landscape are not expected to be limited to this single 200 m swath. Instead, we recommend acknowledging that there are multiple similar linkages on the local landscape that meet the above criteria. We have reviewed aerial imagery and highlighted various additional/alternative linkages that connect natural features and areas on the landscape from east and west (as shown on **Figure 3**).

Additional discussion, including a review of potential impacts to natural area linkage functions resulting from implementation of the proposed plan, is provided in **Section 5.5**.

5) IMPACT ASSESSMENT & RECOMMENDATIONS

It is our understanding that this EIS has been requested by the Township and County to accompany an application to construct a single dwelling on the subject property. Given the existing extent of 'Natural Environment' zoning applicable to the property, and the constraining nature of this zone, it is further understood that refinement to the existing zoning is necessary to facilitate a building permit. The EIS may also be used to support review of other potentially required approvals, such as a permit from the SVCA. The proposed development footprint is depicted on **Figure 2**, as derived from a sketch provided by the proponent. We note that the limits of the proposed footprint depicted in report figures should not be considered survey grade (*i.e*., for reference purpose only); survey drawings provided by the proponent should be cited for specific details on the proposed lot line adjustment.

Aster Environmental's impact assessment below is intended to inform a review of the proposal by the appropriate approval authority. Our assessment is based on a review of existing conditions at the time of site investigation, as illustrated on **Figure 2** and in the photo record contained in **Appendix 2**. As discussed in **Section 4**, multiple significant natural heritage features are confirmed or have the potential to occur within the study area. The primary purpose of this report is to assess impacts and support impact mitigation for all features that receive protections under applicable environmental planning policies and regulations. The potential for negative impacts on all identified features is discussed in the sections below, and several recommendations are listed to support a scenario of no net negative impacts.

In assessing and identifying potential negative impacts through any development or related process, it is important to highlight how the PPS defines negative impacts, *i.e*.:

"…*degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities*"

Importantly, as stated in Section 13.2 of the Natural Heritage Reference Manual (for Natural Heritage Policies of the PPS):

The PPS definition for "negative impacts" does not state that all impacts are negative, nor does it preclude the use of mitigation to prevent, modify or alleviate the impacts to the significant natural heritage feature or area".

Our impact assessment is intended to be reflective of the above guidance, with consideration for the integrity and function of each feature, and in acknowledgement that not all development and site alteration represents a negative impact.

5.1 Wetlands

One or more wetland ecosites occur within the study area; however, as discussed in **Section 4.1**, wetland ecosites were not identified within the boundary of the subject property. The exact limits of wetlands on the local landscape is not known, but can be estimated based available provincial mapping, contour mapping, aerial imagery, and roadside observations. The estimated limit of wetlands within the study area is depicted on **Figure 2**.

In general, development and/or site alteration activities that occur proximate to wetlands have the potential to cause negative impacts via the following pathways:

- Alterations of surface water and/or groundwater contributions to wetlands that may result from:
    - Construction staging requirements (*e.g.,* dewatering, etc.);
    - Increased post-construction coverage of impervious surfaces (*e.g.,* roads, roofs, etc.); and,
    - Permanent modifications to existing topography or drainage alignments;
- Loss of riparian vegetation cover that supports thermal mitigation and aquatic wildlife habitat;
- Increased sediment and/or nutrient loadings to features via runoff exiting the development area from construction to post-completion of the project. This may adversely affect water quality via increased turbidity, nutrient enrichment, contamination by toxic substances, changes in pH, etc.;
- Long-term disruption or loss of habitat for wetland-dependent wildlife, as well as impacts to such wildlife during the construction process; and,
- Increased human activity/encroachment within the wetland post construction, which may result in increased soil compaction, dumping, vandalism, or other disturbances.

At its closest point, development on the property would occur approximately 20 m from the nearest mapped wetland, i.e., the western limit of the Traverston Creek PSW. Importantly, this feature is located on the opposite side of Sideroad 40, a prominent roadway representing a physical and hydrologic barrier and buffer. Wetland areas also occur to the south of the subject property where they are not buffered by an existing roadway; however, we estimate that there is approximately 70 m of separation distance between the proposed development and the edge of wetlands to the south.

It is expected that the buffer between proposed development and wetlands to both the east and south is functional and sufficient to avoid negative anthropogenic influences on wetland ecology. This is especially true given the small scale of development, which would not be expected to result in any off-site impacts. Minor tree clearing will be required and the dwelling footprint will result in a minor increase in impervious surfaces. As we expect that local wetlands are hydrologically influenced by groundwater discharge and riparian processes, a minor increase in impervious surfaces would not be expected to impact the local water balance as it related to wetland hydrology.

Minor loss of tree canopy and disruption of stabilized surface soils has the potential to expose mineral soils and increase erosion. As the property exhibits minimal grade change, there is limited potential for these activities to result in migration of sediment toward areas of wetland to the south. Lastly, the use of machinery on site has the potential to introduce pollutants/contaminants and seed sources of non-native species, both of which have the potential to degrade the quality and function of local wetlands.

The following mitigation measures are recommended to avoid negative impacts to wetland functions from the various pathways identified above.

- **Install heavy-duty silt fence barriers immediately downgradient of any proposed clearing/grading areas per provincial standard (OPSD 219.130 – see Appendix 5).**
    - **Silt fencing should be installed to isolate all construction staging and material storage areas.**
    - **Additional sediment fencing and appropriate control measures must be available on site so that any breach can be immediately repaired.**
- **All machinery should arrive to site washed and in good working order, inspected for fuel or fluid leaks prior to entering the site.**
- **All machinery should arrived free of invasive plant materials per the Ontario Invasive Plant Council Clean Equipment Protocol for Industry: https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf**
- **Machinery must be refueled, washed, and serviced within a pre-designated area isolated by sediment fencing.**
- **Locate all fuel and other potentially deleterious substances within the area isolated by sediment fencing.**
- **Offloading of construction and aggregate/fill materials (where required) should be completed during fair weather conditions.**
- **Temporary storage locations of aggregate/fill material (where required) should be located within the area isolated by sediment fencing. All stockpiled topsoil/overburden (where required) should be maintained in low piles and stabilized as quickly as possible (e.g., erosion-prone areas covered with textile) to minimize the potential for runoff.**
- **The contractor is required to maintain all machinery in proper working order, with daily monitoring to occur, including daily start-up checks for fuel leaks. Re-fueling and maintenance works should occur within the designated machinery and material storage area.**
- **Prepare a spill response kit in advance of construction. The kit shall include, at a minimum, absorbent materials to support clean up (e.g., sand), shovel(s), protective equipment for spill responders (e.g., gloves), suitable waste material storage bags/containers, and any other materials or tools that may be necessary to respond to a hazardous material spill (scope and scale to reflect site-specific construction materials).**
- **Develop a spill response plan, including assigning roles to on-site contractors to implement necessary actions in the event of a hazardous material spill.**
- **Any spills of deleterious substances and materials should be cleaned immediately. Any waste materials generated from clean up of spills are to be removed immediately from the work site and properly disposed of. Any spills of oil, fuel, or other deleterious**

substances whether directly or indirectly into a waterbody are to be promptly reported to the Ontario Spills Acton Center (1-866-663-8477).

- **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained. Sediment fencing should be inspected daily and prior to precipitation events, with necessary remedial actions occurring as issues are identified.**
- **An on-site supervisor shall be assigned the responsibility of daily inspections of the sediment and erosion control measures. The inspector must record the time and date of inspections, the status of the mitigation measures, and any repairs undertaken.**
- **Following completion of clearing activities, the following steps should be implemented where applicable.**
    - **Any temporary disturbance to surface soils from construction should be mitigated/stabilized through application of woody vegetation, mulch, and/or a site-appropriate stabilization seed mix.**
    - **If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) with any necessary permanent measures to be implemented the following spring.**
    - **Removal of non-biodegradable erosion and sediment control materials should occur once construction is complete, and the site is stabilized**.

5.2 Significant Woodland

Woodland areas encompassing the study area are representative of significant woodland, as indicated by an existing overlay in Appendix B to the County OP. Examples of direct impacts to woodlands from development or related activities can include removal of individual trees, fragmentation of canopy coverage, and direct loss of woodland-dependent wildlife habitat. Indirect impacts may include new anthropogenic influences (e.g., trails, garbage dumping), introduction of invasive species, requirements for removal of hazard trees, etc.

The development envelope will require removal of an estimate 0.18 ha of existing woodland cover; however, accounting for typical ancillary activities/uses (e.g., yard/amenity space), we estimate that upwards of 0.25 ha of woodland cover may be a more realistic estimate of tree removal requirements. Strictly from an areal perspective, this minor extent of canopy removal may be considered negligible when compared to the vast extent of woodland cover on the broader local landscape.

Other considerations in terms of potential functional impacts to woodland include the potential for creation of new canopy gaps, loss of interior woodland, and loss of high-functioning, rare, or sensitive woodland features. In this scenario, the clearing will occur entirely along an existing, prominent woodland edge, i.e., directly adjacent to two roadways and an existing open field to the west. Therefore, the proposal will not create any new canopy gaps, but a minor encroachment along an existing edge. Given the configuration of the local canopy and associated edges, the proposal will not result in the loss of any interior woodland cover. We also note that the forest structure on site is considered highly successional, exhibiting very low diversity, as described in **Section 3.3**. The densely stocked, monocultural White Cedar canopy is not amenable to supporting habitat for rare flora or fauna and is not regarded as a ‘high quality’ or otherwise sensitive forest type.

In general, we recommend that measures are taken to minimize the extent of required clearing, with emphasis placed on avoiding clearing portions of the property identified as provided other important functions (i.e., SVCA hazard lands). Additionally, post-construction re-planting of native vegetation is

recommended to replace some of the general functions associated with lost canopy cover. Finally, preventative measures should be taken to avoid the establishment of invasive flora as a result of the on-site construction disturbance. Other recommended mitigation measures related to wetlands and wildlife habitat are considered directly applicable to avoiding impacts to woodland functions. Provided that all mitigation measures in this report are adhered to, there is no expectation that the proposal will result in a negative impact to the function of the broader forest complex.

- **Limit tree clearing to the area required to facilitate the proposed dwelling and typical residential amenities. Retain a minimum of 50% canopy cover on the subject property, including full retention of trees within the identified SVCA hazard area limit.**

- **Post-construction landscaping should utilize native, site-appropriate species only. Landscaping should strive to incorporate the re-planting of trees surrounding the dwelling and amenity space, where feasible. Ideal species would be those that support large canopies, such as Sugar Maple, Red Oak, White Pine, or White Spruce, in order to provide some functional replacement of canopy cover.**

5.3 Habitat of Endangered & Threatened Species

As per Section 10 of the ESA, areas of identified habitat for any endangered or threatened species are protected from destruction, unless otherwise authorized. Additionally, Section 9 of the ESA protects individuals of endangered or threatened species, prohibiting individuals from being killed, harmed, or harassed without appropriate authorizations. In many cases, mitigation planning is sufficient to promote consistency with the above provisions. The following section(s) provide an assessment of potential impacts to any endangered or threatened species considered relevant to the development application, as determined through our screening exercise (**Appendix 3**) and subsequent assessment in **Section 4.6**.

5.3.1 Endangered Bats

Forested ecosites within the study area may be expected to support some level of seasonal bat activity, which may include endangered bat species. It is noted that this is a generic conclusion that would be drawn for any area containing tree cover. In conducting a wildlife habitat assessment, it is rarely a question of whether bats are present within a forested area, but more a question of the quality and functionality of the habitat. Based on a qualitative review conducted during our general vegetation assessment, no trees were observed that would appear likely to support functional roosting habitat. Moreover, the density of on-site canopy cover would likely prevent any functional access to roosting trees, should they occur.

In general, the on-site forest appears very unlikely to support bat habitat; however, it would be impossible to say that individuals of endangered bat species could not occur. While we do not expect that the proposal represents a potential negative impact to bats or any potential ESA compliance concern, we provide clear and simple guidance to ensure avoidance of individuals that may occur on site during the active season.

The following is recommended to support mitigation for endangered bats.

- **Tree clearing for the purposes of development only occur in the fall, winter, and early spring (from October 1 to April 15). This timeframe is outside of the typical maternal roosting period. This means that no tree clearing shall occur between April 15-Oct 1 of any given year.**

- **If tree clearing must occur between April 15 and October 1, additional studies may need to be completed to confirm the presence or absence of SAR bats. These studies may include assessments of trees on an individual basis to determine if bats may be present. Should bats be detected in trees that are proposed to be removed during the active season, the MECP should be contacted to determine if a permit would be required to proceed.**

5.4 Significant Wildlife Habitat

Section 4.7 describes multiple significant wildlife habitat functions that have the potential to occur within the study area based on a review of applicable criteria and background information sources. These include the following:

- Seasonal Concentration Areas of Animals
  - Bat Maternity Colonies
- Specialized Habitat for Wildlife
  - Waterfowl Nesting Habitat
  - Amphibian Breeding Habitat
- Habitat of Species of Conservation Concern
  - Marsh Bird Breeding Habitat
  - Special Concern and Rare Wildlife Species

As discussed with respect to endangered bats, the form and function of on-site tree cover has minimal potential to support roosting habitat for bats. Recommendations are provided under **Section 5.3** to promote mitigation of any impacts to bats related to tree removals.

All other identified SWH functions that may occur within the study area are directly related to wetlands. Functions such as nesting habitat for waterfowl, marsh bird habitat, and amphibian breeding habitat could all be expected to occur within the wetlands occurring east and south of the property, with primary emphasis on an area of semi-open thicket/marsh occurring approximately 70 m to the southeast. Likewise, all species of special concern with potential to occur on the local landscape would also be expected to occur in association with mixed wetland cover, including Midland Painted Turtle, Snapping Turtle, Canada Warbler, and Golden-winged Warbler.

As discussed under **Section 5.1**, it is our opinion that the proposal is unlikely to result in any negative impacts to ecological functions of wetlands occurring within the study area. The property itself is functionally separated from wetland areas by sufficient distance, as well as the Sideroad 40 right of way. This buffering would be expected to prevent any anthropogenic activity on the property from influencing potential SWH functions, should they occur on adjacent lands.

In general, we do not anticipate that the proposed development would result in any negative impact to SWH features or functions that have the potential and/or are predicted to occur within the study area. The mitigation recommendations provided under **Section 5** are directly applicable in supporting this conclusion. The following is recommended to as a general measure to avoid impacts to general wildlife (particularly birds) protected under provincial regulations.

- **Vegetation removals should not occur between April – August of any given year. If vegetation removals must occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by the MBCA or FWCA. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season. Note that this**

recommendation pertains to any vegetation removals and not just trees. The timing window for tree removals is considered broader to encompass potential impacts to bats (see Section 5.3).

5.5 Core Areas & Linkages

The subject property is contained within an area identified in the County OP as a 'linkage area'. In general, the subject property is contained within a well-connected landscape. Despite small gaps on the landscape represented by waterbodies, agricultural fields, and roadways, connectivity is very high on a local basis. Notwithstanding, it is important to acknowledge that wildlife do not necessarily follow defined pathways established through planning exercises. Depending on the species or guild, certain wildlife may use multiple pathways for migration on the landscape. For example, wetland-dependent wildlife (e.g., anurans) may exclusively follow wetland/watercourse corridors. Ungulates, such as white-tailed Deer, frequently follow topographical features, such as valleys or ridges, or may choose the path of least distance between wintering areas and summer foraging areas. Birds may have no regard for any of these considerations during their seasonal overland migrations. It would not be reasonable to expect that wildlife species are uniformly utilizing the linkage alignment identified within the County OP, but rather that various wildlife species are moving throughout the landscape in various directions throughout the year.

The proposed development would result in estimated removal of between 0.15 and 0.25 ha of woodland canopy, depending on desired clearing for amenity areas. This tree clearing would occur directly adjacent to three prominent woodland edges represented by roadways and an open field. While this would occur directly within the alignment of the existing mapped linkage area, we do not believe it will result in any functional impairment of the ability of wildlife to move within and between habitats on the local and regional landscape.

Figure 3 was prepared to illustrate the existing mapped linkage area in comparison to other conceptual linkages on the local landscape, most or all of which meet the same standards and criteria outlined in the OP. The intent of this analysis is not to suggest moving the existing identified linkage area, but to highlight that a local linkage does not need to be limited to one single defined pathway. We believe that the local landscape provides significant and variable opportunity for wildlife movement, including many suitable linkages protected by natural cover and associated protective planning mechanisms (e.g., significant woodland). The small footprint associated with the proposed rural residential dwelling would not be expected to impair the existing mapped linkage or any other suitable linkage pathways on the landscape.

Various applicable mitigation measures have been suggested in this report with respect to reducing or avoiding negative impacts to the mapped significant woodland and associated wildlife habitat. Provided that these measures are implemented, it is our opinion that the proposed development can be accomplished without resulting in a negative impact to natural area linkage functions. The following additional mitigation measure is recommended in this regard:

- **Development on the subject property should avoid the installation of perimeter fencing that may represent on obstacle to the movement of wildlife on the local landscape.**

6) COMPLIANCE WITH ENVIRONMENTAL LEGISLATION AND POLICIES

The following sections outline the federal, provincial, and municipal environmental legislation, including plans, regulations, and/or bylaws that are understood to be applicable to the proposal. Aster Environmental provides a list of policies and provisions and summarizes how the proposal can demonstrate conformity and consistency. Where potential conformity issues exist, we cite

recommended mitigation strategies that are intended guide the proposal toward meeting the intent of relevant requirements.

6.1 Federal *Fisheries Act*, R.S.C. 1985

The *Federal Fisheries Act* states that:

34.4 (1) No person shall carry on any work, undertaking or activity, other than fishing, that results in the death of fish.

35. (1) No person shall carry on any work, undertaking or activity that results in harmful alteration, disruption or destruction of fish habitat.

DFO further states that "under subsection 35(1) a person may carry on such works, undertakings or activities without contravening this prohibition, provided that they are carried on under the authority of one of the exceptions listed in subsection 35(2), and in accordance with the requirements of the appropriate exception. In most cases, this exception would be Ministerial authorizations granted to proponents in accordance with the *Authorizations Concerning Fish and Fish Habitat Protection Regulations."*

It is the opinion of Aster Environmental that the proposal will not result in the death of fish or the harmful alteration, disruption, or destruction of fish habitat.

6.2 Federal Migratory Birds Convention Act (1994)

Part 1, Section 5 of the Migratory Birds Regulations under the *Migratory Birds Convention Act, 1994* (MBCA) prohibits the disturbance or destruction of nests, eggs, or nest shelters of a migratory bird. The provincial *Fish and Wildlife Conservation Act, 1997* (FWCA) extends the protection of bird nests and eggs to species that are not listed under the Migratory Birds Regulations (e.g., Corvids).

For most migratory bird species, nest protections under the MBCA apply for the duration of time that a nest is occupied; however, protections extend beyond the period of occupation for several species that may be common locally, including Pileated Woodpecker, Green Heron, and Great Blue Heron, amongst others (see Schedule 1 under the Act for full list). For the species listed under Schedule 1, specific conditions must be met in order to damage/remove a nest, including providing notice to the minister in charge, and demonstrating that the nest has not been occupied by an applicable species for a time period specified under Schedule 1.

Based on our on-site assessment, there is no evidence of nesting or suitable nesting habitat on the subject property for any species listed under Schedule 1 to the MBCA. Restricting clearing of vegetation to times outside of the period of April 1 to August 31 inclusive, will avoid destruction of other species' nests and prevent contravention of Section 5 of the regulations. If vegetation removal must occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by the MBCA or FWCA. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying activities until the conclusion of the nesting season.

6.3 Provincial *Endangered Species Act,* S.O. 2007, c. 6

The ESA protects designated endangered and threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). **Section 4.6**

identified one or more species or its habitat having the potential to occur within or adjacent to the study area. **Section 5.3** provided a subsequent discussion of potential impacts to such species and/or associated habitat features, should those species be present within or adjacent to the study area.

Based on this assessment, and assuming full implementation of mitigation measures (if/where recommended), it is the opinion of Aster Environmental that no endangered or threatened species or their habitat are expected to be negatively impacted by the proposed development. On this basis, there is no expectation that the proposal will result in a contravention of the ESA. It is noted that this assessment does not represent 'clearance' with respect to ESA compliance. It remains a proponent's continued and sole responsibility to ensure that a project does not result in a contravention of the ESA.

6.4 Saugeen Valley Conservation Authority Regulation 41/24, pursuant to the *Conservation Authorities Act*, R.S.O. 1990

SVCA's regulatory jurisdiction extends to areas within and adjacent to valley and stream corridors, shorelines, hazard lands (*i.e.,* floodplains, valley slopes), watercourses, and wetlands as provided for under O. Reg. 41/24 of the *Conservation Authorities Act, 1990*. SVCA's current mapped regulated area does overlap with a large portion of the study area. Based on our assessment herein, the proposal can be accomplished without resulting in adverse impacts to regulated natural heritage features (*i.e*., wetlands). As the activities are located >30 m from the wetland (the regulated setback distance from wetland), a permit from SVCA may not be required. However, other mapped hazard limits (e.g., floodplain) may result in the requirement for a permit. The details contained in this report are intended to facilitate review by SVCA staff, as required.

6.5 Provincial Policy Statement, pursuant to the *Planning Act*, R.S.O. 1990, c. P. 13

The Provincial Policy Statement (PPS) is promulgated under the *Planning Act* and provides direction to municipalities on matters of provincial interest related to land-use planning. The PPS was updated in 2020. Municipal OP's must be consistent with the PPS. Key natural heritage-related provisions of the PPS, as assessed in this report, are listed below:

> **2.1.4** Development and site alteration shall not be permitted in:
>
> a) significant wetlands in Ecoregions 5E, 6E, and 7E1; and
> b) significant coastal wetlands.
>
> **2.1.5** Development and site alteration shall not be permitted in:
>
> a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E[1];
> 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[1] that are not subject to policy 2.1.4(b)
>
> unless it has been demonstrated that there will be *no negative impacts on the natural features or their ecological functions.*
>
> **2.1.6** Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Based on the results of the impact assessment contained herein, and contingent on the implementation of the recommendations outlined in **Section 5**, it is the opinion of Aster Environmental that the proposal can be accomplished in a manner that is consistent with Sections 2.1.4 to 2.1.8 of the PPS.

6.6 County of Grey Official Plan (2024 Consolidation)

The County OP designates the subject property as Hazard Lands (Schedule A), with designations of Provincially Significant Wetland occurring on the immediate local landscape. The OP further assigns an overlay of Significant Woodland and Linkage Area on Appendix B and Schedule C, respectively. The following applicable policies from the OP are highlighted (italicized) below, with general interpretation provided accordingly.

Section 7.1 Core Areas and Linkages

Linkages are designed to provide movement corridors for both plants and animals between Core Areas, and provide and protect biodiversity and the long-term viability of ecological systems…

2) Linkages are identified to provide connectivity between Core Areas and establish a connected natural environmental system. They support natural processes that are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. Linkages are identified based on several factors including using the areas of greatest natural cover (terrestrial and/or aquatic, as well as areas of deep interior habitat), while focusing on the shortest distance between Core Areas.

A corridor width of 200 metres was used to identify Linkages. This width was identified in Grey County based on the fact that interior habitat is generally identified as habitat 100 metres from the edge.

Linkages are not necessarily located in pristine natural environment, but partially occur through agricultural fields. This Plan does not prohibit agricultural uses and operations in these areas; the fields may provide appropriate habitat for species and/or offer opportunities for stewardship.

The boundaries of Linkages can be refined in the local official plan, but must meet the definition and criteria. Conversely, the precise location of the Linkage may be moved depending on further study.

3) Development proposed within Core Areas, their 120 metre adjacent lands, or Linkages will be required to undertake an environmental impact study (EIS), unless otherwise exempted by 7.11.3 of this Plan. This EIS will assess the natural features, their adjacent lands and their connections to other natural features. Table 10 below provides for the permitted uses in Core Areas and Linkages.*

Interpretation: This EIS has been prepared to address the requirements of policies pertaining to development within linkage areas. Importantly, Table 10 under Section 7.1(3) states that "*New*

residential dwellings or accessory uses on existing lots of record" are permitted within linkage areas without triggering the requirement for an EIS. Regardless, it is the opinion of this EIS that the proposed development of a dwelling on an existing lot of record will not result in a negative impact to the overlapping linkage area.

7.2 Hazard Lands

> *Hazard Lands include floodplains, steep or erosion prone slopes, organic or unstable soils, poorly drained areas, and lands along the Georgian Bay shoreline. These lands can be impacted by flooding, erosion, and/or dynamic beach hazards or have poor drainage, or any other physical condition that is severe enough to pose a risk for the occupant, property damage, or social disruption if developed. While these lands are intended to be regulated so as to avoid natural hazards, they also contribute to the natural environment within the County.*
>
> *New development shall generally be directed away from Hazard lands. The policies of this section of the Plan work together with MNRF Natural Hazards Technical Guidelines, as well as conservation authority regulations, and policies.*

Interpretation: It is our understanding that development is generally not permitted within the Hazard Lands designation. However, it is assumed that the origin for the existing designation as it applies to the property relates to outdated regulation mapping administered by SVCA. It is understood that SVCA has recently revised their hazard mapping applicable to the subject property, meaning that only a portion of the subject property is represented by hazard lands. It is understood that the proposed development would remain outside of the refined hazard limits.

7.3 Wetlands

> *The County generally encourages development be setback from Wetlands by at least 30 metres. In some cases this 30 metres distance can be reduced based on site specific circumstances, or through the completion of an EIS…*
>
> *No development or site alteration may occur within the adjacent lands of the Provincially Significant Wetlands and Significant Coastal Wetlands land use type unless it has been demonstrated through an environmental impact study, as per Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.*

Interpretation: This EIS has been prepared to address the requirements of policies pertaining to development within lands adjacent to wetlands. While the proposed development would occur within a distance of <30 m from a PSW, this setback distance is further buffered by the presence of an intervening roadway. In general, and provided that development adhere to all mitigation measures outlined in this report, there is no expectation that the proposal will result in a negative impact to wetlands, including PSW.

7.4 Significant Woodlands

> *1) No development or site alteration may occur within Significant Woodlands or their adjacent lands unless it has been demonstrated through an environmental impact study, as per Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions. Adjacent lands are defined in Section 7 and 9.18 of this Plan.*

Interpretation: This EIS has been prepared to address the requirements of policies pertaining to development within significant woodlands. While the proposed development would occur within an identified significant woodland, the location and scale of proposed woodland encroachment is

considered minor and non-impactful. Development would occur along a prominent existing woodland edge and in an area of successional, minimally diverse vegetation cover. In general, and provided that development adhere to all mitigation measures outlined in this report, there is no expectation that the proposal will result in a negative impact to the function of the local significant woodland complex.

7.10 Other Natural Features

> *The policies in this Section address specific significant natural areas within the County for which mapping is generally not available or is incomplete at present, including Habitat of Threatened and Endangered Species, and Significant Wildlife Habitat.*
>
> *1) Development and site alteration is not permitted within, Significant Wildlife Habitat (including Deer Wintering Yards), and their adjacent lands, unless it has been demonstrated through an acceptable environmental impact study, completed in accordance with Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.*
>
> *2) No development or site alteration will be permitted within the Habitat of Threatened / Endangered Species adjacent lands except in accordance with provincial and federal requirements. No development or site alteration will be permitted within the adjacent lands to these areas unless it has been demonstrated through an environmental impact study that there will be no negative impacts on the natural features or their ecological functions. The adjacent lands are defined in Section 9.18 of this Plan and through provincial and federal requirements.*

Interpretation: This EIS has been prepared to address the requirements of policies pertaining to development within or adjacent to significant wildlife habitat and/or habitat for endangered and threatened species. In general, and provided that development adhere to all mitigation measures outlined in this report, there is no expectation that the proposal will result in a negative impact to these features, should they occur on the local landscape. It is our opinion that no further action is required with respect to provincial/federal regulation pertaining to species at risk.

6.7 Township of West Grey Zoning Bylaw (2017 Consolidation)

The subject property is entirely zoned as 'Natural Environment' (NE) in the zoning bylaw. The following provisions from the bylaw are considered applicable, with interpretation provided accordingly.

2.6 [Bylaw Interpretation Section]

> *The Natural Environment (NE) Zone boundaries identified on the schedules to this By-law are intended to generally identify the location of potentially hazardous environmental features. During review of development applications and building permit applications, if necessary, the boundaries of the NE zone shall be more precisely determined in consultation with the Conservation Authority or other agencies having jurisdiction in the area. Where detailed resource mapping and/or site inspection occurs, this may result in a re-interpretation of the limits of the NE zone boundary. Additionally, a technical evaluation, approved by the Conservation Authority may be used to further delineate the limits of the Natural Environment (N.E.) Zone.*

Interpretation: It is out understanding that the site has been subject to review by SVCA and that the 'hazard' limit has been revised (see **Figure 2**). It is further understood that the limit of the NE zone is subject to refinement accordingly.

6.20.1 Natural Environmental Zone Setbacks

a) No building or structure, including a private sewage treatment system and any associated tile weeping bed, shall be constructed closer than a setback distance approved by the Conservation Authority from the limit of a Natural Environment NE zone.

b) Notwithstanding the required setbacks in subsection (a) above:

i) Accessory buildings/structures to existing residential dwellings, enlargements of existing buildings/structures and reconstruction of existing buildings/structures including improvements to manure storage systems associated with an existing livestock facility but not a hobby barn are permitted, provided that a setback of 3 m (9.8 ft) from the NE zone boundary is maintained.

ii) Where a vacant building lot was existing on the date of passage of this By-law, a building permit may be issued for permitted buildings or structures provided:

- *That there is no other suitable location on the lot outside of the determined setback in (a) above, and*
- *That a setback of at least 3 m (9.8 ft) from the NE zone boundary is maintained.*

c) Interpretation of the limits of the NE zone boundaries is governed by regulations contained in Section 2.6 of this By-law. The location of the NE "setback" boundaries shall be adjusted accordingly in the event that the NE "zone" boundary is re-interpreted.

Interpretation: As discussed above, it is our understanding that the limits of the NE zone are subject to refinement based on a site inspection and hazard analysis undertaken by SVCA. The proposed development will need to adhere to the stated minimum setback of 3 m from the refined hazard limit, which appears achievable based on available area outside of the hazard limit.

6.20.4 Environmental Impact Studies

Where development is proposed on lands within 120 metres of land designated as a Provincially significant wetland on the County of Grey Official Plan within a Natural Environment (NE) Zone, the Municipality, Saugeen Conservation Authority and the County of Grey shall be contacted to determine if an Environmental Impact Study is required in the review and approval of the proposed development.

Interpretation: This report has been submitted to satisfy the above provision requiring submission of an EIS report.

7) CONCLUSIONS

The preceding report provides the results of our scoped Environmental Impact Study. This report includes details regarding existing physical and ecological conditions within a defined study area, a description of the development proposal, an assessment of potential impacts to identified features, a mitigation plan, and a general assessment of consistency and conformity with relevant municipal, provincial, and federal environmental policies/regulations.

Based upon the findings presented in this report and contingent upon the implementation of and adherence to the recommendations made herein, it is our conclusion that proposal can be accomplished without negatively impacting the functions of significant natural heritage features or the

associated natural heritage system. We advise that any recommended mitigation/preventative measures outlined in **Section 5** be implemented through appropriate mechanism as determined by the approval authority.

8) REFERENCES

Armstrong, D. K. and J. E. P. Dodge. 2007. Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 219.

Lee, H. T., W. D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological land classification for Southern Ontario: first approximation and its application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch.

Cadman, M. D., D. A. Sutherland, G. G. Beck, D. Lepage, and A. R. Couturier. 2007. Atlas of the Breeding Birds of Ontario, 2001–2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, Ontario Nature, Toronto.

Chapman, L. and D. F. Putnam. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 228.

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

Fisheries and Oceans Canada. 2024. Fish and Fish Habitat Protection Program resources, available at: https://www.dfo-mpo.gc.ca/pnw-ppe/ffhpp-ppph-eng.html

Fisheries and Oceans Canada. 2013. Fisheries Protection Policy Statement. Fisheries and Oceans Canada.

Gao, C., J. Shirota, R. I. Kelly, F. R. Brunton, and S. van Haaften. 2006. Bedrock topography and overburden thickness mapping, southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 207.

Gillespie, J.E. and N.R. Richards. 1954. Soil Survey of Grey County. Report No. 17, Ontario Soil Survey. Experimental Farms Service (Canada Department of Agriculture, and Ontario Agricultural College. 79 pp.

OMNR. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second edition. Toronto: Queen's Printer for Ontario.

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

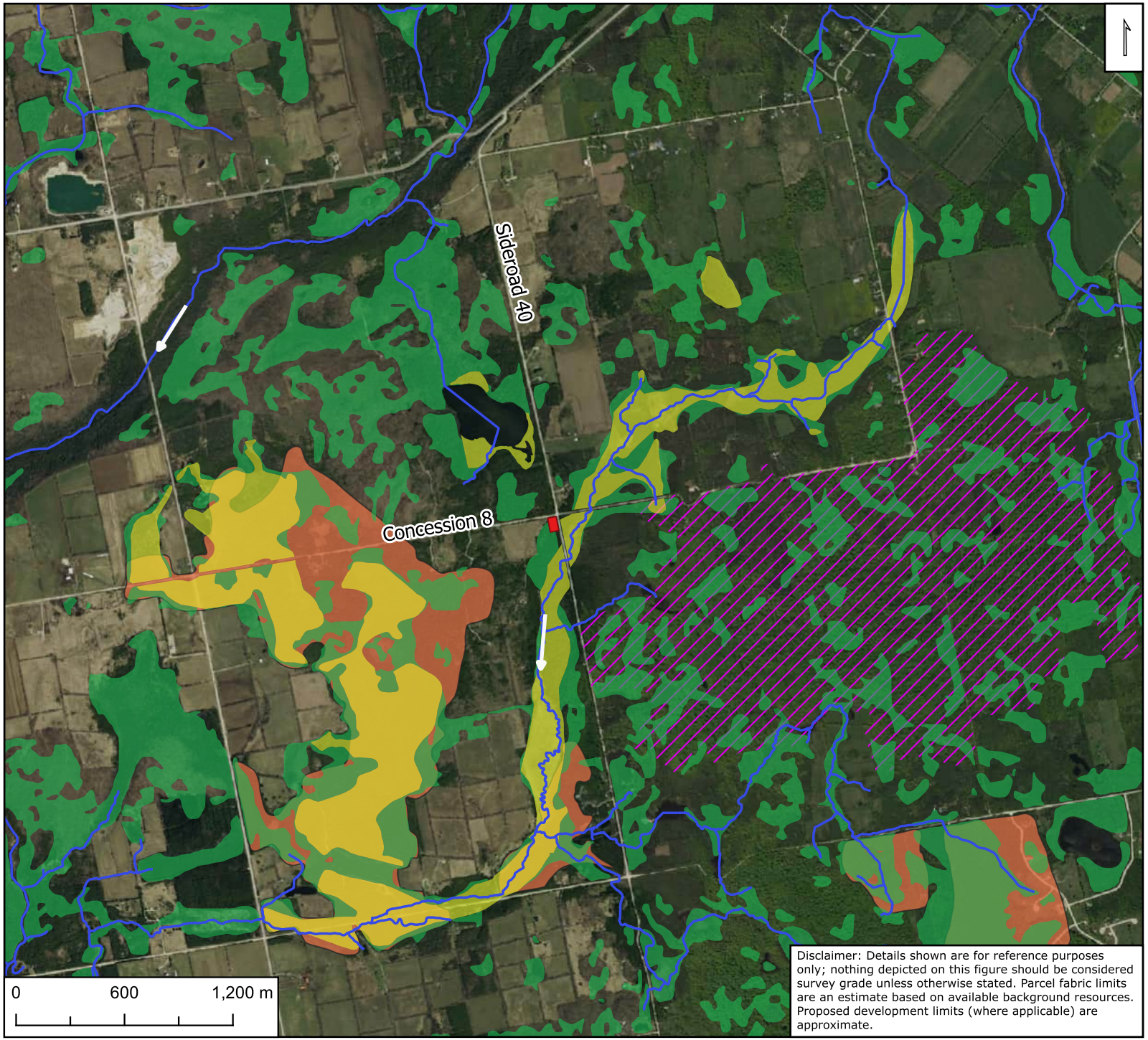


Figure 1:
Property Location & Landscape Context

Legend

- Subject Property
- Local Drainage Network
- Provincially Significant Wetland
- Unevaluated Wetland
- Deer Yarding Areas
- Area of Natural & Scientific Interest

Disclaimer: Details shown are for reference purposes only; nothing depicted on this figure should be considered survey grade unless otherwise stated. Parcel fabric limits are an estimate based on available background resources. Proposed development limits (where applicable) are approximate.

Project No & Description:

AES24040

Pt. Lot 20, Conc. 8 - Scoped EIS

Date Prepared: Oct 04, 2024	Prepared By: MF
Last Revision: N/A	Checked By: N/A

Basemap/Data Reference:

Ontario GeoHub 2024

SWOOP 2015

ASTER ENVIRONMENTAL SERVICES LTD.

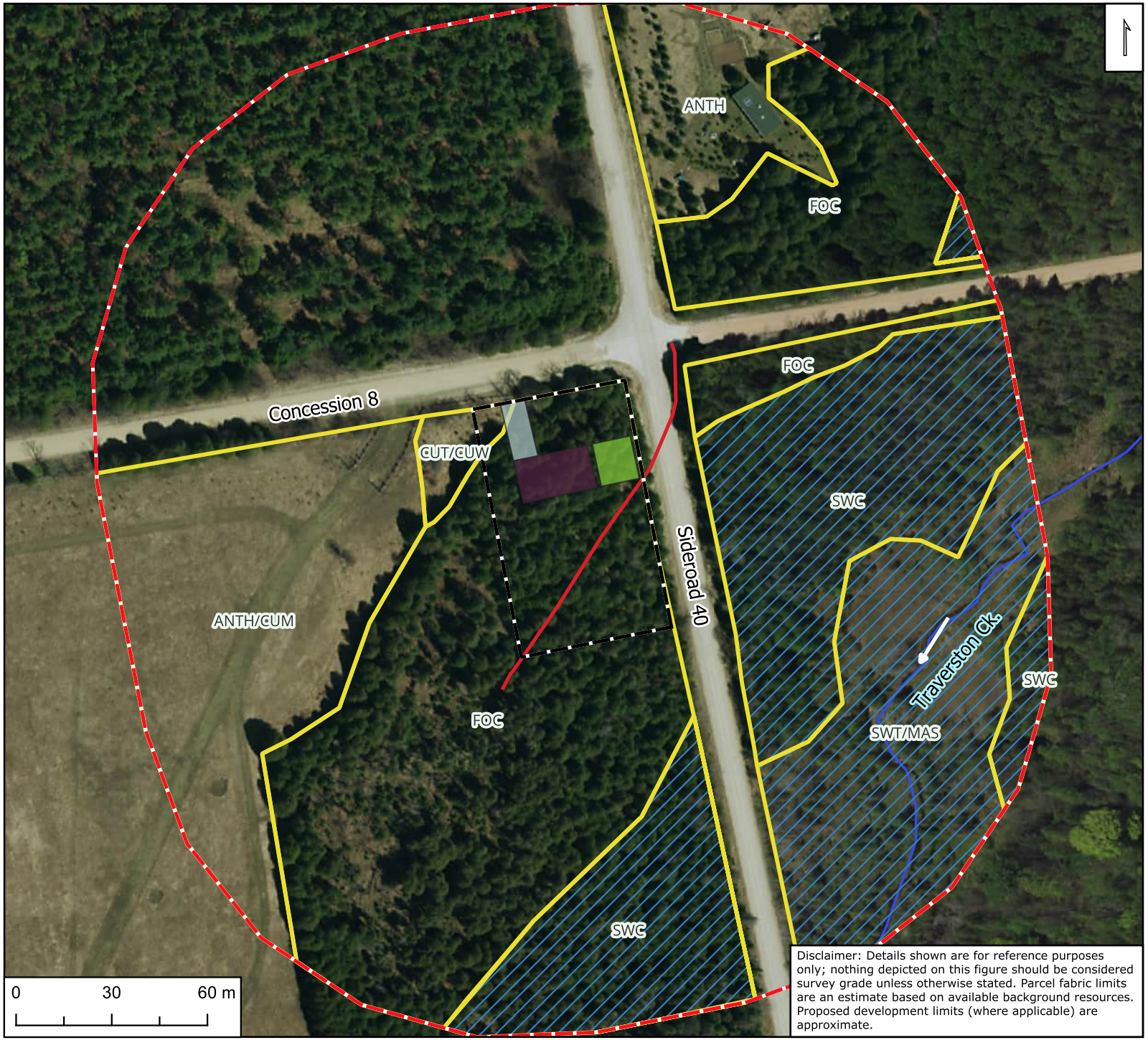


Figure 2:
Existing Conditions & Proposed Development

Legend

- Subject Property
- General Study Area
- Local Drainage Network
- SVCA Hazard Limit
- Mapped & Estimated Extent of Wetland

Vegetation/Land Cover (ELC)

- ANTH: Anthropogenic (Residential)
- ANTH/CUM: Anthropogenic (Field)/ Cultural Meadow
- CUT/CUW: Cultural Thicket/Woodland
- FOC: Coniferous Forest
- SWC: Coniferous Swamp
- SWT/MAS: Swamp Thicket/ Shallow Marsh

Proposed

- Driveway
- Dwelling
- Septic

Disclaimer: Details shown are for reference purposes only; nothing depicted on this figure should be considered survey grade unless otherwise stated. Parcel fabric limits are an estimate based on available background resources. Proposed development limits (where applicable) are approximate.

Project No & Description:

AES24040

Pt. Lot 20, Conc. 8 - Scoped EIS

Date Prepared: Oct 07, 2024	Prepared By: MF
Last Revision: N/A	Checked By: N/A

Basemap/Data Reference:

Ontario GeoHub 2024

SWOOP 2015

ASTER ENVIRONMENTAL SERVICES LTD.

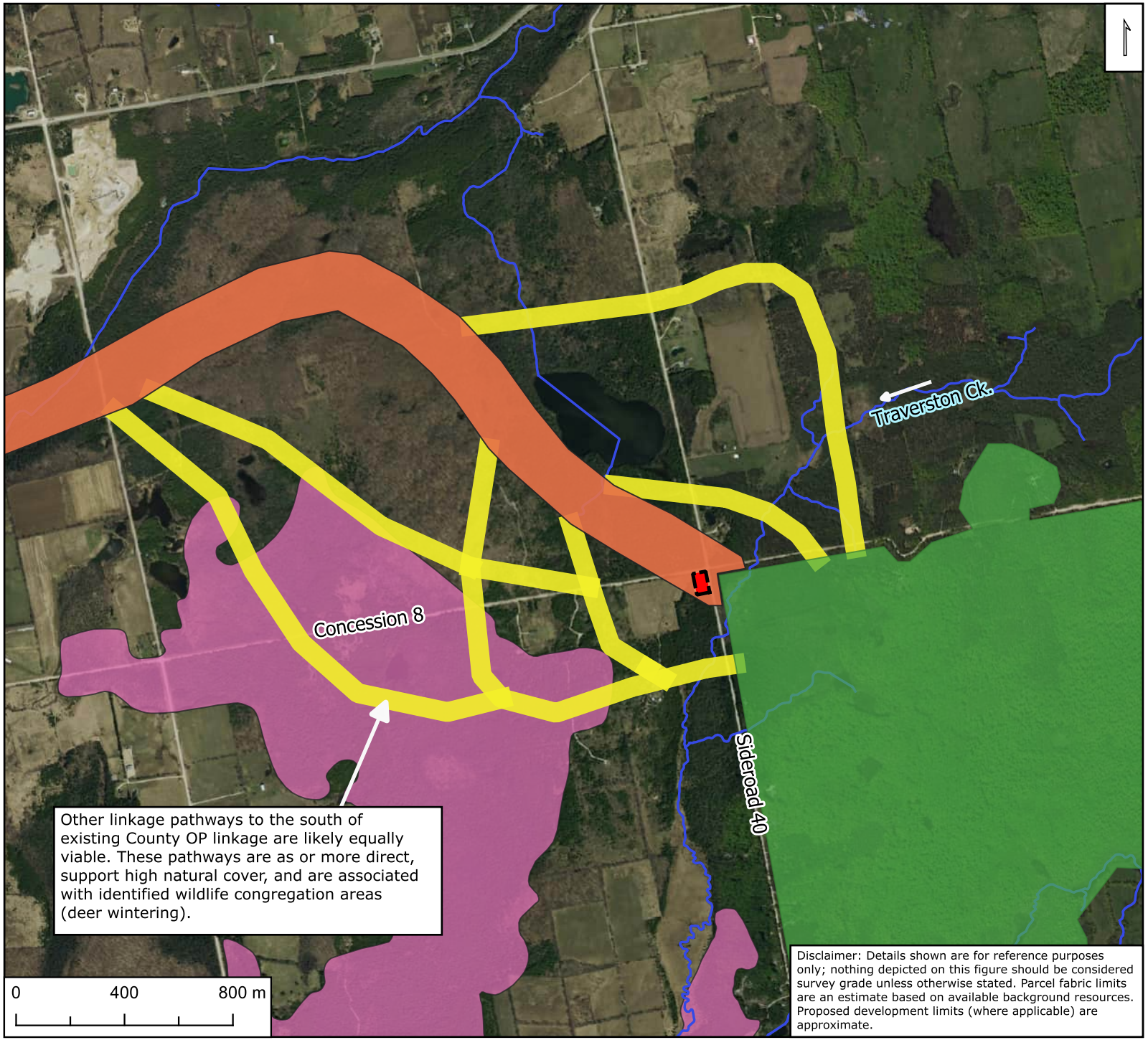


Figure 3: Natural Heritage Linkage Analysis

Legend

- Subject Property
- Local Drainage Network
- Deer Yarding Areas
- Core Areas (Grey OP Sch C)
- Linkages (Grey OP Sch C)
- Other Conceptual Linkage Pathways

Project No & Description:

AES24040

Pt. Lot 20, Conc. 8 - Scoped EIS

Date Prepared: Oct 07, 2024	Prepared By: MF
Last Revision: N/A	Checked By: N/A

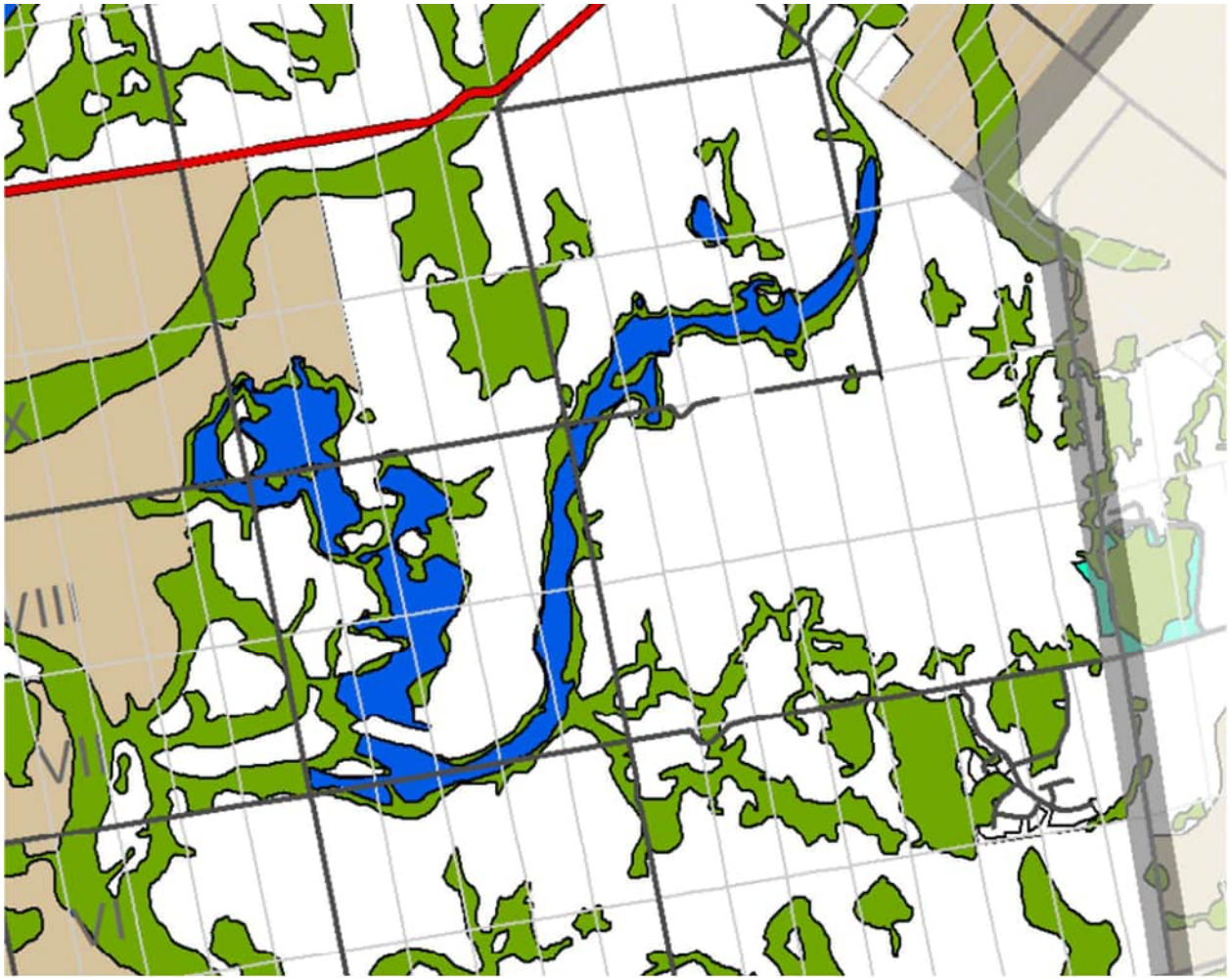
Basemap/Data Reference:

Ontario GeoHub 2024

SWOOP 2015

ASTER ENVIRONMENTAL SERVICES LTD.

Appendix 1. Land Use Maps/Schedules.



Grey County

THE COUNTY OF GREY
OFFICIAL PLAN

SCHEDULE A
Land Use Types

MAP 3

LEGEND

- Provincial Highway Connecting Link
- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Agricultural
- Special Agricultural
- Rural
- Primary Settlement Area *
- Secondary Settlement Area *
- Inland Lakes & Shoreline Settlement Area
- Recreational Resort Settlement Area
- Sunset Strip Settlement Area
- Industrial Business Park Settlement Area
- Space Extensive Industrial and Commercial
- Niagara Escarpment Plan Boundary **
- Niagara Escarpment Development Control Area
- Escarpment Natural Area
- Escarpment Recreation Area
- Hazard Lands
- Provincially Significant Wetlands and Significant Costal Lands

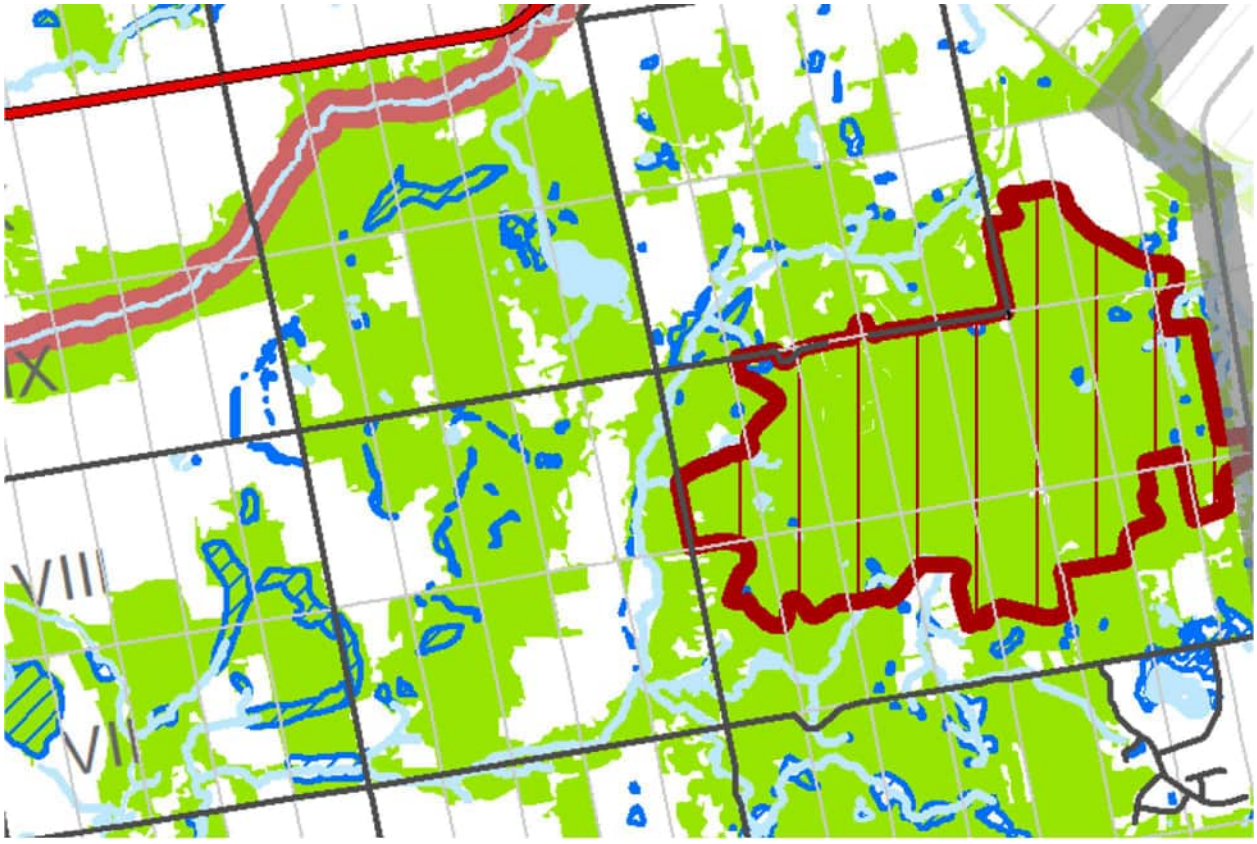
* refer to Secondary Schedules for further detail

** certain settlement areas within the Niagara Escarpment Plan Boundary may be subject to Development Control

SCALE 1:95,000

AUTHOR: Grey County Planning
FILE NAME: GR_OP_Sch4A_Map3wes8X35.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP:
DOWNLOAD PDF:

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.



Grey County

THE COUNTY OF GREY
OFFICIAL PLAN

APPENDIX B
Constraint Mapping

MAP 3

LEGEND

- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Stream / River
- Lakes
- Other Wetlands
- Significant Earth & Life ANSI
- Significant Earth ANSI
- Significant Life ANSI
- Significant Valleylands
- Significant Woodlands

SCALE 1:95,000

AUTHOR: Grey County Planning
FILE NAME: GR_OP_ApdxB_Map3wood336.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP:
DOWNLOAD PDF:

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.

Grey County

THE COUNTY OF GREY
OFFICIAL PLAN

SCHEDULE C
Natural Heritage System
Core Areas and Linkages

LEGEND

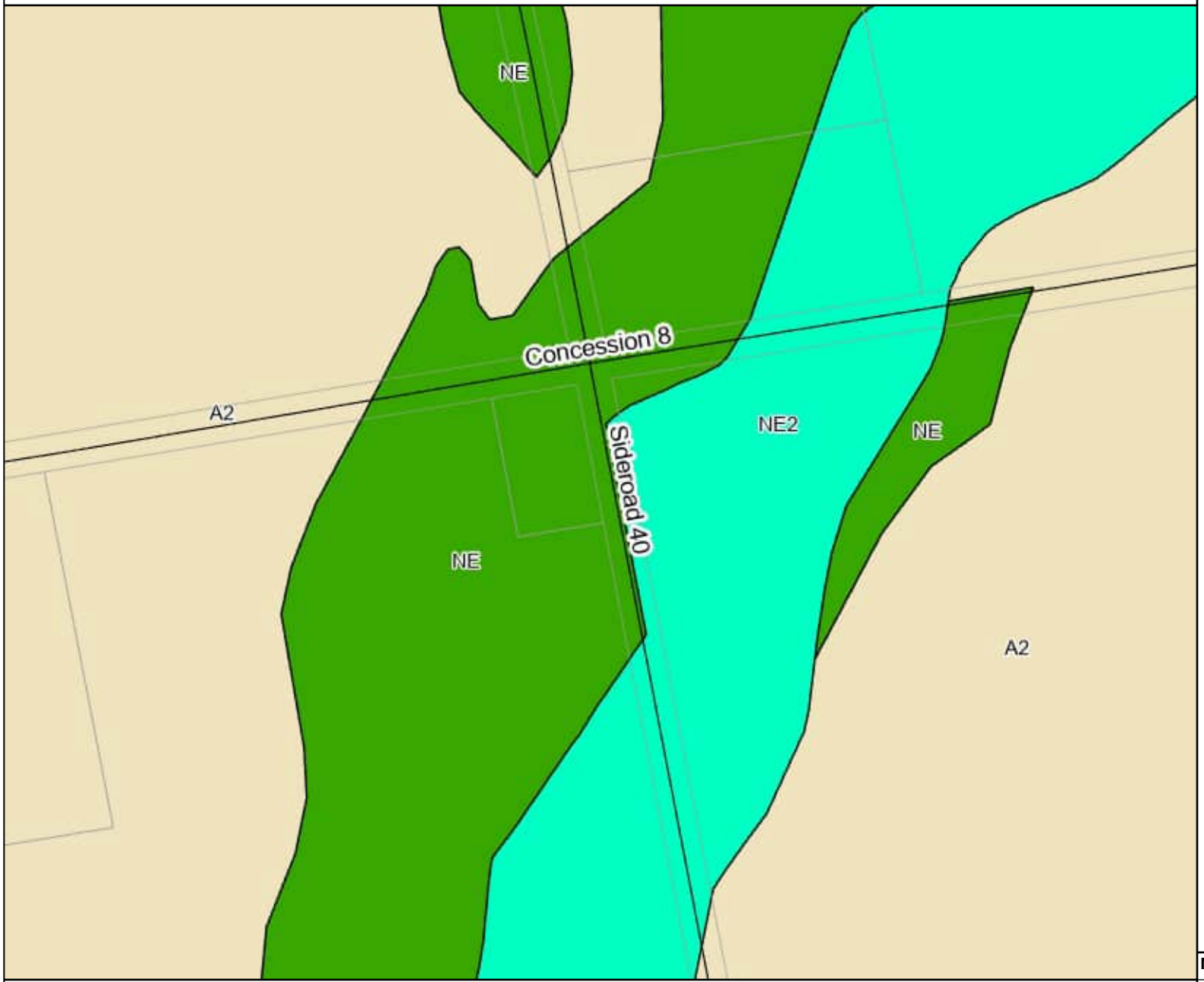
- Provincial Highway
- County Road
- Local Road
- Seasonal Road
- Core Area
- Linkage (200m wide)
- Niagara Escarpment Plan Area

SCALE 1: 135,000

AUTHOR: Grey County Planning
FILE NAME: GR_OP_SchedC_Map0X36.mxd
CONSOLIDATION: May 1, 2023
INTERACTIVE MAP:
DOWNLOAD PDF:

This map is for illustrative purposes only. Do not rely on this map as being a precise indicator of routes, location of features or surveying purposes. This map may contain cartographical errors or omissions.

Barlow EIS - West Grey



Legend

Large Scale Roads
- Provincial Highway
- County Road
- Township Road
- Seasonal Road

Parcels - Current

Zoning - West Grey - Floodline
- Flood Fringe
- Regulation Limit

Zoning - West Grey
- A1 Agricultural
- A2 Rural
- A3 Restricted Rural
- C1 General Commercial
- C2 Highway Commercial
- C3 Neighbourhood Commercial
- C4 Shopping Centre Commercial
- C5 Hamlet Commercial
- C6 Rural Commercial
- FD Future Development
- FL Flood Way
- I Institutional
- M1 Industrial
- M2 Restricted Industrial
- M3 Rural Industrial
- M4 Extractive Industrial
- MH Mobile Home Park
- MU1 Mixed Use
- ND No Development
- NE Natural Environment
- NE2 Natural Environment 2
- OS Open Space
- ER Estate Residential
- R1A Unserviced Residential
- R1B Low Density Residential
- R2 Medium Density Residential

Notes

222 0 111 222 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Printed October 1, 2024

THIS MAP IS NOT TO BE USED FOR NAVIGATION

N

UTM Zone 17N, NAD 83

1:500

Legend

- Hazard Land \ NE Zone
- Parcel Fabric

Kyle Barlow
Unassigned Civic Address, Concessior
420522000301710
Pt Lot 20, Con 8
Geographic Township: Glenelg
Municipality of West Grey

August 1 2024

Saugeen CONSERVATION

Map Document: (W:\Projects\Planning\UserProjects\Planning_JD_New.map) -- view (GI Kyle Barlow); 2024-08-01 -- 3:26:33 PM

Appendix 2. Photos of Representative Site Conditions.

Photo 1. NE corner of subject property at intersecting roadways.

Photo 2. View south along eastern property boundary.

Photo 3. Typical woodland composition within subject property.

Photo 4. Typical woodland composition within subject property.

Photo 5. Small opening in dense canopy.

Photo 6. Dense cedar duff with sparse upland groundcover vegetation.

Photo 7. Cultural thicket/woodland at NW corner of subject property.

Photo 8. Semi-open wetland ecosite to south of subject property, east of roadway.

Photo 9. Watercourse crossing; inlet at east side of roadway.

Photo 10. Watercourse crossing; outlet at west side of roadway.

Photo 11. Aerial view overlooking subject property, facing southeast.

Photo 12. Aerial view of subject property from directly above.

Photo 13. Aerial view of subject property and adjacent lands; facing southwest. Wetland ecosites distinguishable through transition to more open cover and/or shift in canopy dominance by Tamarack.

Photo 14. Aerial view of subject property; facing north.

Appendix 3. Endangered and Threatened Species Screening.

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
American Ginseng (*Panax quinquefolius*): **Endangered**	American Ginseng requires well-drained but moist acidic to neutral soils generally overlying calcareous bedrock. They are obligate understory plants found in undisturbed mature deciduous and mixed forests, and occasionally in coniferous forests and swamps.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. Applicable local databases (NHIC) do contain records for a 'Restricted' species, which we assume to be American Ginseng. **Habitat Structural Suitability:** The forest structure observed within the subject property and adjacent lands is not suitable for this species. **Survey Result:** No individual plants were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Bank Swallow (*Riparia riparia*): **Threatened**	The Bank Swallow is a small aerial insectivore bird that nests colonially in burrows they excavate within banks. Colonies will nest in bluffs, riverbanks, aggregate pits, roadside embankments, and topsoil piles near open habitat that provides a steady source of insects, such as wetlands.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. At least one applicable local database (OBBA) contains records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Black Ash (*Fraxinus nigra*): **Endangered**	The Black Ash grows everywhere in Ontario except the Far North. These trees require moisture, and are commonly found in northern swampy woodlands, from eastern Manitoba, throughout Ontario, and as far east as Newfoundland.	**Local Range Context & Database Review:** The local landscape is within the range of this species. Applicable local databases do not contain records for this species. **Habitat Structural Suitability:** The forest structure observed within portions of the subject property is marginally suitable for this species. **Survey Result:** No individuals were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Blanding's Turtle (*Emydoidea blandingii*): **Threatened**	Blanding's Turtle are semi-aquatic and use wetland habitats with shallow water and abundant vegetation. Their habitat includes a broad range of wetlands, forest clearings, and meadows. They breed in aquatic habitat and nest in open natural and anthropogenic upland areas.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species. Applicable local databases (NHIC, ORAA, iNaturalist) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is not considered suitable for this species. **Survey Result:** No individuals were observed during our on-site investigation that included a general habitat-based wildlife survey. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Bobolink (*Dolichonyx oryzivorus*): **Threatened**	Nests and forages in meadows, grasslands, hayfields, and pastureland. Fields must have 25% or less woody plant cover. They typically require large fields (>4ha) and avoid small, fragmented habitats. They also avoid habitat within 75 m of a forest edge.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. At least one applicable local database (OBBA) contains records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Butternut (*Juglans cinerea*): **Endangered**	Butternut is shade intolerant and grows in rich, moist, well-drained loams often along streambanks. Butternut is also found in well-drained gravel sites. It is often found at forest edges where it can access abundant sunlight.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The forest structure observed within portions of the subject property is marginally suitable for this species. **Survey Result:** No individuals were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** Butternut is confirmed present within the subject property. Further discussion and/or mitigation measures are provided in the report as applicable.	N
Chimney Swift (*Chaetura pelagica*): **Threatened**	The Chimney Swift historically nested and roosted in large hollow trees, rock walls, and other vertical surfaces. They now use human-made structures like uncapped chimneys and have high site fidelity to nesting chimneys. 95% of nests are within 1 km of a waterbody.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. At least one applicable local database (OBBA) contains records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property is not considered suitable for this species. **Survey Result:** No individuals or features with potential to represent habitat were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Eastern Meadowlark (*Sturnella magna*): **Threatened**	Nests and forages in meadows, grasslands, shrubby fields, hayfields and pastureland. Prefers habitat with >80% grass cover. Needs a minimum of 5 ha of continuous habitat.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. At least one applicable local database (OBBA) contains records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Eastern Prairie Fringed Orchid (*Platanthera leucophaea*): **Endangered**	The Eastern Prairie Fringed Orchid grows in open fens and wet prairies within southern Ontario. They require high sun exposure as well as high moisture. Populations are sparse, with most locations well documented.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species. Applicable local databases (NHIC) do not contain records for this species (which would be listed as Restricted). **Habitat Structural Suitability:** The forest structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individual plants were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Eastern Small-footed Myotis (*Myotis leibii*): **Endangered**	Eastern Small-footed Myotis overwinter in caves and mines in Ontario and do not disperse far from their hibernacula during the summer. They can be found roosting in rocky habitats singly or in groups but will also use human structures as day roosts. They are aerial insectivores and forage in forests, rocky habitats, and ponds.	**Local Range Context & Database Review:** The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is not considered suitable for this species. The property lacks rock exposures, talus slopes, or bedrock crevices that are considered typical seasonal roosting habitat for this species. **Site-specific Survey Result:** No individuals or evidence of habitat was observed during our on-site investigation that included a general habitat-based wildlife survey. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Eastern Whip-poor-will (*Antrostomus vociferus*): **Threatened**	The Eastern Whip-poor-will forages in open natural and anthropogenic habitats and nests in semi open forests and forest edges with well-drained soils and moderate vegetation cover. Habitat immediately at the nest will be a short herbaceous plant, shrub, or sapling providing cover and shade with nearby perches for adults.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. Applicable local databases (OBBA) contain very sparse records for this species. **Habitat Structural Suitability:** The vegetation structure observed within the subject property and adjacent lands is generally not considered suitable for this species. **Site-specific Survey Result:** No targeted evening surveys were conducted to confirm presence or absence of this species on the local landscape; however, surveys were not considered necessary due to a lack of suitable or sufficient habitat on the subject property. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Gattinger's Agalinis (*Agalinis gattingeri*): **Endangered**	Gattinger's Agalinis is a small hemiparastic plant that attaches to the roots of other plants. Their Ontario populations are within alvar and prairie habitats on the Bruce Peninsula, Manitoulin Island, and Walpole Island. They can tolerate different moisture conditions and are sensitive to shading.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individual plants were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Henslow's Sparrow (*Ammodramus henslowii*): **Endangered**	Henslow's Sparrows' current breeding habitat is generally limited to Prince Edward County and the Regional Municipality of Halton. Their habitat is open grasslands with dense vegetation at least 30 cm tall, thick standing dead material, <1% shrub cover, and intermediate moisture. They prefer larger, continuous grasslands and are sensitive to edge effects.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species. Local databases (OBBA) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Hill's Thistle (*Cirsium hillii*): **Threatened**	Hill's Thistle grow in dry open habitats (prairies, sand barrens, savannas, alvars, dunes) and are intolerant of shade and crowding. They are found in southern Ontario in Simcoe County (Wasaga Beach Provincial Park), Manitoulin Island and surrounding islands, and the Bruce Peninsula.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The forest structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individual plants were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Houghton's Goldenrod (*Solidago houghtonii*): **Threatened**	The range of Houghton's Goldenrod is largely limited to Manitoulin Island, the Bruce Peninsula, and Cockburn Island. They grow in open, treeless areas of limestone or dolostone alvars along shorelines, or on sand dunes. They prefer areas in the alvar where water pools.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individual plants were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Hungerford's Crawling Water Beetle (*Brychius hungerfordi*): **Endangered**	Hungerford's Crawling Water Beetle is found in Bruce County in the Rankin, Saugeen, and North Saugeen Rivers. They are found 1.5 km downstream from dams in cobble, gravel, silt/sand, and vegetated habitats. They prefer cool alkaline water with a moderate flow.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is not considered suitable for this species. **Site-specific Survey Result:** Not applicable. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Lake Sturgeon (*Acipenser fulvescens*): **Endangered**	Lake Sturgeon need large continuous habitats in river and lake systems to provide habitat for all life stages. Spawning takes place in shallow fast flowing headwaters where a natural or man-made barrier occurs. Spawning substrates are gravel, rock, hardpan, or sand.	**Local Range Context & Database Review:** This species is confined to larger waterbodies and watercourses. Applicable local databases (NHIC, iNaturalist) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is not considered suitable for this species. **Site-specific Survey Result:** Not applicable. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Lakeside Daisy (*Tetraneuris herbacea*): **Threatened**	The Lakeside Daisy only grows on Silurian dolostone alvars and in Ontario it is only found on the Bruce Peninsula and Manitoulin Island. It tends to grow in areas of alvar with more exposed rock but will grow in dense grasslands and treed areas.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individual plants were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Least Bittern (*Ixobrychus exilis*): **Threatened**	Breeds in large marshes within Southern Ontario. Creates nest platforms from tall, dense emergent vegetation within 10m of water and prefers Typha spp. Needs 200 ha of wetland for nesting and foraging but does not need to be continuous wetland. Prefers complexes of smaller wetlands.	**Local Range Context & Database Review:** The local landscape is generally within the range of this species. Applicable local databases (NHIC, OBBA) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Little Brown Myotis (*Myotis lucifugus*): **Endangered**	Their hibernacula are within caves and abandoned mines, wells, and tunnels. Maternity colonies are within a few kilometers of hibernacula within snag trees, rock crevices, exfoliating tree bark, and anthropogenic structures. Roosts and swarming sites are in similar areas around the hibernacula.	**Local Range Context & Database Review:** The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is considered marginally suitable for this species, with very limited habitat opportunity. **Site-specific Survey Result:** A general qualitative review of potential habitat was undertaken to support an impact assessment. The property supports minimal presence of potential roosting snags. **Conclusion:** There is minimal potential for this species to occur on the subject property. Mitigation measures are provided in the report accordingly.	Y

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Loggerhead Shrike (*Lanius ludovicianus*): **Endangered**	The Loggerhead Shrike forages in open grasslands and edge habitats. They require scattered trees and bushes in their habitat for perches and nest sites, and vegetation with large thorns or barbed wire to impale prey. Breeding habitat is exceedingly rare in Ontario, and most extant habitat is well documented.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species. Local databases (OBBA) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Louisiana Waterthrush (*Parkesia motacilla*): **Threatened**	The Louisiana Waterthrush is mainly found along the Niagara Escarpment and north shore of Lake Erie. They are dependent on clear, steep, lower order streams in ravines within large unbroken mature deciduous-mixed forests.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species. Local databases (OBBA) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Massasauga (*Sistrurus catenatus*): **Threatened**	The Massasauga has four populations: Ojibway Prairie near Windsor, Wainfleet Bog near Port Colborne, the Bruce Peninsula, and Georgian Bay/Muskoka. It is an ambush predator and prefers habitat with vegetative or rock cover. It's habitats are forests, forest clearings and edges, rock outcrops, wetlands, shorelines, meadows, alvars, and fields.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation that included a general habitat-based wildlife survey. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Northern Myotis/Northern Long-eared Bat (*Myotis septentrionalis*): **Endangered**	Northern Myotis are found below the tree line in Canada and are mostly absent from the prairies. They use live and dead trees near water in forest habitats when active and migrate to caves and abandoned mines for hibernation.	**Local Range Context & Database Review:** The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is considered marginally suitable for this species, with very limited habitat opportunity. **Site-specific Survey Result:** A general qualitative review of potential habitat was undertaken to support an impact assessment. The property supports minimal presence of potential roosting snags. **Conclusion:** There is minimal potential for this species to occur on the subject property. Mitigation measures are provided in the report accordingly.	Y
Piping Plover (*Charadrius melodus circumcinctus*): **Endangered**	The Ontario Piping Plover population breeds in Lake of the Woods, Wasaga Beach, Sauble Beach, Oliphant, and Manitoulin Island. They nest on beaches >10 m wide on shorelines > 0.4 m with gravel patches, sparse vegetation, and driftwood. They prefer early succession dunes.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Pitcher's Thistle (*Cirsium pitcheri*): **Threatened**	The Pitcher's Thistle grows along the Lake Huron, Michigan, and Superior shorelines and most of the Canadian population is on Manitoulin Island. Their habitat is sand dunes and beach ridges with dry, loose sand and minimal vegetation. They mainly grow along the foredune but will colonize disturbed areas further inland.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individual plants were observed during our on-site investigation that included a survey of vascular plants. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Queensnake (*Regina septemvittata*): **Endangered**	The Queensnake is found along and west of the Niagara Escarpment. They prefer rocky watercourses with rock or gravel bottoms but sometimes use marshes, lakes, quarries, ponds, and wet meadows. They feed primarily on crayfish and require abundant prey. They are found within 5 m of water.	**Local Range Context & Database Review:** The local landscape is generally outside of the provincial range of this species, which is restricted to Bruce County. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation that included a general habitat-based wildlife survey. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Red-Headed Woodpecker (*Melanerpes erythrocephalus*): **Endangered**	The Red-headed Woodpecker lives in open woodland and woodland edges and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, that the bird uses for nesting and perching. The Red-headed Woodpecker is found across southern Ontario, where it is widespread but rare.	**Local Range Context & Database Review:** The local landscape is generally outside of the typical provincial range of this species. Local databases (OBBA, NHIC) do not contain nearby records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Short-eared Owl (*Asio flammeus*): **Threatened**	The Short-eared Owl breeds in northern Ontario and is found year-round in southern Ontario. They use open habitats (tundra, grassland, pasture) to nest on the ground and overwinter in open areas with nearby roosting trees. They shelter from inclement weather in conifers and emergent wetland vegetation.	**Local Range Context & Database Review:** The local landscape is generally within the provincial range of this species. Local databases (OBBA, NHIC) do not contain records for this species. **Habitat Structural Suitability:** The vegetation and landscape structure observed within the subject property and adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals were observed during our on-site investigation. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N

Species & Status	General Description of Habitat & Range	Project-Specific Evaluation & Discussion	Applicable to Study (Y,N)
Spotted Turtle (*Clemmys guttata*): **Endangered**	The Spotted Turtle uses a mix of terrestrial and aquatic habitats. Aquatic habitats include wetlands, ponds, vernal pools, creeks, streams, sheltered bay edges, stormwater ponds, and man-made channels. Their terrestrial habitats are shorelines, rocky outcrops, upland forests, open fields, and meadows.	**Local Range Context & Database Review:** The local landscape is presumably within the historic range of this species; however, location information for this species is extremely confidental. Applicable local databases (NHIC) do not appear to contain records for this species (which would be listed as Restricted). **Habitat Structural Suitability:** The habitat structure observed within the subject property and directly adjacent lands is not considered suitable for this species. **Site-specific Survey Result:** No individuals or areas of identifiable habitat were observed during our on-site investigations. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or mitigation required.	N
Tricolored Bat (*Perimyotis subflavus*): **Endangered**	The Tri-colored Bat have a scattered distribution and are found as far north as Sudbury. They are found in a variety of forested habitats. They overwinter alone in caves and mines and roost in dead vegetation clumps and lichen in forested habitats near water.	**Local Range Context & Database Review:** The local landscape is assumed to be within the range of this species. Applicable local databases (NHIC) do not contain records for this species. **Habitat Structural Suitability:** The habitat structure observed within the subject property is not considered suitable for this species. **Site-specific Survey Result:** No targeted surveys were undertaken with respect to bats; this was not considered necessary due to the nature and scale of the proposal. **Conclusion:** There is no expectation that this species occurs on the subject property. No further evaluation or site-specific mitigation required.	N

Appendix 4. Significant Wildlife Habitat Screening.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Category 1: Seasonal Concentration Areas for Wildlife Species					
Waterfowl Stopover and Staging Areas (Terrestrial)	American Black Duck, Wood Duck, Green-winged Teal, Blue-winged Teal, Mallard, Northern Pintail, Northern Shoveler, American Wigeon, Gadwall	CUM1, CUT1, in addition to evidence of spring flooding	Fields flooded with sheet water during Spring (mid March to May)	**Studies Confirm**: Annual mixed species aggregations of 100 or more total birds **Area of SWH Defined As:** Ecosite plus 100-300m radius	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Waterfowl Stopover and Staging Areas (Aquatic)	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, Brant, Canvasback	MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, SWD1, SWD2, SWD3, SWD5, SWD6, SWD7	Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Reservoirs managed as large ponds qualify.	**Studies Confirm**: Mixed species aggregations of 100 or more total birds for 7 days, **and/or** annual use by Ruddy Ducks, Canvasbacks, or Redheads **Area of SWH Defined As:** Ecosites plus 100m radius, includes wetlands and shorelines	Swamp and marsh ecosites are present within the study area; however, based on aerial imagery review, these areas do not support abundant open standing water that would be required to support this function. No further assessment provided - not SWH.
Shorebird Migratory Stopover Areas	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, groynes, armour rock, and seasonally flooded, muddy and un-vegetated shoreline habitats.	**Studies Confirm**: Mixed species aggregations of 3 or more listed species with >1000 shorebirds counted over the migration period, **and/or** any site with >100 Whimbrel for 3 or more years **Area of SWH Defined As:** ELC shorelines plus 100m radius	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Raptor Wintering Area	Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl **Special Concern**: Short-eared Owl, Bald Eagle	**Hawks/Owls**: one each from forest (FOD, FOM, FOC) and upland (CUM, CUT, CUS, CUW) **Bald Eagle**: forest (FOD, FOM, FOC, SWD, SWM, SWC) on shorelines of large water bodies	Combination of fields and woodlands that provide roosting, foraging and resting habitats; **Hawks/Owls**: >20 ha with a combination of forest and upland; >15ha field habitat; field area windswept with limited snow depth; **Bald Eagle**: open water, large trees and snags	**Studies Confirm: 1** or more Short-eared Owls, 1 or more Bald Eagles, or at least 10 individuals and 2 of the listed species **and** used ≥3 times in 5 years for a minimum of 20 days **Area of SWH Defined As:** n/a	The study area is part of a forest complex but lacks broad, open field areas that are required to support this habitat function. An adjacent field to the west does not meet the minimum size threshold of 15 ha. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	CCR1, CCR2, CCA1, CCA2 (Buildings are not SWH)	Caves, mine shafts, underground foundations, Karsts Does not include active mines	**Studies Confirm:** confirmed hibernating bats **Area of SWH Defined As:** 200m radius around hibernaculum entrance, 1000m radius for wind farms	The study area does not contain any features that may support this habitat function. No further assessment provided - not SWH.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	All Ecosites in Community Series: FOD, FOM, SWD, SWM (Buildings are not SWH)	Tree cavities and snags; deciduous or mixed stands with >10/ha >25cm dbh trees, Silver-haired Bats prefer forests with 21 snags/ha	**Studies Confirm:** confirmed use by >10 Big Brown Bats **or** >5 adult female Silver-haired Bats **Area of SWH Defined As:** entire woodland/forest ELC **or** Ecoelement containing maternity colonies	Woodland areas on and adjacent to the study area have some minor potential to support this habitat function. See report for further discussion.
Turtle Wintering Areas	Midland Painted Turtle **Special Concern**: Northern Map Turtle, Snapping Turtle	**Snapping and Midland Painted Turtles**: Community classes SW, MA, OA, SA, ELC Community Series FEO, BOO **Northern Map Turtle**: open water areas with current (Not sewage lagoons or stormwater ponds)	Water deep enough to not freeze, soft mud substrates; permanent water bodies, large wetlands, bogs or fens with adequate Dissolved Oxygen	**Studies Confirm:** 5 over-wintering Midland Painted Turtles, **or** 1 or more overwintering Northern Map Turtles or Snapping Turtles **Area of SWH Defined As:** ELC with overwintering turtles, if site is within a stream or river only the deep-water pool is protected	Swamp and marsh ecosites are present within the study area; however, based on aerial imagery review, these areas do not support abundant open standing water marsh cover that would be required to support this function. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Reptile Hibernaculum	**Snakes**: Eastern Gartersnake, Northern Watersnake, Northern Red-bellied Snake, Northern Brownsnake, Smooth Green Snake, Northern Ring-necked Snake **Special Concern**: Five-lined Skink, Milksnake, Eastern Ribbonsnake	**Snakes:** any forest ecosite other than very wet ones; talus, rock barrens, crevice, cave, and alvar sites; rock piles or slopes, stone fences, crumbling foundations **Skink:** Community Series FOD, FOM and Ecosites FOC1, FOC3	**Snakes:** sites with access below the frost line, wetlands with hummocks **Skink:** mixed forests with rock outcrops providing cover rock overlaying granite bedrock with fissures	**Studies Confirm:** use by ≥5 individuals from one species **or** use by individuals from ≥2 species; congregation of ≥5 individuals from one species **or** individuals from ≥2 species near potential hibernacula; if SC species are present site is SWH; any active skink hibernaculum **Area of SWH Defined As:** feature containing hibernacula plus 30m radius	The study area does not contain any features that may support this habitat function. Site investigations did not identify any rock outcrops, stone fencerows, hummocky/organic wetlands or other features that may support such functions. No further assessment provided - not SWH.
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, Northern Rough-winged Swallow	Found in CUM1, CUT1, CUS1, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1	Exposed banks, sandy hills, borrow pits, steep slopes, sand piles that are undisturbed or naturally eroding Does not include man-made structures or active aggregate pits	**Studies Confirm:** 1 or more nesting sites with ≥8 Cliff Swallow pairs **and/or** Rough-winged Swallow Pairs during the breeding season **Area of SWH Defined As:** colony and 50m radius from peripheral nests	The study area does not contain any features that may be expected to support this habitat function. No further assessment provided - not SWH.
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned Night Heron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1, SWD2, SWD3, SWD4, SWD5, SWD6, SWD7, FET1	Live or dead standing trees in wetlands, lakes, islands, peninsulas, may use shrubs or other emergent vegetation; most nests 11-15m from ground	**Studies Confirm:** ≥5 active Great Blue Heron or other listed species nests **Area of SWH Defined As:** colony plus 300m radius **or** extent of forest ecosite containing colony **or** any island <15ha with a colony	The study area does not contain any features that may be expected to support this habitat function. No nest trees or individuals of indicator species were observed during on-site investigations. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	MAM1-6, MAS1-3, CUM, CUT, CUS **Brewer's Blackbird**: close to watercourses in open fields	**Gulls and Terns:** rocky islands or peninsulas in open water, marshy areas **Brewer's Blackbird:** near streams and irrigation ditches in farmland	**Studies Confirm:** >25 active nests of Herring Gulls or Ring-billed Gulls, >5 active nests of Common Terns, >2 active nests of Caspian Terns, ≥5 Brewer's Blackbird pairs, any active nesting colony of Little Gulls or Great Black-backed Gulls **Area of SWH Defined As:** colony plus 150m radius **or** extent of ecosites containing colony **or** any island <3ha	The study area does not contain any features that may be expected to support this habitat function. No further assessment provided - not SWH.
Migratory Butterfly Stopover Areas	Painted Lady, Red Admiral **Special Concern**: Monarch	One Community Series each from field (CUM, CUT, CUS) and forest (FOC, FOD, FOM, CUP)	Minimum 10ha combination of field and forest located within 5km of Lake Ontario	**Studies Confirm**: >3000 Monarch Use Days (days a site is used * the number of individuals), **or** >3000 Monarch Use Days with Painted Ladies or Red Admirals present **Area of SWH Defined As**: n/a	The study area is located outside of applicable distance from Lake Ontario shoreline. No further assessment provided - not SWH.
Landbird Migratory Stopover Areas	All migratory songbirds and raptors	Community Series FOC, FOM, FOD, SWC, SWM, SWD	Woodlots > 10ha within 5km of Lake Ontario; significance increases with proximity to shoreline and size	**Studies Confirm**: use by > 200 birds/day with > 35 species, **and** at least 10 species recorded on 5 different survey days **Area of SWH Defined As**: n/a	The study area is located outside of applicable distance from Lake Ontario shoreline. No further assessment provided - not SWH.
Deer Yarding Areas	White-tailed Deer	Community Series FOM, FOC, SWM, SWC and Ecosites CUP2, CUP3, FOD3, CUT	**Stratum** I: coniferous forest with >60% canopy cover **Stratum II**: mixed or deciduous forest surrounding Stratum I	**Confirm Studies**: mapping by MNRF **Area of SWH Defined As**: n/a	The study area is not contained in a mapped Deer Yarding Area. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Deer Winter Congregation Areas	White-tailed Deer	Community Series FOC, FOM, FOD, SWC, SWM, SWD, conifer plantations	Woodlots > 100ha, smaller woodlots can be SWH based on MNRF assessment	**Confirm Studies**: mapping by MNRF, all woodlots >100ha are significant **Area of SWH Defined As**: n/a	The study area is not contained in a mapped Deer Wintering Area. No further assessment provided - not SWH.
Category 2: Rare Vegetation Communities					
Cliffs and Talus Slopes		Community Series TAO, CLO, TAS, CLS, TAT, CLT	Any cliff > 3m or talus slope	**Confirm Studies:** any ELC for cliffs or talus slopes **Area of SWH Defined As:** n/a	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Sand Barren		SBO1, SBS1, SBT1	Exposed sand, sparsely vegetated, <60% tree cover	**Confirm Studies:** confirmed ELC for Sand Barrens, <50% exotic vegetative cover **Area of SWH Defined As:** n/a	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Alvar	**Indicator species**: Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Level calcerous bedrock, rock pavement, overlain by thin veneer of soil, <60% tree cover	Confirm Studies: >0.5ha, at least 4 indicator species, <50% exotic vegetative cover, in good condition **Area of SWH Defined As**: n/a	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Old Growth Forest		Community Series FOD, FOC, FOM, SWD, SWC, SWM	Woodland ≥30ha with at least 10ha interior habitat with 100m edge buffer	**Studies Confirm**: dominant trees are >140 years old, no recognizable forestry activities **Area of SWH Defined As**: combined ecosites or ecoelements with old growth characteristics	The estimated age of on-site woodlands is not sufficient to be considered old growth. No further assessment provided - not SWH.
Savannah	See Appendix N of the Significant Wildlife Habitat Technical Guide.	TPS1, TPS2, TPW1, TPW2, CUS2	Tallgrass prairie with 25-60% tree cover, cannot be remnant site	**Studies Confirm**: ≥1 Savannah indicator species **and** <50% exotic vegetative cover **Area of SWH Defined As**: ecosite	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Tallgrass Prairie	See Appendix N of the Significant Wildlife Habitat Technical Guide.	TPO1, TPO2	Dominated by prairie grasses, <25% tree cover	**Studies Confirm**: ≥1 Prairie indicator species **Area of SWH Defined As**: ecosite	The study area does not contain any applicable ELC ecosites. No further assessment provided - not SWH.
Other Rare Vegetation Communities		Provincially Rare S1, S2, and S3 vegetation communities in Appendix M of the SWHTG	Beaches, Fens, Forest, Marsh, Barrens, Dunes, Swamps	**Studies Confirm**: confirmed ELC from Appendix M of the SWHTG **Area of SWH Defined As**: ELC	No rare vegetation communities have been identified within the study area. The NHIC database contains no records of rare ELC ecosites proximate to the study area. No further assessment provided - not SWH.
Category 3: Specialized Habitats for Wildlife					
Waterfowl Nesting Area	American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Mallard	Upland habitat adjacent to MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4	Area extending 120m from >0.5ha wetland, **or** a cluster of ≥3 <0.5ha wetlands, adjacent upland areas at least 120m wide, trees >40cm dbh with nesting cavities	**Studies Confirm: ≥**3 nesting pairs from listed species excluding Mallards, **or** ≥10 nested pairs including Mallards, **or** active nesting American Black Ducks **Area of SWH Defined As:** wetland and 120m boundary, boundary may vary to provide nesting habitat	The study area supports wetland ecosites and adjacent upland habitat that could support this habitat function. See report for further discussion.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Osprey **Special Concern**: Bald Eagle	Community Series FOD, FOM, FOC, SWD, SWM, SWC	Forested shorelines along lakes, ponds, rivers, or wetlands **Osprey**: nest at the top of tree **Eagle**: nest in notch of super canopy tree (Does not include nests on man-made structures)	**Studies Confirm:** one or more active nests in area, nest must be used annually, must be inactive ≥3 years to be non-significant **Area of SWH Defined As:** Osprey nest and 300m radius or contiguous woodland stand Bald Eagle nest and 400-800m radius plus perching and foraging habitat	The study area does not contain any features that may be expected to support this habitat function. No nest trees or individuals of indicator species were observed during on-site investigations. No further assessment provided - not SWH.

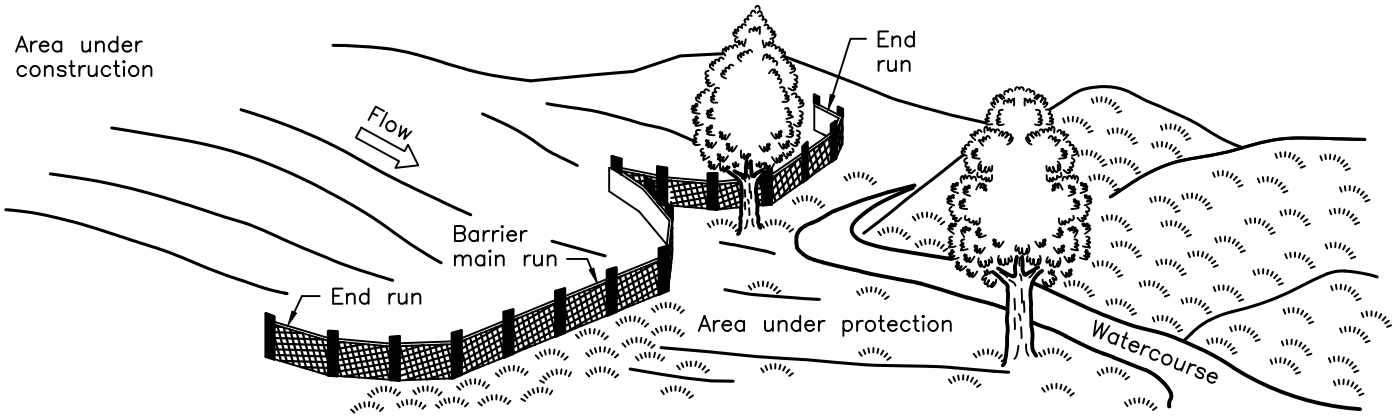
Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Woodland Raptor Nesting Habitat	Northern Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk	All forested Ecosites, also SWC, SWM, SWD, CUP3	Natural or conifer plantation stands >30ha with >10ha of interior habitat with 200m edge buffer, stick nests found in conifer, deciduous, or mixed forests, Coopers Hawk nest on forest edges	**Studies Confirm:** 1 or more active nests from listed species **Area of SWH Defined As:** active Red-shouldered Hawk, Northern Goshawk nest and 400m radius or 28ha of suitable habitat; or Active Barred Owl nest and 200m radius; or Active Broad-winged Hawk, Coopers Hawk nest and 100m radius; or Active Sharp-shinned Hawk nest and 50m radius	The study area is contained within a large woodland block, portions of which may be expected to support this habitat function. However, the property itself is situated adjacent to woodland edges on three sides and provides no interior habitat. The structure and density of on-site woodlands would also not be amenable to woodland raptor nesting. On this basis, the study area is unlikely to contain this category of SWH.
Turtle Nesting Areas	Midland Painted Turtle **Special Concern**: Northern Map Turtle, Snapping Turtle	MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1, FEO1	Close to water with open, sunny areas containing sand and gravel turtles can dig in, does not include road shoulders	**Studies Confirm:** ≥5 nesting Midland Painted Turtles, **or** ≥1 nesting Northern Map Turtle or Snapping Turtle **Area of SWH Defined As:** area/areas with exposed mineral soils plus 30-100m radius, including travel routes from wetland to nesting area	Site investigation and background review did not document any features within the study area (other than road shoulders) that would be likely to support turtle nesting. No further assessment provided - not SWH.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Any forested ecosite near headwaters	Forested area with <25% meadow/field/pasture within headwaters of river or stream	**Studies Confirm: ≥**2 seeps/springs **Area of SWH Defined As:** area containing seeps/springs	No seeps or springs were observed during on-site investigation. No further assessment provided - not SWH.
Amphibian Breeding Habitat (Woodland)	Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog	Community Series FOC, FOM, FOD, SWC, SWM, SWD	Wetland, pond, pool >500m^2 within 120m of a woodland	**Studies Confirm**: breeding by ≥1 listed newt/salamander species **or** ≥2 listed frog species with at least 20 adults or egg masses **or** ≥2 listed frog species with Call Level Codes of 3 **Area of SWH Defined As**: wetland plus 230m radius of woodland, including travel corridor	The study area supports wetland ecosites and adjacent upland habitat that could support this habitat function. See report for further discussion.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Amphibian Breeding Habitat (Wetlands)	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 Classes SW, MA, FE, BO, OA, SA	Wetlands >500m^2, bullfrogs require permanent waterbodies	**Studies Confirm**: breeding by ≥1 listed newt/salamander species **or** ≥2 frog/toad species with at least 20 adults or egg masses **or** ≥2 frog/toad species with Call Level Codes of 3 **Area of SWH Defined As**: ELC ecosite and shoreline are SWH	The study area supports wetland ecosites that could support this habitat function. See report for further discussion.
Woodland Area-Sensitive Bird Breeding Habitat	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**: Cerulean Warbler, Canada Warbler	Community Series FOC, FOM, FOD, SWC, SWM, SWD	Habitats where interior forest birds are breeding, typically forests >30ha and >60 years old; interior forest habitat is at least 200 m from forest edge habitat.	**Studies Confirm**: breeding pairs/nesting by ≥3 listed species, any site with breeding Cerulean Warblers or Canada Warblers **Area of SWH Defined As**: n/a	The study area is contained within a large woodland block, portions of which may be expected to support this habitat function. However, the property itself is situated adjacent to woodland edges on three sides and provides no interior habitat. On this basis, the study area is unlikely to contain this category of SWH.
Category 4: Habitats of Species of Conservation Concern					
Marsh Bird Breeding Habitat	American Bittern, Virginia Rail, Sora, Common Moorhen, American Coot, Pied-billed Grebe, Marsh 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 **Green Heron:** SW, MA, CUM1	Shallow water with emergent vegetation **Green Heron:** edge of sluggish streams, ponds, marshes sheltered by shrubs and trees	**Studies Confirm: ≥**5 nesting pairs of Sedge Wren or Marsh Wren **or** 1 pair of Sandhill Cranes, **or** breeding by ≥5 of the listed species, **or** ≥1 pairs of Trumpeter Swans, Black Terns, Green Herons, or Yellow Rails **Area of SWH Defined As:** area of ELC used for breeding	Wetland areas proximate to the subject property may support this habitat function. See report for further discussion.

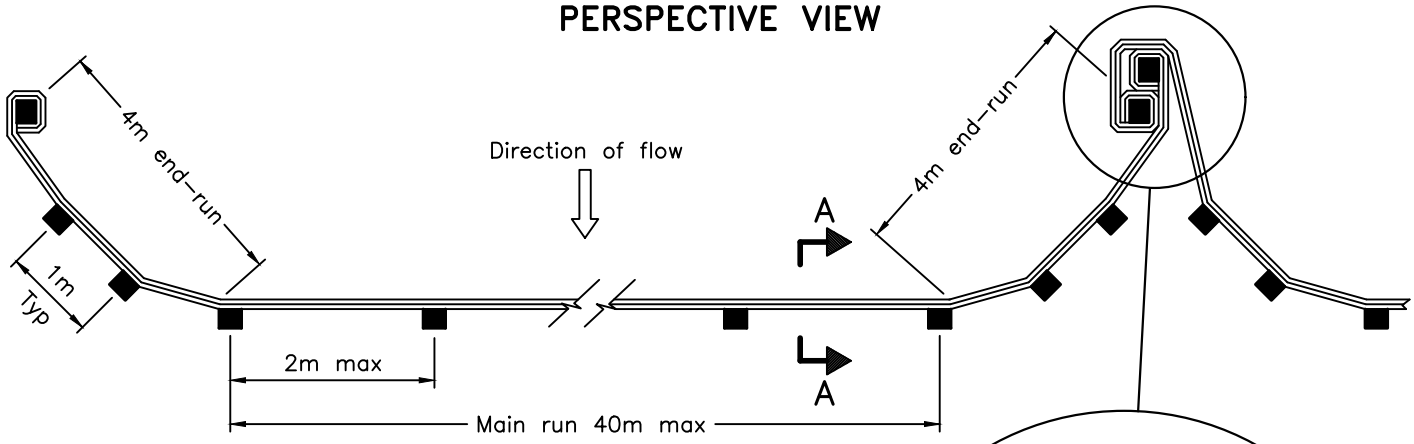
Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow **Special Concern**: Short-eared Owl	CUM1, CUM2	Grassland areas >30ha, includes cultural fields and meadows, agricultural land not used for farming in last 5 years	**Studies Confirm:** nesting/breeding of ≥2 listed species **or** ≥1 breeding Short-eared Owls **Area of SWH Defined As:** contiguous grassland ELC	The study area does not contain any features that may be expected to support this habitat function. No further assessment provided - not SWH.
Shrub/Early Successional Bird Breeding Habitat	**Indicator Species**: Brown Thrasher, Clay-coloured Sparrow **Common Species**: Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher **Special Concern**: Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large fields >10ha succeeding to shrub and thicket, shrub thickets >10ha	**Studies Confirm:** nesting/breeding of ≥1 Indicated Species **and** at least 2 Common Species, **or** breeding Yellow-breasted Chat or Golden-winged Warbler **Area of SWH Defined As:** contiguous field/thicket ELC	The study area does not contain any features that may be expected to support this habitat function. No further assessment provided - not SWH.
Terrestrial Crayfish	Chimney or Digger Crayfish, Devil or Meadow Crayfish	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SWD, SWT, SWM, CUM1 with inclusions of meadow marsh or swamp	Wet meadow/shallow marsh edges	**Studies Confirm**: ≥1 individuals or burrows in suitable habitat **Area of SWH Defined As**: area of ELC with burrows	The study area does not contain any features that may be expected to support this habitat function. No crayfish burrows were observed during the on-site investigation. No further assessment provided - not SWH.
Special Concern and Rare Wildlife Species	Species tracked by NHIC	n/a	ELC surrounding recorded occurrence	**Studies Confirm:** confirmation species is present **Area of SWH Defined As:** area of habitat to the finest ELC scale that protects habitat form and function	The study area has the potential to support habitat for one or more special concern or rare species. See report for further discussion.

Habitat Type	Applicable/Indicator Species	Candidate SWH		Confirmed SWH	Discussion
		ELC Ecosites	Other Habitat Criteria	Defining Criteria	
Category 5: Animal Movement Corridors					
Amphibian Movement Corridors	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	Any ecosite associated with water	Corridor linking summer and breeding habitat	**Studies Confirm:** confirmed Amphibian Breeding Habitat- Wetland, at least 15m of vegetation on both sides of waterway **or** up to 200m wide **Area of SWH Defined As:** corridor is part of buffer surrounding Amphibian Breeding Habitat- Wetland	There is potential for amphibian movement corridor to occur in association with the study area. See report for further discussion.
Deer Movement Corridors	White-tailed Deer	Any forested ecosite	Identified by MNRF, follow riparian areas, woodlots, ravines, or ridges	**Studies Confirm:** confirmed Deer Wintering Habitat **Area of SWH Defined As:** corridors at least 200m wide with gaps <20m, with 15m of vegetation on both sides of waterways	N/A
Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E					
6E-14 Mast Producing Areas	Black Bear	Community Series FOM, FOD	Woodland ecosites >30ha with mast-producing tree species (cherry, oak, beech)	**Studies Confirm**: woodlands >30ha with 50% composition of FOM1-1, FOM2-1, FOM3-1, FOD1-1, FOD1-2, FOD2-1, FOD2-1, FOD2-3, FOD2-4, FOD4-1, FOD5-2, FOD5-3, FOD5-7, FOD6-5 **Area of SWH Defined As**: n/a	N/A
6E-17 Lek	Sharp-tailed Grouse	CUM, CUT, CUS	Grassland >15ha adjacent to shrubland, grassland >30ha adjacent to deciduous woodland	**Studies Confirm**: confirmed courtship activities **Area of SWH Defined As**: field/meadow ecosites plus 200m radius	N/A

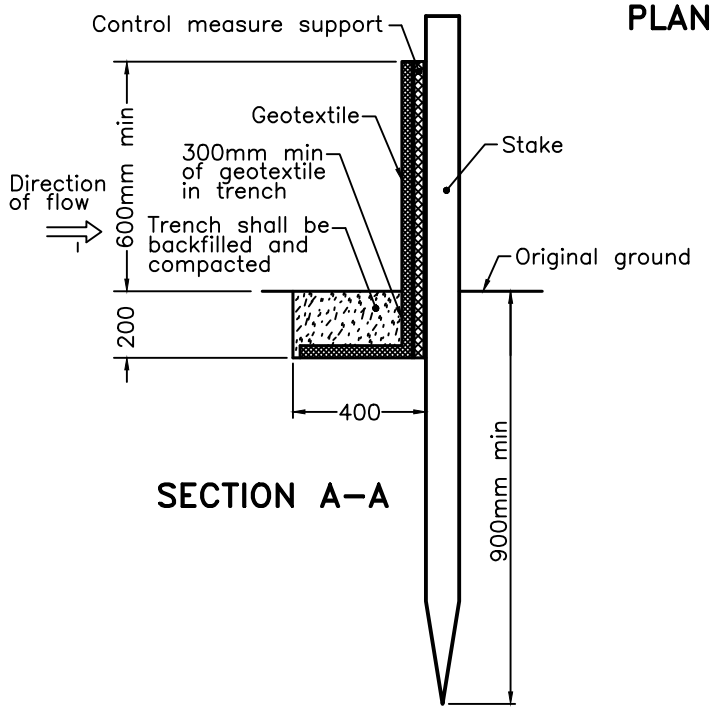
Appendix 5. Sediment Fence Example.



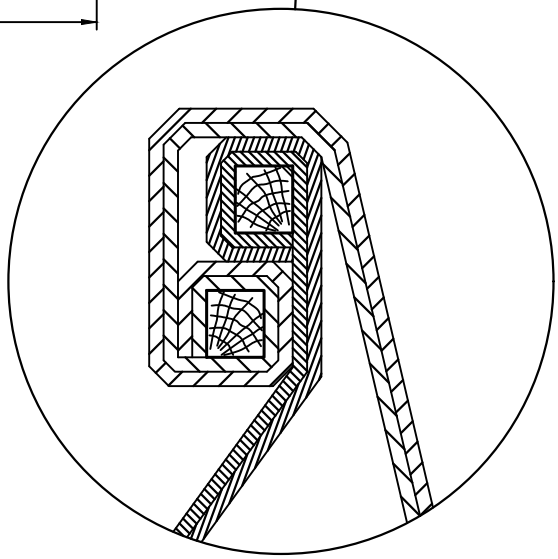
PERSPECTIVE VIEW



PLAN



SECTION A–A



JOINT DETAIL

NOTE:

A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev	3
HEAVY–DUTY SILT FENCE BARRIER			
	OPSD 219.130		