

Environmental Impact Assessment Guideline

Regional Official Plan Guidelines



Halton Region Official Plan Guidelines

The **Regional Official Plan (ROP)** is Halton’s guiding document for land use planning. It contains policies that guide decisions related to, among other things, managing growth and its effects on Halton’s social, economic and *natural environment*.

The **ROP Guidelines** are a set of documents that clarify, inform, and aid in the implementation of the Plan’s policies.

The Guidelines have been prepared in accordance with Section 192 of the ROP. They provide direction and outline approaches that can be used to satisfy the relevant policies of the Plan. They do not introduce additional policy requirements, and, in the event of a conflict between the Guidelines and the Regional Official Plan, the Plan shall prevail.

The Guidelines may be updated from time to time as required through a report to Regional Council.

For more information, visit [https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-\(ROP\)](https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-(ROP)) or [https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-\(ROP\)/About-Regional-Official-Plan-\(ROP\)/Regional-Official-Plan-Guidelines](https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-(ROP)/About-Regional-Official-Plan-(ROP)/Regional-Official-Plan-Guidelines) or call 311.

“This Plan calls for the preparation of certain guidelines or protocols to provide more detailed directions in the implementation of its *policies*.”

Halton Region Official Plan [June 19, 2018 Office Consolidation] – Section 192

Environmental Impact Assessment Guideline

The **Environmental Impact Assessment (EIA) Guideline** is intended to provide guidance regarding the Region’s policies on the Halton Natural Heritage System and Environmental Impact Assessments.

<p>Purpose</p>	<p>The purpose of the Environmental Impact Assessment (EIA) Guideline is to:</p> <ul style="list-style-type: none"> • explain the Regional Official Plan (ROP) policies regarding the Halton Natural Heritage System (NHS) and requirements for triggering an EIA; • provide tools to support the EIA process, direction on the EIA process and content required for an EIA; • identify ways to avoid or minimize potential impacts to the NHS and its <i>key features</i> and <i>ecological functions</i>; and, • enable municipal decision-making on <i>development</i> or <i>site alteration</i> proposals which have the potential to impact the NHS.
<p>Application & Use</p>	<p>To maintain a healthy balance between settlement areas, the rural countryside and the Halton NHS, when <i>development</i> or <i>site alteration</i> is proposed within or adjacent to the NHS, an Environmental Impact Assessment (EIA) may be required. The Guideline should be used to understand the implementation of associated requirements and are applicable to a variety of users, including:</p> <ul style="list-style-type: none"> • Regional, Local and external agency staff: as a resource when reviewing <i>development</i> or <i>site alteration</i> applications that may require an EIA; • the development industry and agricultural community: for clarity on the application of ROP policy regarding EIAs; and • the public: to understand how the protection and promotion of the NHS occurs through the <i>development</i> or <i>site alteration</i> process. <p>Where a Secondary Plan has been approved and contains policies that require submission of an alternative environmental study in accordance with a terms of reference approved by the Region, such as a Sub-watershed Impact Study or an Environmental Implementation Report, the requirement for an EIA may be superseded and this Guideline would not typically apply.</p>
<p>Supporting Documents</p>	<p>The following documents informed the guideline and should be considered alongside it, as appropriate, in the preparation of an EIA:</p> <ul style="list-style-type: none"> • Provincial Policy Statement, 2014 • Greenbelt Plan, 2017 • Niagara Escarpment Plan, 2017 • A Place to Grow Plan: Growth Plan for the Greater Golden Horseshoe, 2019 • Ontario’s <i>Endangered Species Act</i>, 2007 • Natural Heritage Reference Manual, Second Edition, 2010) • Local Official Plan & Zoning By-law(s) • Local Site Alteration By-law(s) • Conservation Authority Act and associated Ontario Regulations and Conservation Authority Policies
<p>Version</p>	<p>Version 2 This version of the Environmental Impact Assessment Guideline was brought before Regional Council on June 17, 2020 through Report Number LPS23-20.</p> <p>Minor edits were made after June 17, 2020 to Appendix D-1 and D-2 to provide clarity to the user.</p>

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Introduction

The Regional Municipality of Halton (Halton) is a fast-growing community within the Greater Golden Horseshoe (GGH) comprised of four communities: the City of Burlington, the Town of Halton Hills, the Town of Milton, and the Town of Oakville. According to the provincial A Place to Grow: Growth Plan for the Great Golden Horseshoe (2019) (the “Growth Plan”), Halton and its communities will be expected to accommodate a population of 1,000,000 by 2041, almost doubling its 2016 population of 548,924.

Through Halton’s Regional Official Plan (ROP), significant value has been placed on the permanent protection of Halton’s landscape. This includes the protection of existing natural heritage features and functions, enhancement of Halton’s natural heritage on the landscape, and integrating the natural heritage system within the rural and urban landscape.

The Natural Heritage System Policies implemented through Regional Official Plan Amendment (ROPA) # 38, brought in a systems-based approach to natural heritage planning, assessment and protection in Halton. Through these policies, approximately 50% of the Region was identified as part of a Natural Heritage System (NHS) and represent protected natural heritage features and functions.

As a growing municipality, it is understood that *development* and/or *site alteration* will be proposed within or on lands adjacent to the Halton NHS. To facilitate protection of the features and functions that comprise the Halton NHS as *development* and growth proceeds, these activities may require the completion and submission of an Environmental Impact Assessment (EIA) by applicant (or proponent) to ensure there is no *negative impact* to the NHS as a result of the proposed activity (*development* or *site alteration*). An EIA is one of the primary tools through which the Region can help ensure the long-term protection of its natural heritage on the landscape.

How to Use This Guideline

This EIA Guideline is intended to provide direction to landowners considering *development* or *site alteration* in or near the Halton NHS and EIA practitioners to determine when an EIA is required and the procedure for completing an EIA. The Guideline also helps explain roles and responsibilities of review agencies in relation to the EIA process and provides tools for improving the process and considering options for study avoidance or waiving, where appropriate. A brief summary of the intended purpose of each major section is provided below as a quick reference guide in using this document.

Section 1 | EIA Primer. This section contains a high-level, plain language overview of what an EIA is, why and when they are needed, roles and responsibilities of stakeholders, who can complete them, and how they fit into the *development* or *site alteration* process.

Section 2 | EIA Process. This section provides an overview of the EIA process and explains the various steps and tools used with each.

Section 3 | EIA Content. This section provides direction on the technical content and approach to completing an EIA, including minimum submission requirements for a complete EIA.

Defined Terms

The Guideline includes words with defined meanings as per the ROP, the Provincial Policy Statement (2014), the Niagara Escarpment Plan (2017) and the Greenbelt Plan (2017) and the Growth Plan (2019). These words are shown in italics, and definitions are compiled in **Appendix A** for ease of reference.

1.0 EIA Primer

1.1 What is an EIA?

An EIA is a study that assesses the potential impacts to the features and functions of the *natural environment* resulting from a proposed *development* or *site alteration* project. It documents the existing conditions of the Halton Natural Heritage System's (NHS) features and functions on and around the site of such projects, identifies the potential impacts associated with the project, and recommends ways to avoid (preferred) or mitigate (where they cannot be avoided) *negative impacts*. Wherever possible, an EIA also identifies opportunities to restore or enhance natural features and functions to assist in the long-term objectives of creating a sustainable *natural environment* in Halton as a permanent and prominent part of the Region's landscape. Mapping of the Halton NHS was developed using coarse scale map layers; an EIA may also be used inform refinements to portions of the Halton NHS mapping as it enables site level delineation of features, functions and areas on the ground. This can lead to boundary adjustments, removals or relocations of areas, and additions of any areas containing features that may not have been captured in coarse-scale mapping (e.g., a previously unmapped wetland area).

1.1.1 Impact Assessments: Terminology and a One-Study Approach

Terminology associated with *natural environment* / natural heritage impact assessment studies varies across jurisdictions, plans or planning process scales; however, the basic approach and purpose of the impact assessment remains relatively consistent regardless of variation in terminology. Examples of terminology that refers to a *natural environment* / natural heritage impact assessment includes:

- Environmental Impact Assessment;
- Environmental Impact Study; and
- Natural Heritage Evaluation.

Guidelines, study requirements and approaches may differ slightly; however, the similarities across these study types can support a 'One-Study' approach to impact assessment in Halton. Specifically, where the requirement for an impact assessment is triggered across multiple jurisdictions or plans (e.g., *conservation authority* and the Region), the guidance provided herein will be applicable in supporting a 'One-Study' approach for a proposed *development* or *site alteration* at the site specific planning scale.

Broader scale environmental studies, like Sub-watershed Studies, are typically required in support of area specific plans for new communities. Upon approval, site-level studies required to implement environmental management recommendations set out through these broader scale studies would supersede the requirement for submission of an EIA (refer to **Section 1.4.1** for additional discussion regarding the relationship of EIAs and Sub-watershed Studies).

The goal of the 'One Study' approach is to encourage all agencies to address their environmental study requirements through the identification of a suitable scope of work and reporting requirements as part of an EIA in Halton, to the extent this is feasible given regulatory requirements of each agency involved in *development* and *site alteration approval* processes. The applicable regulatory authority / authorities can guide proponents in identifying a single scope of work for EIA studies where the requirement for multiple studies applies. For example, if a *development* or site alteration application in the Niagara Escarpment Development Control Area triggers requirements for a Natural Heritage Evaluation under the Niagara Escarpment Plan, a EIS in accordance with *conservation authority* policy, and an EIA in accordance with Regional and Local Official Plans, the agencies should strive to assist the proponent in identifying a single scope of work for an EIA using this Guideline to satisfy these three relevant environmental study requirements.

1.2 Why is an EIA Needed?

Where *development* or *site alteration* may affect *significant* natural features and functions, Ontario's Provincial Policy Statement (PPS, 2020) requires that it be demonstrated that no *negative impacts* will occur. The ROP applies a *systems approach* to protecting and enhancing natural features and functions within the Region, by implementing a NHS. The NHS in Halton consists of the Regional Natural Heritage System (RNHS) and the Greenbelt Natural Heritage System (GBNHS). The Growth Plan Natural Heritage System (GPNHS) was established by the Province after approval of the existing in force ROP; as such it is not identified on current mapping, but is considered in land use planning and decision making. While the GBNHS, GPNHS and the RNHS have different sets of planning *policies*, they complement each other and together implement *Halton's* vision of a sustainable NHS.

The primary reason for an EIA is to protect the NHS and identify unmapped *Key Features*. The goal of the NHS is to increase the certainty that the biological diversity and *ecological functions* within Halton will be preserved and enhanced for future generations (s. 114 of the ROP). Within rural areas of Halton Region, agricultural land use and the NHS coexist; the NHS is not intended to restrict *normal farm practices*.

The requirement for undertaking an EIA is specified for *development* and/or *site alteration* within section 118(3) of the ROP.

The purpose of an EIA is to evaluate whether a proposed *development* or *site alteration* will result in no *negative impact(s)* to that portion of the NHS or unmapped *Key Features* affected by the *development* or *site alteration*. The EIA does this by identifying components of the NHS and their associated *ecological functions* and assessing the potential environmental impacts, requirements for impact avoidance and mitigation measures, and opportunities for restoration or enhancement. Unmapped *Key Features* may include features that do not appear to be mapped in the NHS, *Significant* Wildlife Habitat, and Habitat of *Endangered and Threatened Species* which are tracked internally in order to protect and preserve the features and their locations.

1.3 When is an EIA Required?

An EIA is generally triggered when *development* or *site alteration* is proposed to occur within or adjacent to the NHS or an unmapped *Key Feature* (confirmed or potential). Landowners can refer to Map 1G of Halton's Official Plan for mapped *Key Features* of the Greenbelt and Regional Natural Heritage Systems. It is important to note that Map 1G shows mapped features only; unmapped features may occur outside areas shown on this map.

Confirmation of the requirement for an EIA is addressed through a project screening process (**Section 2.1**). EIA triggers and exemptions to the requirement for an EIA are discussed in **Section 2.1.1** and opportunities to have the EIA requirement waived are discussed in **Section 2.1.2**. Where waiving is being considered, the proponent may be required to make modifications to their plan, adhere to specific mitigation measures or other conditions for waiving to be permitted. Site visits may be required to confirm *Key Feature* boundaries, provide input to waiving (as appropriate) and/or discuss EIA requirements. An EIA is not required when an alternate or equivalent study has been completed (e.g., a subwatershed study); refer to **Section 1.4.1** of this Guideline for a discussion of alternative and equivalent studies.

A building permit does not trigger an EIA.

1.3.1 Agricultural Buildings

Halton Region recognizes the importance of *agriculture* to the vitality of the Region and recognizes the important contribution that rural landowners make to the preservation of natural heritage features on

their lands. In the context of *agricultural buildings* and uses, the RNHS was developed to ensure that a system of *key features, enhancements to key features, linkages* and *buffers* has been identified that is sufficiently robust to withstand the more intense ecological impacts associated with a change from rural to urban land use and thereby achieve long term protection of biodiversity. Halton Region recognizes that within rural areas of Halton Region, *agriculture* and the RNHS can coexist, and the policies of the ROP are intended to support continued viability of farms while avoiding/minimizing impacts to the RNHS. Moreover, the ROP, in accordance with provincial policies and plans, supports *normal farm practices* on agricultural lands to ensure the long-term viability of these functions. The ROP achieved this balance through modified EIA triggers for proposed *agricultural buildings*, opportunities to waive the EIA requirement and a commitment to assist the proponent in carrying out an EIA required for an *agricultural building* through EIA scoping and/or by providing financial aid and/or in-kind service.

Direction with respect to *agricultural buildings* in the EIA process is provided through **Section 2.0 EIA Process** and associated tools and appendices. Demonstrated through use of the EIA Guideline to date, most *agricultural buildings* do not require an EIA and are addressed through waiving and / or in-kind support.

1.4 Scope of an EIA

Upon confirmation that an EIA is required through the screening process (i.e., the project triggers the need for an EIA, is not exempt, and the requirement cannot be waived – **Sections 2.1.1** and **2.1.2**), the requirements of the EIA are determined through scoping (**Section 2.2**).

The requirements for an EIA are scoped based on the scale and complexity of the proposed work, the natural feature(s) of the NHS and *ecological function(s)* known to be present or potentially present, and the potential scale and magnitude of the impacts associated with the proposed *development* or *site alteration*. As such, the scope of an EIA occurs on a ‘sliding scale’ of extent and comprehensiveness. An EIA may need to draw information from other studies required as part of the application such as a fluvial geomorphology assessment, hydrogeological study, stormwater management plan, etc. It is important that appropriate components of each study be integrated through the EIA, and vice versa, as they may lead to potential changes to conditions important for the support and maintenance of the NHS and its *Key Feature(s)*.

1.4.1 Relationship between EIAs and Sub-watershed (or Comparable) Studies

Regional policy allows an alternate impact assessment process to be identified through a broader scale environmental review exercise as part of a Secondary Plan process, such as a watershed and/or sub-watershed study (SWS). Once approved, Secondary Plan implementation policies typically require an additional site or neighbourhood level environmental study prior to consideration of new *development* applications within those neighbourhoods. The intent of these studies is to demonstrate how environmental management recommendations from broader scale studies (which are focused on the entire Secondary Plan area, and contributing drainage areas), can be implemented in a coordinated fashion within a smaller neighbourhood unit. Such studies are referred to by many names, based on the preference of the local municipality responsible for drafting each Secondary Plan. Examples include the following:

- Subwatershed Impact Study;
- Environmental Implementation Report;
- Development Area Environmental and Functional Servicing Study.

When this alternate process is agreed to by the Region through approval of a Secondary Plan, it will supersede the Region’s EIA requirements and the Region will work to ensure that matters of Regional concern are satisfactorily addressed in consultation with the local municipality who will coordinate the

alternate process. In keeping with the 'One Study' approach noted in **Section 1.1.1**, a separate EIA is not required in instances where approved Secondary Plan policies identify an alternative study process.

1.5 Who Prepares an EIA?

An EIA is to be prepared by a professional or team of professionals with relevant and applied expertise in impact assessment studies. An EIA will be led by, or include substantive contributions by a ecologist, biologist or comparable professional. Components of the EIA or additional studies integrated into the EIA will be completed by a professional or team of professionals who have the appropriate knowledge and applied experience in the relevant disciplines for the required study component(s) (e.g., a hydrogeologist, fluvial geomorphologist, etc.). All EIA practitioners shall be retained at the expense of the proponent.

Some examples of study components and appropriate professionals are provided below. Individuals with alternative titles than those provided who have the appropriate qualifications and experience to complete a study component may be engaged, as appropriate. In some cases, the Region may wish to verify the qualifications of persons who are involved in carrying out an EIA, such as educational qualifications, experience, special certifications (e.g. Ecological Land Classification, Wetland Evaluation, electro-fishing, etc.); Curriculum Vitae are to be provided upon request.

- **Biophysical Inventories** shall be conducted by individuals with applied experience in natural heritage / biological inventories appropriate for the features and function in the study area. This may include ecologist(s) or biologist(s) specializing in one or more area (e.g., aquatic, *fish & fish habitat*, terrestrial, botany, wildlife, Species at Risk).
- **Wetland or Site Water Balance(s) / Hydrogeological Studies / Surface Water Studies** shall be conducted by individuals with applied experience in water resource engineering, hydrology, or hydrogeology, as appropriate for the specific work to be completed.
 - Wetland water balances generally require input from an ecologist / biologist (or comparable) in addition to those disciplines listed above as it considers the form, function and requirements of the wetland and its hydrologic requirements for persistence.
- **Landform and Fluvial Geomorphology Studies** shall be conducted by individuals with training and experience in geomorphology, fluvial geomorphology or comparable knowledge / experience and as appropriate for the specific requirements of the work to be completed.

It is important that the study components be integrated through the submission of "One-Study" EIA; this allows for cumulative and interconnected impacts on the *natural environment* to be considered holistically.

1.6 EIAs in the Development Process

An EIA is one of the studies that may be required to support a *development* or *site alteration* application; determination of what studies are required to support a project are identified through Screening (refer to **Section 2.1**). An EIA is multi-disciplinary, meaning that there is overlap with or the need to integrate and consider information collected across multiple studies (e.g., ground water / hydrogeology studies, stormwater management reports, *tree* inventory and preservation plans, etc.). Similarly, the EIA may overlap and require consideration of multiple Legislation, Regulations, Policies, and By-laws (e.g., PPS, Official Plans, Niagara Escarpment Plan, Greenbelt Plan, Growth Plan, Conservation Authorities Act / Regulations, *Endangered Species* Act 2007, municipal *Tree*-by-laws). These may be administered by the Region or external agencies (e.g., Conservation Authorities, Niagara Escarpment Commission, Ministry of Environment Conservation and Parks). A *development* or *site alteration* application must conform to the requirements of all applicable plans and policies.

The EIA process in Halton is a One-Study approach, meaning that the requirements for an EIA are coordinated between the Region, the local municipality, the Conservation authority (CA) and the Niagara Escarpment Commission (NEC), as appropriate. This approach avoids duplication and ensures that requirements for applicable regulatory and approval agencies are addressed through a single study (i.e., an EIA). The proponent (or their consultant) should co-ordinate the requirements across all agencies / guidance documents to ensure field investigations capture the appropriate information and are timed appropriately to inform the requirements of the process.

It is the applicant’s responsibility to ensure the requirements of all studies identified as required are met, and that the EIA integrates the results of other studies into the analysis of environmental impacts.

The completion and approval of an EIA may be part of the requirement for granting of *development or site alteration* approvals. If it is determined that an EIA is required, an application can only be considered complete following the submission of the Draft EIA in accordance with the approved terms of reference (TOR). A TOR for an EIA describes the study requirements and must be approved by the Region and partner agency staff prior to proceeding with the study. It is important to note that completion of an EIA does not suggest or guarantee that it will be supported or approved. The EIA must adequately demonstrate that the requirement of no *negative impact* is achieved.

1.7 Roles & Responsibilities in the EIA Process

1.7.1 Agency Roles & Responsibilities

As noted above, the EIA process within Halton encourages a One-Study approach; as such, the *Lead Planning Authority* (i.e., the authority to whom the application is submitted) and other approval or commenting agencies have a responsibility to coordinate the requirements set out for the study and also have specific roles / jurisdictions within the technical review and approval of an EIA. In consideration for the overlap that can exist, some general guidance has been provided in **Table 1** to assist all parties involved in the EIA process. It should be noted that roles and responsibilities relating to planning for the *natural environment* in Halton are addressed in greater detail through a Memorandum of Understanding (MOU) between the Region, local area municipalities, and Conservation Authorities, which is updated from time to time. This MOU may provide additional clarity with respect to the various roles and responsibilities involved in the EIA process.

Table 1: Agency Roles & Responsibilities within the Halton One-Study EIA Process

Agency	Roles in the EIA Process
<i>Lead Planning Authority</i>	<p>The <i>Lead Planning Authority</i> is the planning authority to whom a <i>development or site alteration</i> application triggering an EIA requirement is to be submitted for approval. Generally, this may be the Region, local area municipality, or Niagara Escarpment Commission (NEC).</p> <p>The <i>Lead Planning Authority</i> (or its delegate(s)) <u>coordinates</u> the One-Study process, engaging with other agencies (as applicable), and acts as the primary liaison with the proponent and leading the EIA Process (Section 2.0). This includes project screening to determine if an EIA is required, coordination of input from other relevant planning approval authorities and review agencies in scoping and development of TOR for the EIA, submission screening, circulation and coordination of review of EIA draft(s) and the final EIA report approvals and submission package.</p> <p>Where appropriate, the <i>Lead Planning Authority</i> may engage external agencies or consultants to support certain coordination and technical review roles and responsibilities relating to the EIA process (e.g. through Halton Region environmental review staff, technical consultant(s) on retainer, or MOU with Conservation Authorities).</p>

Agency	Roles in the EIA Process
	<p>When an EIA is triggered under Regional policy on lands within the Niagara Escarpment Plan (NEP) area, the EIA process will be coordinated between Halton Region and NEC in consultation other relevant planning approval authorities and review agencies.</p> <p>Where a <i>development</i> or <i>site alteration</i> application requires multiple approvals (e.g., where a permit from the MECP and/or a Conservation authority is required subsequent to a Planning Act application approval or NEC Development Permit issuance), the approval authority responsible for administering the subsequent approval is encouraged to participate in the EIA process coordinated by the <i>Lead Planning Authority</i> and to follow the One Study process.</p>
Region of Halton	<p>Where applicable, the Region may be the <i>Lead Planning Authority</i> (e.g. where the Region has been asked to assume this role by a local municipality, where approval authority for a given Planning Application is retained by the Region or where a Regional Official Plan Amendment Application is involved).</p> <p>Where the Region is not the <i>Lead Planning Authority</i>, the Region will act as a <u>commenting agency</u>, and will retain an overall <u>technical review</u> and EIA <u>approval</u> role. Through this role, Regional staff will ensure that Regional interests related to the identification and protection of the NHS are addressed in accordance with applicable policy through the One-Study process. <u>Technical review</u> requirements relating to EIA waiving, the protection of the NHS through natural feature boundary delineation, review of inventory work, evaluation of impact assessments and mitigation strategies may be delegated to others.</p> <p>Where refinements to the boundaries of the NHS are proposed through an EIA they must be accepted by the Region. However, some decisions with respect to delineation of specific NHS components, such as wetlands, <i>watercourses</i>, <i>fish habitat</i>, or <i>endangered and threatened species</i> habitat, will be made in consultation the responsible regulatory authority (e.g., CA, MECP), where appropriate. Unless otherwise specified through service agreements, ultimate approval of the conclusions and recommendations in an EIA will be a Regional responsibility and decisions will be made by the Region in consultation with the various agencies involved.</p>
Local Area Municipality	<p>Where applicable, a local area municipality may be the <i>Lead Planning Authority</i> (e.g. where they are the delegated approval authority for a certain type of Planning Application, or the activities constitute <i>site alteration</i> and are regulated under their Site Alteration By-law).</p> <p>Local area municipal staff will also act as a <u>commenting agency</u> on applications within their municipal boundary where they are not the <i>Lead Planning Authority</i>. Through both their role as <u>coordinators</u> and <u>commenters</u>, local municipal staff will ensure their interests with respect to conformity of proposed projects with local policies and plans are met if /as appropriate.</p> <p><i>Development</i> and <i>site alteration</i> application processes are often initiated through the local municipality; as such, pre-consultation and/or the initial screening to determine if an EIA is required may be coordinated by these agencies.</p>
Conservation authority (CA)	<p>Under Section 28 of the Conservation Authorities Act (CA Act), CAs regulate <i>development</i> or activities in or adjacent to river or stream valleys,</p>

Agency	Roles in the EIA Process
	<p>shorelines, <i>watercourses</i>, hazardous lands (e.g., <i>floodplains</i>, steep slopes, karst), wetlands and other areas around wetlands.</p> <p>Where <i>development</i>, as defined under the CA Act, is proposed within a CA regulated area, and no municipal or NEC approvals relating to <i>development</i> and <i>site alteration</i> are required under the Planning Act or Niagara Escarpment Planning and Development Control Act, the works would require CA approvals. CA regulatory policies identify specific study requirements for permit submissions.</p> <p>Where <i>development</i> or site alteration is located within a CA regulated area and also requires municipal or NEC approvals, the CA may be a <u>commenting agency</u> or <u>technical advisor</u> into the municipal or NEC applications, and will also administer their regulatory requirements through the CA approval process.</p> <p>CAs may be engaged as a <u>commenting agency</u> or <u>technical advisor</u> in the EIA process through a Planning or NEC application given their regulatory authority and/or their roles and responsibilities as outlined in service agreements (such as the MOU) with municipalities. Through an MOU, CAs may provide recommendations to the <i>Lead Planning Authority</i>, or where not engaged in this manner, may provide feedback to be considered by a proponent in relation to the EIA submission and approval process under the One Study approach. The Region and CAs will work together to coordinate Regional and CA requirements in an EIA TOR, wherever possible, in keeping with the One Study approach.</p>
Niagara Escarpment Commission (NEC)	<p>Projects within the NEP area may require a Development Permit from the NEC. The NEP contains policies that may trigger the requirement for a Natural Heritage Evaluation (NHE) if deemed necessary by staff. Where an EIA is also triggered under ROP policies, staff from the Region and NEC will work together to <u>coordinate</u> this process through the One Study approach.</p> <p>The NEC may act as a <u>commenting agency</u> for EIAs if / as appropriate. The NEC may suggest additional study requirements relating to their NHE for inclusion in an EIA TOR in keeping with the One Study approach.</p>
Ministry of Environment, Conservation and Parks (MECP)	<p>MECP staff may be engaged as a <u>commenting agency</u> in the EIA process and may provide feedback to be considered by a proponent in relation to the EIA submission and approval process under the One Study Approach. MECP is responsible for the <i>Endangered Species Act</i> (ESA 2007). MECP is the regulatory / approval agency for the assessment of presence, potential impacts to and any authorizations associated with Provincial Species at Risk.¹</p> <p>Species at Risk are to be addressed through the EIA Process, however decisions with respect to impacts and/or authorization requirements rest with the MECP.</p>
Ministry of Natural Resources and Forestry (MNRF)	<p>MNRF has prepared guidance documents applicable to many projects requiring an EIA (e.g., Natural Heritage Resource Manual, Significant Wildlife Habitat Technical Guide and Ecoregion Criteria Schedules, Natural Environment Report Standards for Aggregate Licence Applications).</p>

¹ MECP regulates other Acts and policies that may apply to *development* (e.g., water quality requirements for stormwater management). Only those that pertain specifically to natural heritage are provided here.

Agency	Roles in the EIA Process
	<p>The MNRF is the Ministry <u>responsible for</u> identifying and or verifying boundaries of certain <i>Key Features</i> (e.g., <i>Areas of natural and scientific interest (ANSIs)</i> and <i>Provincially Significant Wetlands (PSWs)</i>) and may act as a <u>commenting agency</u> with respect to delineation of other <i>Key Features</i>, as appropriate (e.g., <i>Significant Woodlands</i>, <i>Significant Wildlife Habitat</i>, and <i>Natural Heritage Systems</i>). Where known <i>Key Features</i> or those with potential to be identified are present, engagement with the MNRF may be required and should be initiated early in the EIA process.</p> <p>The MNRF may also be engaged as a <u>commenting agency</u> (e.g., advisory role) for implementation of guidance documents and may provide feedback to be considered by a proponent in relation to the EIA submission and approval process under the One Study Approach.</p>
Department of Fisheries and Oceans (DFO)	The federal DFO administers the Fisheries Act; lands where <i>fish habitat</i> occurs must have regard for the Act. Consultation with and / or authorization from DFO may be required based on proposed works.

Contact information for the planning approval authorities and review agencies referred to above is provided in **Appendix B**.

1.7.2 Role of the Proponent

The proponent has an important role throughout the EIA process to:

- Liaise and engage with the *Lead Planning Authority* and / or other agencies, as early as possible and as appropriate from project screening through to EIA approval;
- Arrange for the completion of the EIA, which will generally include engaging consultant(s) with expertise in coordinating and/or conducting EIAs, as appropriate for the scope and scale of the proposed *development* or *site alteration*; and
- Become familiar with the EIA process (**Section 2.0**) and understand the key steps and components of an EIA.

Proponents should also be aware of the following when engaging in the EIA process:

- Terms of Reference (TOR) for the EIA must be approved by the Region (or its delegate(s)) and other agency staff prior to proceeding with the study to ensure scope of work to be completed is understood and agreed upon;
- Time to prepare an EIA may be dependant, in part, upon the field data collection required. Different field studies have different ‘field seasons’ or periods in which the data must be collected (e.g., breeding bird data must be collected during the breeding bird season);
- Review of an EIA is generally an iterative process requiring more than one submission to incorporate any recommended amendments to plans or studies (e.g., opportunities to avoid impact through design alterations), and ensure that the EIA is complete and appropriate information and analyses have been completed to the satisfaction of the approval agencies, as applicable.

2.0 EIA Process

The following section outlines the 5 main steps of the EIA process:

- Project Screening (**Step 1**);
- EIA Scoping (**Step 2**);
- Data Gathering & Draft EIA Preparation (**Step 3**);
- Draft EIA Submission (**Step 4**); and
- Final EIA Submission (**Step 5**).

The process is also represented in several figures:

- **Figure 2.1** aligns the EIA Process to application processes for Planning Act and Non-Planning Act applications;
- **Figure 2.2** provides a brief overview of key elements of each step in the EIA process; and
- **Appendix C** contains a detailed process flow chart with key decision points and outcomes.

Several tools are provided to support the EIA process and are provided in **Appendix D**. The tools are listed below and discussed in the relevant sections below:

- EIA Waiving Assessment Tool (**Appendix D-1**);
- EIA Scoping Checklist (**Appendix D-2**);
- EIA Complete Application/Initial Submission Checklist (**Appendix D-3**);
- EIA Comment and Response Table Template (**Appendix D-4**); and
- Final Submission Package Checklist (**Appendix D-5**);

Non-planning act applications would include applications that propose site alteration where no planning act application approvals are required (such as Site Alteration and Niagara Escarpment Development Permit applications).

Figure 2.1: Process Alignment for Planning Act and Non-Planning Act Applications

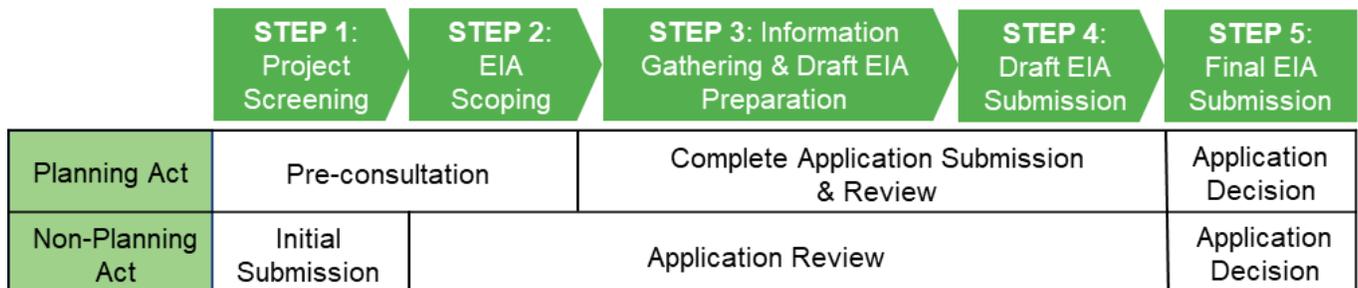
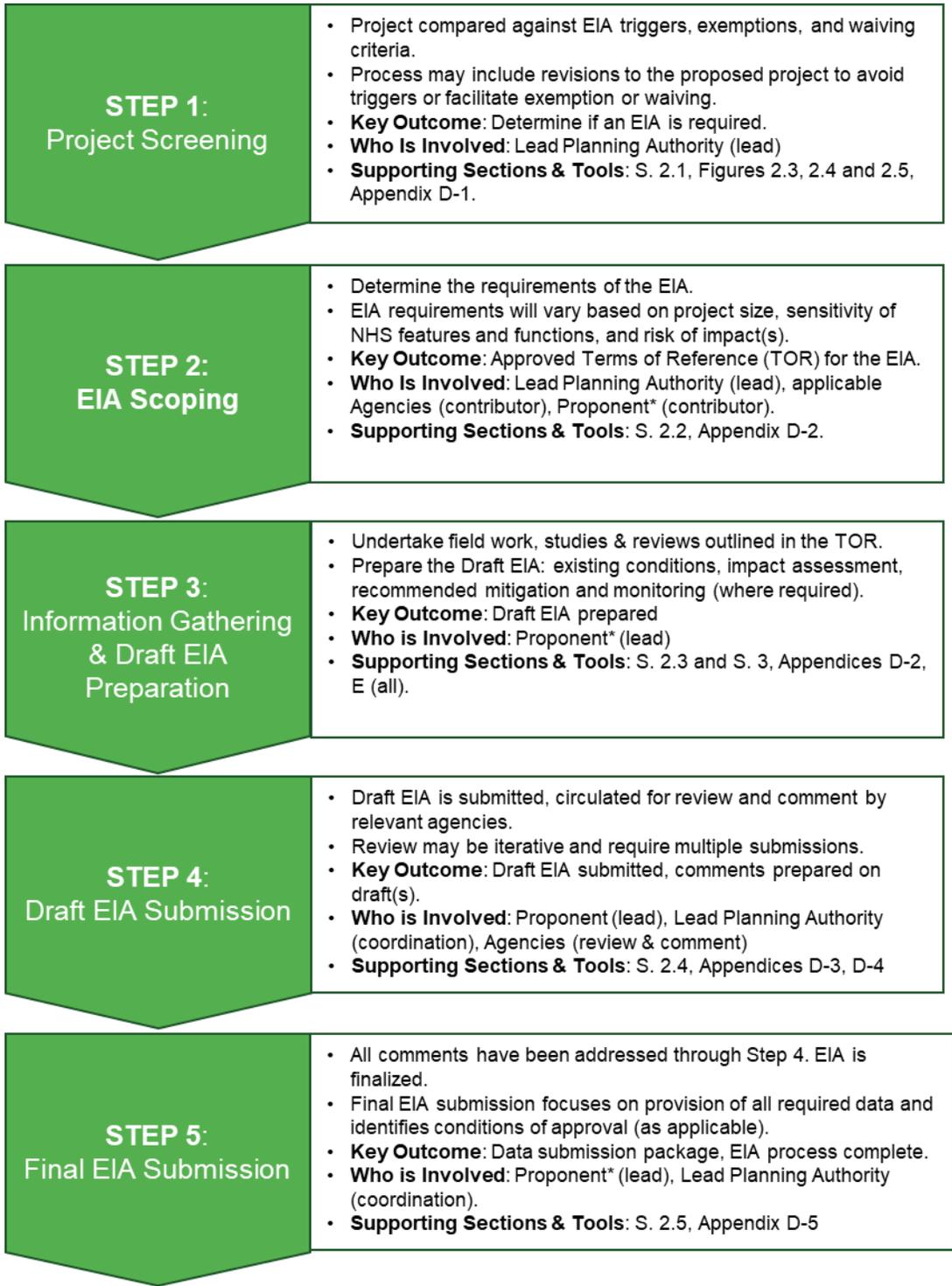


Figure 2.2: EIA Process Overview



* Proponent may delegate to a qualified EIA practitioner, or similar.

2.1 Step 1 | Project Screening

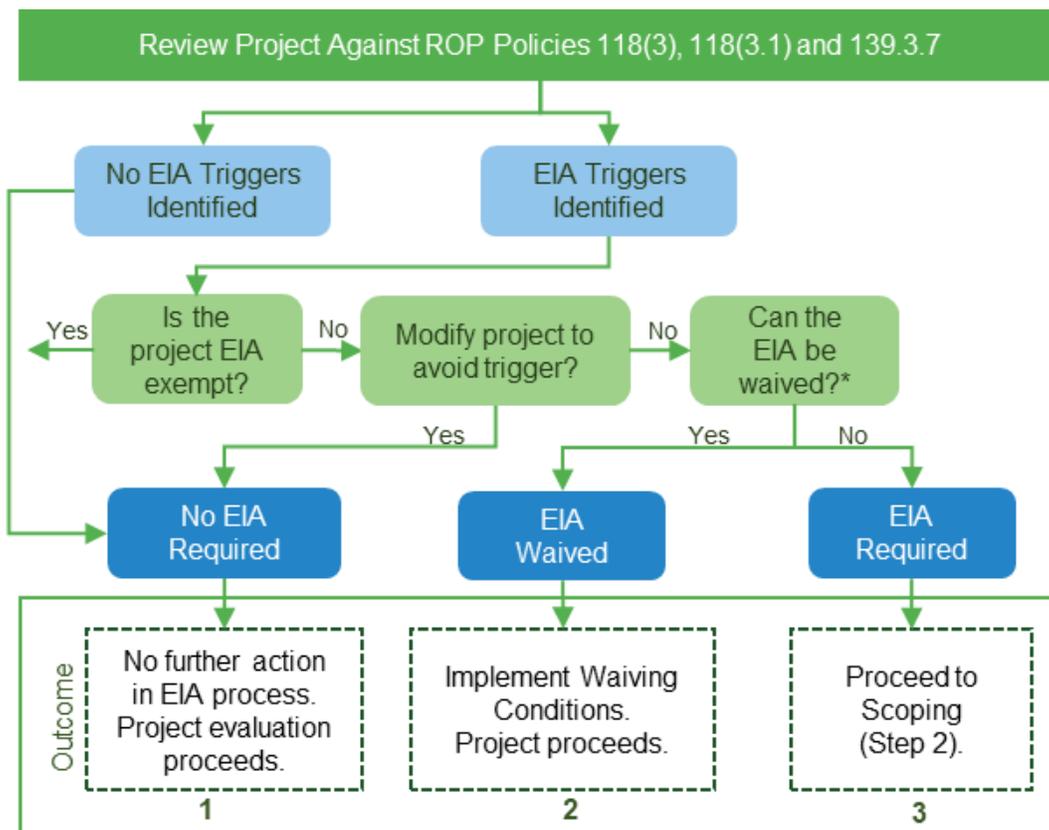
The first step is determining whether an EIA is required. Project screening should occur through pre-consultation (Planning Act applications) or, where no formal pre-consultation is required (non-Planning Act application), at the time of initial application submission (**Figure 2.1**). *Site alteration* projects and *development* permit applications under the Niagara Escarpment Plan are examples of application processes which do not require mandatory pre-consultation.

Project screening may involve agencies affected by the proposal in addition to the *Lead Planning Authority*. Generally, this occurs where other agencies have applicable natural heritage protection policies, or where an agency has been designated to provide technical review (e.g., on behalf of the *Lead Planning Authority*). The *Lead Planning Authority* shall coordinate input, as appropriate, to ensure all relevant policies and requirements are met through the One-Study approach to impact assessment.

Projects may not be required to proceed past **Step 1: Project Screening**. It is through this initial step that EIA triggers are assessed to avoid triggers, apply project exemptions and opportunities to waive the EIA requirement are considered. The screening process is shown in **Figure 2.3** and is outlined in the sections below.

Note: proceeding through the EIA process does not indicate, imply or guarantee that a project will be supported and / or approved. Projects with high risk of not being supported should be identified through Project Screening (Step 1) and discussed with the proponent.

Figure 2.3: Project Screening Process



*Waiving may be achieved through plan modification.

2.1.1 EIA Triggers and Exemptions

The *Lead Planning Authority* screens the project against ROP policies to determine if an EIA is triggered and, if triggered, whether the project is exempt from the EIA requirement. Where pre-consultation is required for *development* and *site alteration*, this will occur in consultation with Halton Region, the NEC and/or the applicable CA. EIA Triggers vary based on the component of the NHS (i.e., the Regional NHS, the Greenbelt NHS and the Growth Plan NHS) that the proposed *development* or *site alteration* occurs within / adjacent to. The applicable policies are provided below; **Figure 2.5** (*Agricultural Buildings*) and **Figure 2.4** (*Non-Agricultural Development and Site Alteration*) illustrate the EIA triggers. *Development* and *site alteration* should consider the policies of the most up to date Growth Plan. The Regional Official Plan policies applying to each component of the NHS are:

Regional Natural Heritage System

118 (3) *Require the proponent of any development or site alteration that meets the criteria set out in Section 118(3.1) to carry out an Environmental Impact Assessment (EIA), unless:*

- a) *the proponent can demonstrate to the satisfaction of the Region that the proposal is minor in scale and/or nature and does not warrant an EIA,*
- b) *it is a use conforming to the Local Official Plan and permitted by Local Zoning By-laws;*
- c) *it is a use requiring only an amendment to the Local Zoning By-law and is exempt from this requirement by the Local Official Plan; or*
- d) *exempt or modified by specific policies of this Plan.*

The purpose of an EIA is to demonstrate that the proposed development or site alteration will result in no negative impacts to that portion of the Regional Natural Heritage System or unmapped Key Features affected by the development or site alteration by identifying components of the Regional Natural Heritage System as listed in Section 115.3 and their associated ecological functions and assessing the potential environmental impacts, requirements for impact avoidance and mitigation measures, and opportunities for enhancement. The EIA, shall, as a first step, identify Key Features on or near the subject site that are not mapped on Map 1G.

118 (3.1) *Set the criteria for the requirement of an EIA for proposed developments and site alterations as follows:*

- a) *agricultural buildings with a footprint not exceeding 1,000 sq. m or single detached dwellings on existing lots and their incidental uses that are located wholly or partially inside or within 30 m of any Key Feature of the Regional Natural Heritage System other than those areas where the only Key Feature is a significant earth science area of natural and scientific interest; if the proposed buildings or structures are located entirely within the boundary of an existing farm building cluster surrounded by woodlands, no EIA is required as long as there is no tree removal within the woodlands;*
- b) *agricultural buildings with a footprint over 1,000 sq. m that are located wholly or partially inside or within 30m of the Regional Natural Heritage System; and*

- c) *all other developments or site alterations, including public works, that are located wholly or partially inside or within 120m of the Regional Natural Heritage System.*

Greenbelt Natural Heritage System

139.3.7(4) *[It is the policy of the Region to:] Require the proponent of any development or site alteration, including public works, that is located wholly or partially within the Greenbelt Natural Heritage System or within 120m of a Key Feature to carry out an Environmental Impact Assessment (EIA). The EIA will identify a vegetation protection zone which:*

- a) *is of sufficient width to protect the Key Feature and its functions from the impacts of the proposed change and associated activities that may occur before, during, and after, construction, and where possible, restore or enhance the feature and/or its function; and*
- b) *is established to achieve and be maintained as natural self-sustaining vegetation.*

139.3.7(4.1) *Notwithstanding Section 139.3.7(4) for agriculture-related development or site alteration, the requirement for an EIA is reduced to within 30m of a Key Feature.*

139.3.7(6) *Notwithstanding Sections 139.3.7(4), 139.3.7(4.1) and 139.3.7(5), permit without the requirement of an EIA the expansion of existing agricultural buildings and structures, residential dwellings, and accessory uses to both, within Key Features, subject to the following being demonstrated to the satisfaction of the Region:*

- i. *there is no alternative and the expansion, alteration or establishment is directed away from the Key Features to the maximum extent possible;*
- ii. *the impact of the expansion or alteration on the Key Feature and its functions is minimized to the maximum extent possible; and,*
- iii. *sewage and water services as described in Section 101(1.3).*

2.1.2 Avoiding or Waiving the EIA Requirement

If an EIA is triggered and the project is not exempt, opportunities to avoid or waive shall be considered. **EIA avoidance** may be possible if a proponent modifies their proposal to avoid an EIA in consideration of the above trigger policies. **EIA waiving** may be possible if the impacts of the proposed works are minor in nature and can be addressed through implementing a combination of mitigation measures and conditions of approval without the need to undertake an EIA. The **Waiving Assessment Tool (Appendix D-1)** is used by the *Lead Planning Authority* (or their delegate or assign) to assist with this task and outlines key areas for consideration in the waiving process. Technical matters may be addressed through the waiving assessment, as required.

*A development or site alteration with no or very low risk of impact to the Region's NHS may be suitable for waiving of the EIA requirement as the impacts of the proposed works are likely minor and are readily mitigated through standard best management practices. These conditions imply that there is confidence that the no *negative impact* requirement is met. The **Waiving Assessment Tool (Appendix D-1)** is a decision-making and assessment tool that uses the expertise of technical and review staff to conduct a very scoped review of features and impact assessment to make this determination. Where there is confidence that the project meets the no *negative impact* requirement, it may have the EIA requirement waived; where the risks are greater, or additional information is required to inform the assessment, the EIA requirement is not waived. Waiving conditions may be identified and form a requirement of the waiving (e.g., mitigation measures, site plan changes).*

It is anticipated that the EIA process for most small-scale *development* and *site alteration* applications, including *agricultural building* applications, would conclude at this stage as a result of EIA avoidance and / or waiving. Should the project not be exempt, and avoidance or waiving is not possible, the EIA requirement is confirmed; these projects then proceed to Step 2 of the EIA process.

Avoiding or waiving the requirement for an EIA may be conditional on the proposed *development* or *site alteration* incorporating specific provisions to avoid or minimize environmental impacts, such as modifications to the project and / or mitigation measures (e.g., *tree* protection fencing, *buffers*, etc.).

Any substantive revisions to the project or plan may require that the project is re-screened to ensure that it continues to meet the requirements for avoidance or waiving of the requirement for an EIA.

Note: Avoiding or waiving the EIA requirement (per above) **does not** remove or replace other permits or approvals as may be applicable to the proposed *development* or *site alteration* (e.g., Conservation authority permit).

2.1.2.1 Supporting Materials and Information

The following information may be required to assess the project against waiving criteria:

- A description of the proposed project (*development* or *site alteration*), including the nature and scale of the proposed *development* or *site alteration*. For agricultural projects, the intended proposed use shall be identified.
- An accurate site plan, drawn to scale, including dimensions and distances from the RNHS that shows the following:
 - Location and extent of the *development* or *site alteration*, including any building, grading, underground servicing, required site works (fencing, sidewalks, lighting) etc.;
 - Material storage or staging areas;
 - Roads, driveways and parking areas;
 - Amenity areas;
 - Wells and septic systems (current and proposed locations if applicable); and
 - Stormwater management facilities, including any outlets.

A site visit with the proponent, local municipality, Region and/or Conservation authority may be required to inform the screening process and will be coordinated by the *Lead Planning Authority*. The site visit must be completed by an individual with appropriate technical knowledge and expertise to characterize the *natural environment* (ecological features and functions, and hydrologic interactions) and experience in conducting and/or reviewing impact assessments. The *Lead Planning Authority* can consult the Region and / or CAs (or their delegates or assigns) to provide an appropriate individual to complete the site visit.

Figure 2.4: EIA Triggers for Non-Agricultural Projects

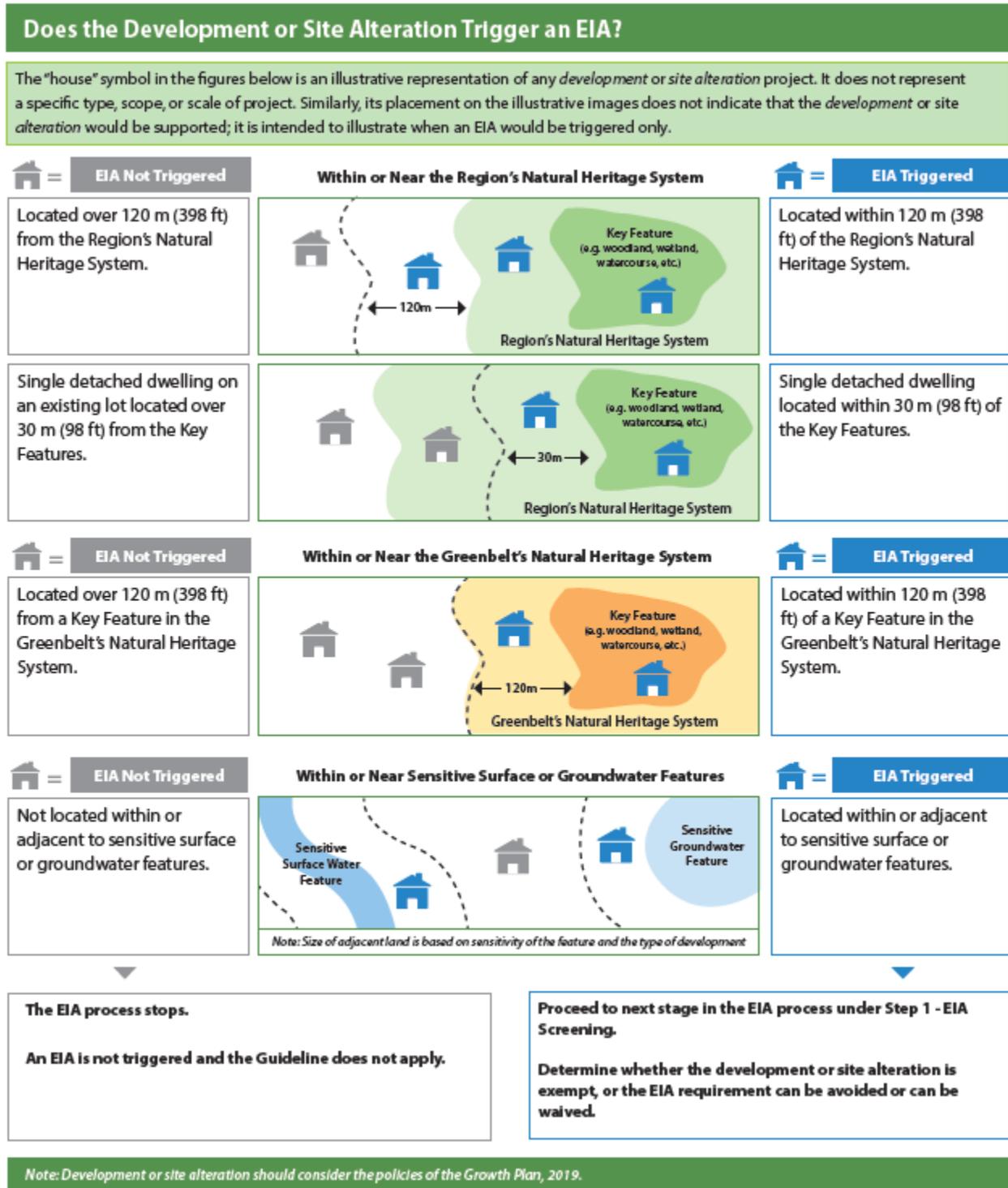
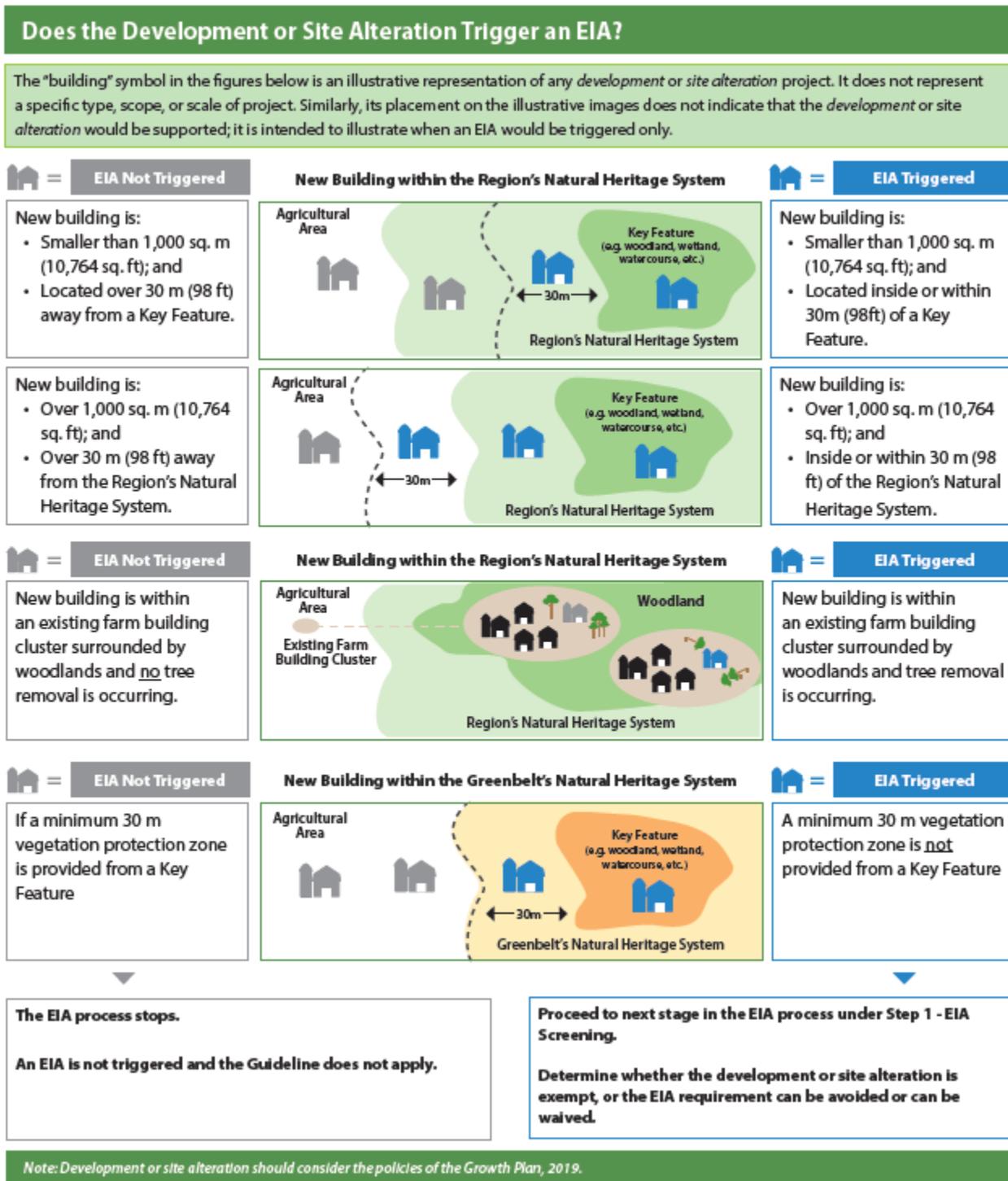


Figure 2.5: EIA Triggers for Agricultural Projects



2.2 Step 2 | Scoping the EIA

Scoping establishes the extent of work required for an EIA. Scoping occurs upon confirmation that an EIA is required and is concluded with the preparation of an approved Terms of Reference (TOR).

The scope of the EIA will depend on the scope and scale of the proposal, its relationship to adjacent land uses, and the type of planning approval required. The scope will be established on a site-by-site basis to identify the appropriate study requirements to address the *development* or *site alteration* proposed. Smaller scale *development* or *site alteration* proposals will be appropriately scoped to avoid placing an undue burden on the proponent.

The **Scoping and Terms of Reference Checklist (Appendix D-2)** is coordinated by the *Lead Planning Authority* (or delegate or assign) with input from other agencies, as appropriate. This checklist is used to document and provide initial direction with respect to the scope and scale of the EIA and is used by the proponent to inform the preparation of the TOR.

During the completion of the EIA, features and / or functions unanticipated during the scoping exercise may be identified. If this occurs, the proponent shall contact the *Lead Planning Authority* and review agency as soon as possible to discuss potential policy implications and determine if additional studies may be required.

A site visit may be required to facilitate scoping of the EIA.

2.1.3 Submission and Approval of Terms of Reference

Based on the **Scoping and Terms of Reference Checklist (Appendix D-2)** and in the context of the natural heritage features and functions present and the proposed project, the proponent will submit a draft TOR for the EIA to the *Lead Planning Authority*. Collection and detailed review of available background and secondary source information shall be completed to support the development of the TOR. The *Lead Planning Authority* will review the TOR with other involved agencies, as appropriate, and identify any modifications required. Iterative submission and review of the draft TOR may be necessary to achieve a TOR that is acceptable to all parties. The *Lead Planning Authority*, in consultation with the review agencies, as established through the One-Study process, will provide final approval of the TOR for the EIA. Upon approval, the proponent may formally proceed to undertake the EIA.

Most EIAs will require season-specific field studies (e.g., amphibian or breeding bird surveys). Where timing of the TOR approval process could result in missing a field season, delaying the project schedule, the proponent may choose to conduct these studies adhering to accepted field methods and survey periods prior to receiving final approval of the TOR. The proponent shall confirm the proposed surveys and methods with the appropriate agency in advance of undertaking them.

2.2.1 Agricultural Buildings

Where a proposed agricultural building requires the completion of an EIA, Halton Region will assist in developing an appropriate study scope and study area based on the project and site-specific conditions. The Region may provide financial or in-kind support in completing the scoped EIA. The level of support will be determined on a case by case basis by Halton staff. Component(s) of the EIA eligible for in-kind or financial support will be determined following approval of the TOR.

In-kind services that may be provided by the Region, as staffing capacity and expertise allows, include:

- Undertake background information review to identify known locations of *key features* of the NHS on and adjacent to the proponent's property.
- Prepare mapping in accordance with scoped EIA TOR.

- Obtain Ecological Land Classification (ELC) mapping for the subject property (where available) and / or undertake desktop ELC mapping.
- Coordinate a site visit with other relevant review agencies to advise the proponent on building locations that would avoid triggering the requirement to complete an EIA or avoid or minimize impacts to the NHS such that the scope of study is reduced.
- Undertake staking and/or survey of *key features* of the RNHS or the disturbance envelope associated with the proposed building in consultation with other review agencies to inform and verify study/*buffer* requirements.
- Coordinate communication / input from other agencies such as the Conservation authority or Ministry of Environment Conservation and Parks to ensure their policy requirements are addressed expeditiously.

2.3 Step 3 | Information Gathering & Draft EIA Preparation

Following the approval of the TOR, the information gathering phase is initiated. The information gathering phase includes further review and additional collection of background and secondary source information sources where additional sourced are identified, undertaking the field program, completion and review of studies that inform the EIA (e.g., stormwater, hydrogeological, etc.). Completion of analyses (e.g., significance assessments) will generally occur during and after completion of the information gathering phase, as appropriate.

When all data collection and analysis is completed, the draft EIA shall be prepared by the proponent in accordance with the approved TOR. The EIA will be considered draft until the *Lead Planning Authority* and relevant agencies' comments have been addressed to the satisfaction of the approval agencies (as applicable).

2.4 Step 4 | Draft EIA Submission

The EIA shall be submitted as part of a complete application. The *Lead Planning Authority* will use the **EIA Submission Checklist (Appendix D-3)** to confirm that the EIA meets submission requirements and has been prepared in accordance with an approved TOR. If the submitted draft EIA does not meet the submission standards or was not prepared in accordance with the approved TOR, the *Lead Planning Authority* may return the submission to the proponent. The identified deficiencies must be addressed, and the EIA re-submitted prior to the initiation of the review process.

The *Lead Planning Authority* will coordinate review of, and comments on, the EIA and will liaise with the proponent. Commenting agencies in conjunction with the *Lead Planning Authority*, if applicable, will consider how the EIA demonstrates compliance with applicable Federal, Provincial and Regional policy and legislation related to environmental protection.

The *Lead Planning Authority* or other planning approval authorities / agencies may require that the proponent attend a meeting to discuss the EIA.

Review of the EIA is often an iterative process. Based on the nature and extent of comments, a re-submission(s) of the EIA, addenda, or alterations to the site plan may be required to address key issues and comments identified by the approval and commenting agencies (as appropriate). Ensuring a complete and high quality draft EIA will assist in reducing the total review process timeline.

2.4.1 Comment and Response Matrix Template

A **Comment and Response Matrix** is provided in **Appendix D-4**. Approval, review agencies and proponents are encouraged to use this, or a similar comment matrix to manage the review process.

Proponents are required to provide a cover letter documenting how agency comments on the EIA have been addressed. The **Comment and Response Matrix**, or a comparable comment response matrix, is to be used to track comment responses.

2.5 Step 5 | Final EIA & Data Package Submission

The EIA is considered final when all substantive and all technical comments have been addressed to the satisfaction of the approval agencies². **The *Lead Planning Authority*, in consultation with the other relevant agencies, will provide approval of the EIA to the proponent.**

The *Lead Planning Authority* will consider the final EIA in preparing comments on the *development* or *site alteration* proposal. Proponents should note that while an approved EIA is a pre-condition for *development* or *site alteration* approval, an approved EIA does not secure or guarantee the approval of a *development* or *site alteration* application. It should also be noted that entering the EIA process does not imply or guarantee that an EIA will be approved, or a project supported.

Proponents shall note the ROP policy requirement regarding an approved EIA:

- 118(4) Require that the recommendations of an Environmental Impact Assessment, including the placement of *lot* lines and structures, carried out under Section 118(3) and endorsed by the *Region* be implemented through official plan amendments, zoning by-laws, site plan control, conditions of planning approval or regulations by the appropriate authority.

The proponent is required to submit a data package upon approval of the EIA, which includes:

- The approved EIA report with any associated addenda;
- A revised *development* or *site alteration* proposal (if required) and/or a table that identifies how the final EIA recommendations will be implemented;
- GIS data package;
- Survey results tables; and
- Survey Datasheets.

The **Final EIA Submission Package Checklist (Appendix D-5)** outlines the requirements of the final EIA and data package to be submitted by proponents. A complete data package must be provided for the final submission of the EIA to be considered complete.

² Refer to roles and responsibilities (**Section 1.7**) for information on areas of jurisdiction for agencies that may be involved in the EIA process.

3.0 EIA Content

The following sections outline the structure and content of a typical EIA. This outline shall be interpreted as the minimum standard for content in an EIA. The actual fieldwork, supporting studies and content required for an EIA will be determined on a case-by-case basis through scoping and confirmed through the approval of the Terms of Reference (TOR) for the EIA.

3.1 Introduction

The introduction to the EIA shall:

- a) Briefly describe the site location, existing land uses on the site and surrounding area;
- b) Briefly describe the proposed *development* or *site alteration*;
- c) Define the study area boundary and the rationale for the extent of the study;
- d) Identify why an EIA is required for the proposed *development* or *site alteration* (i.e. the ROP policy requirement and the portion of the NHS triggering the EIA); and
- e) Describe the scoped issues and tasks required for the EIA based on the approved TOR and if applicable, a description of any previous pre-consultation meetings, agency meetings or site visits (the approved TOR shall be included as an appendix to the EIA);

3.2 Planning Context

Briefly describe the natural heritage planning context for the proposed project, if applicable:

- a) Clearly identify current Provincial legislation, regulations, plans and policies which apply to the subject site, such as but not limited to:
 - Federal *Fisheries Act*, 1985, and associated regulations;
 - Federal *Species at Risk Act*, 2002, and associated regulations and recovery documents;
 - Provincial *Endangered Species Act*, 2007, and associated regulations, recovery strategies and government response statements;
 - Provincial Policy Statement (2014);
 - A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)
 - Greenbelt Plan (2017) and Technical Papers;
 - Niagara Escarpment Plan (2017);
 - Conservation authority regulations and policies;
 - Regional Official Plan policies; and
 - Official Plan policies of lower tier municipalities.
- b) Identify the current land use designations and zoning;
- c) Identify the proposed land use designation and zoning to support proposed *development* or *site alteration*.
- d) List consultation undertaken as part of the project:
 - Agencies (e.g. MECP, MNRF, DFO, Conservation authority); and
 - Public or stakeholder groups (if any) (record of consultation shall be included as an appendix to the EIA).

3.3 Methods

Describe the methodology through which information about the biophysical attributes of the study area was obtained. This shall include:

- a) Identify all applicable guidelines and technical documents used to inform the EIA, including, but not limited to:
 - Natural Heritage Reference Manual Second Edition (Ministry of Natural Resources and Forestry, OMNR 2010);
 - Significant Wildlife Habitat Technical Guide (OMNR 2000);

- Significant Wildlife Habitat Mitigation Support Tool (2014);
 - Significant Wildlife Habitat Ecoregion Criteria Schedules (MNR 2015); and
 - Conservation authority guidelines.
- b) Background Review:
- List relevant natural heritage information secondary sources (e.g., species atlases, databases) (see **Appendix F-1** for a list of potential background sources);
 - List relevant existing studies, plans, etc., (as applicable); and
 - Identify data gaps.
- c) Field Survey & Analyses:
- Provide a detailed description of field methods used (e.g. survey protocols, classification systems, species checklists, etc.); and
 - List and describe analysis methods used (e.g., method of assessing woodland significance).

Methodology for field investigations shall follow accepted or approved processes / protocols. For a list of recommended methods and protocols, see **Appendix E-2**. It is noted that methods and practices may change over time and methods other than those presented in **Appendix E-2** may be recommended by an EIA practitioner with supporting rationale and justification; alternate methods must be approved through the TOR review and approval process as outlined in **Section 2.1.3**. The level of effort and extent of field surveys shall be determined through scoping with Regional staff and any other relevant agencies and detailed in the approved TOR.

3.4 Biophysical Inventory

The biophysical inventory shall include a thorough description of existing conditions in the study area based on background information and field surveys.

- a) The existing conditions described shall include, but not necessarily be limited to:
- Summary of surveys conducted: Survey type, date(s), start / finish time, weather conditions (as applicable), surveyors (personnel involved in undertaking field work)³;
 - Physiography (topography, soils, bedrock);
 - Surface water and *ground water features*;
 - *Fish* and aquatic habitat;
 - Vegetation (vegetation communities⁴, vegetation inventory, provincially, regionally and locally rare plant species);
 - Wildlife (e.g. breeding birds, amphibians, reptiles and other wildlife);
 - *Significant Wildlife Habitat* (to be screened for using the appropriate MNR criteria schedules);
 - Species at Risk (SAR) and SAR habitat;
 - Wetlands;
 - Valleylands;
 - *Watercourses*;
 - *Floodplains*;
 - *Significant Woodlands*;
 - Ground water recharge/discharge areas;
 - *Areas of natural and scientific interest* (ANSI); and
 - Any other NHS components (including *Key Features*, *Buffers*, *Linkages*, and *Enhancement Areas*).

³ This may be included as a table within the main document body or included as an appendix with general text and a reference to the appropriate appendix in the main document body.

⁴ Vegetation communities are to be described and classified in accordance with the Ecological Land Classification for Southern Ontario (Lee et al. 1998), or other classification system available at the time of preparation and pre-approved by the appropriate approval agency through preparation of the TOR.

- b) The biophysical inventory shall include all natural heritage features and functions present on the subject property, adjacent lands and within areas as defined by the agreed upon boundary of the study area(s) as determined through the TOR. Data sources (i.e., data from agencies and previous studies vs data collected in the field) should be clearly indicated.
- c) Clearly identify known existing designations (e.g., ANSI, etc.).
- d) Integrate relevant information from other studies (e.g., geotechnical, geomorphological, etc.), as appropriate.
- e) Prepare report figures that clearly and accurately show the location of natural features and, where possible, natural functions, overlaid on recent aerial photography (or satellite imagery) of the subject property. **Appendix E-1** lists sources for some of the natural heritage features and other information that should be illustrated on report figures.

Note: Data tables in excel format and ESRI compatible GIS files are to be submitted as part of the final EIA submission package. Refer to the **Final EIA Submission Checklist (Appendix D-5)** for submission requirements. Provision of this information may be a condition of approval.

3.4.1 Species at Risk (SAR)

The EIA forms a comprehensive impact assessment process and is to include SAR; survey methods, observations, habitat, impacts and any required mitigation and/or authorization associated with SAR are to be documented in the EIA.

Consultation with MECP may be required with respect to survey methods, species presence / absence determinations, habitat delineation, potential impacts and any resultant mitigation, registration, authorization or permitting under the ESA (2007) and amendments or successor legislation. Any applicable correspondence with MECP shall be appended to the EIA.

The Region defers to the MECP for decisions with respect to the ESA (2007). The Region's role is to ensure that *development* or *site alteration* is in compliance with Regional policy, which includes consideration of the habitat of *Endangered and Threatened species*. In this capacity, the Region shall ensure that compliance with the ESA (2007) is demonstrated in the EIA (e.g., demonstration of no presence, and/or include outcome of consultation with MECP and / or up to permitting).

Note: Where project reports will become part of the public record, a separate report which removes or generalizes sensitive information with respect to SAR will be required. This may include complete removal of location references, generalization of locations to the Natural Heritage Information Centre's 1 km² grid mapping open polygons, etc. Decisions with respect to data sensitivity will be made on a case-by-base basis in consultation with MECP.

3.5 Biophysical Analysis

The biophysical analysis shall identify the significance of the natural heritage features and functions present on the subject site, and identify *linkages* and enhancement opportunities. If applicable, this may include recommendations for the inclusion of features in the RNHS. The biophysical analysis shall, at a minimum:

- a) Assess the significance of all features found on the subject property and within the study area that may influence the proposed *development* or *site alteration*. Assessment of significance is to be done in accordance with applicable provincial guidance documents, in-force ROP policies, or other relevant policies, guidelines or guidance documents, as applicable;

- b) Delineate the precise boundaries of *Key Features* of the RNHS, the GBNHS, and/or the GPNHS, as applicable (**Section 3.5.1**).
- c) Apply a *systems approach* that considers the features and function(s) of *Key Features*, the importance of protecting and enhancing ecological features, *ecological functions* and ecological interactions in the environment to delineate the RNHS (**Section 3.5.2**), including:
 - Assessment and identification of *linkages* (site / local, regional);
 - Identification of enhancement opportunities; and
 - Assessment and recommendation of appropriate *buffers*.
- d) Prepare figure(s) showing constraints to *development* or *site alteration* based on the results of the Biophysical Inventory and Biophysical Analysis. These figures must establish the boundary of the Region's NHS and identify other areas for protection and restoration that collectively provide long term protection of natural habitats and native biodiversity.
- e) Outcomes from consultation(s) and/or processes with agencies (e.g., DFO, MECP, MNRF, and the Conservation authority) should be discussed here. A record of consultation shall be provided as an appendix to the EIA.

3.5.1 Delineation and Refinement of Key Features

Limits of *Key Features* are to be confirmed in consultation with Halton Region and other regulatory agencies (e.g., Conservation authority, MNRF, MECP), as applicable to the features being delineated. Features requiring delineation and / or review in-field with appropriate agencies or a site visit to review the staked feature limits may include:

- Woodland(s);
- Wetland(s);
- Stable or physical top of bank;
- *Significant Wildlife Habitat*; and / or
- Habitat for *Endangered or Threatened Species*.

Feature limits will generally be flagged or staked and confirmed in the field and surveyed to a sub-meter level of accuracy. This accuracy requirement may be waived for small projects on a case-by-base basis (e.g., *single detached dwelling*), allowing for alternative methods of delineation, as appropriate; waiving of the requirement must be confirmed with the Region. Digital dataset(s) (i.e., georeferenced CAD or GIS dataset(s), NAD83, UTM Zone 17N) of the confirmed feature limits are to be provided to the Region and/or other agencies as appropriate as part of the final EIA submission package.

Delineation and refinement of *Key Features* is to be completed in consideration of applicable definitions, plans, policies and guidelines for the feature type to ensure the appropriate criteria are applied. Criteria may apply to defining the limit of a feature and/or definitions of significance. Significance criteria met or satisfied will vary based on planning context and site-specific conditions and shall also be considered, as appropriate, through this analysis.

3.5.1.1 Key Features of the Regional Natural Heritage System

Delineation or refinement of *Key Features* will be based on accepted standard protocols and methodologies (e.g. *wetland* limit flagging and survey using the Ontario Wetland Evaluation System (OWES) for Southern Ontario, *woodland* dripline, habitat descriptions or regulations for *endangered or threatened species*, etc.).

3.5.1.2 Key Features of the Greenbelt Natural Heritage System

Refinements to the boundaries of the *Key Features* within the GBNHS may be considered. Where such refinements are considered, they will be undertaken in accordance with the technical guidance provided in the *Greenbelt Plan Technical Paper 1: Technical Definitions and Criteria for Key Natural Heritage Features in the Natural Heritage System of the Protected Countryside Area*.

3.5.1.3 Key Features of the Growth Plan Natural Heritage System

Refinements to the boundaries of the *Key Features* within the GPNHS may be considered. Delineation or refinement of *Key Features* will be done using accepted standard protocols and methodologies (e.g. *wetland* limit flagging and survey using OWES, *woodland* dripline, habitat descriptions or regulations for *endangered or threatened species*, etc.), as appropriate.

3.5.2 Delineation and Refinement of Natural Heritage System Boundary

3.5.2.1 Regional Natural Heritage System Boundary

The Regional Natural Heritage System (RNHS) boundary shown on Map 1 of the ROP (**Appendix F**) is based on geospatial data available for the individual components of the RNHS at the time of plan preparation. As additional features are identified and/or mapping becomes available for previously unmapped features, refinements to the boundary may be possible. More precise delineation of the RNHS boundary for the Subject Property and/or Study Area of an EIA will be required based on field investigations. Delineation of the RNHS boundary includes:

- Core areas (e.g., PSWs, *unevaluated wetlands*, ANSIs)
- *Linkages*;
- *Enhancements to Key Features*; and
- *Buffers*.

3.5.2.2 Greenbelt Natural Heritage System Boundary

Refinements to the boundaries of the Greenbelt Natural Heritage System (GBNHS) are not permitted unless as a result of amendments to the *Greenbelt Plan*.

3.5.2.3 Growth Plan Natural Heritage System Boundary

Refinements to the boundaries of the Growth Plan Natural Heritage System (GNHS) are not permitted unless as a result of a *Municipal Comprehensive Review*.

3.5.3 Developing Buffer, Linkage and Enhancement Recommendations

3.5.3.1 Regional Natural Heritage System

In all cases, the EIA must identify appropriate *buffers* to protect *key features* and their functions, *linkages* to maintain connectivity between *key features*, as appropriate, and consider opportunities to enhance the RNHS.

The Sustainable Halton Report 3.02 (Natural Heritage System Definition & Implementation; North-South Environmental Inc. 2009) provides direction regarding best practices with respect to *linkages*, enhancement areas and *buffers*. It includes recommended minimum widths for local and regional *linkages* and recommended size thresholds to guide delineation of *Enhancements to Key Features*. This report and/or current best practices and 'state-of-the-science' systems-based approach(es) are to be used to inform assessment and recommendation of *buffers*, *linkages* (e.g., target species or groups, width, design) and delineation of *Enhancements to Key Features*.

Buffer recommendations are to take into consideration the following:

- Sensitivity and significance of the *Key Feature*;
- Sensitivity and significance of species utilizing the *Key Feature* for important life cycle functions;
- Habitat requirements of species utilizing the *Key Feature*;
- Proposed land use(s) and risk(s) of potential impact(s) to the *Key Feature* and/or the RNHS;
- Land use context (i.e., surrounding land uses and existing form); and
- Current best practices and science-based evidence to support recommended *buffer widths*.

3.5.3.2 Greenbelt Natural Heritage System

In all cases, the EIA must identify a *Vegetation Protection Zone (VPZ)* to protect *Key Features* in accordance with policies 139.7(4) and 139.3.7(5) of the ROP. The Greenbelt Plan identifies minimum VPZ requirements that must be considered through the EIA.

Linkages between and *enhancements to key features* shall be considered in the context of the mapped GBNHS and applicable policies of the Plan and the ROP.

3.5.3.3 Growth Plan Natural Heritage System

Municipalities are to ‘*apply appropriate policies to maintain, restore, or enhance the diversity and connectivity of the system and the long-term ecological or hydrological functions of the features and areas*’ (S. 4.2.2[2], A Place to Grow, Growth Plan for the Greater Golden Horseshoe, 2019).

In all cases, the EIA must identify a *Vegetation Protection Zone (VPZ)* to protect *Key Features* in accordance with the policies of the Plan. The Growth Plan identifies minimum VPZ requirements that must be considered through the EIA.

Linkages between and *enhancements to key features* shall be considered in the context of the mapped GPNHS and applicable policies of the Plan and the ROP.

3.6 Description of Proposed Development or Site Alteration

It is important to provide an adequate description of the proposed *development* or *site alteration* to facilitate review of the impact assessment (**Section 3.6**) and decision making on the outcomes of the EIA by approval and review agencies.

In the context of the study area, a description of the proposed *development* or *site alteration*, shall be provided including:

- a) Overview / summary of any iterative design process(es) up to and including alternative proposals considered that demonstrate efforts to avoid or minimize impacts. Rationale for the chosen option shall be provided.
- b) The proposed site plan accurately overlaid (i.e. georeferenced, NAD 83, Zone 17N) on recent aerial photography (orthoimagery) of the subject property. This should show (as applicable to the project):
 - a. Subject lands boundary / property limit;
 - b. *Development* or *site alteration* footprint (limits of grading or other works);
 - c. Lot lines / fabric;
 - d. Roads (new or improvements to existing);
 - e. Servicing (e.g., easements, alignments, etc.);
 - f. Stormwater facilities and outlets;
 - g. Land use(s) (e.g., low, medium, high density residential, commercial, etc.);
 - h. Open space and parks;
 - i. Trails;

- j. Proposed *buffers*, *linkages* and/or enhancement areas⁵;
 - k. Setbacks (e.g., from Top of Bank)
 - l. *Key Features* and the RNHS;
 - m. Other features to be retained, as applicable.
- c) Phasing and timing of *development* or *site alteration* (if any / known);
- d) Relevant information integrated from other studies in describing the proposed *development* or *site alteration*, as appropriate.

3.7 Impact Assessment, Mitigation and Residual Impacts

The impact assessment, identification of mitigation strategies and consideration of residual impacts are interrelated. As such, it is recommended that these be considered as linked components with descriptions and / or key outcomes presented in a cumulative table presenting all three components. The **Impact Assessment, Mitigation Measures and Residual Impacts Table** contained in **Appendix E-3** provides an example template. Note that detailed descriptions of some items that will be repeated through the table (e.g., mitigation measures) may be best described in text and listed in the table to reduce total length and improve readability.

3.7.1 Impact Assessment

The impact assessment section is intended to predict, based on best available information, the environmental consequences (positive or negative) that may result from the proposed *development* or *site alteration*. This is undertaken based on the understanding of the *natural environment* and the proposed *development* or *site alteration* developed through the preceding sections. The EIA must consider the impacts in the context of the significance and sensitivity of natural features and functions present.

Impacts are to be quantified wherever possible (e.g., area(s) of vegetation removed by vegetation type and / or feature). This may include integration of data and analyses from other reports to inform the assessment of ecological / environmental impacts (e.g., pre- and post- water balance for the subject property, wetland(s), or *watercourse*(s)). All conclusions (impact or 'no impact') shall be science-based and defensible and include evidence to support the conclusion (e.g., empirical evidence, references, etc.).

As noted, a table format is the preferred approach for the impact assessment and is to be paired with figure(s) that overlay the proposed *development* or *site alteration* on the outcomes of the biophysical inventory and analyses to facilitate the assessment and analysis. The impact assessment is to address the following minimum requirements:

- a) All *significant* features, functions and areas are listed and assessed for anticipated and potential impact(s);
- b) Identify all anticipated and potential impacts (a list of potential environmental impacts is contained in **Appendix E-4**). The impacts shall consider, at a minimum, the following activities and aspects of *development* or *site alteration*, where applicable:
 - Earth works, grade alterations, stockpiling;
 - Equipment storage, maintenance and refueling;
 - Servicing (linear *infrastructure* alignments, features crossings, maintenance, etc.);
 - Stormwater management, including pond locations, thermal impacts, outlets, and maintenance,;

⁵ Buffer and *linkage* widths (in meters) and area of Enhancement Areas (in hectares) should be indicated on the plan.

- Roads and transportation, including temporary construction access and *watercourse* crossings and permanent *infrastructure*, maintenance and use impacts;
 - Form, type and density of proposed *development* including lot limits and layouts, trails and recreation, parks, open space.
- c) Impacts are to be assessed in terms of:
- Likelihood of occurrence;
 - Magnitude;
 - Geographic extent;
 - Timing (e.g., during sensitive biological periods / cycles); and
 - Duration.
- d) Impacts are to be identified in the following categories:
- Direct;
 - Indirect (including induced); and
 - Cumulative.

3.7.2 Mitigation

It is anticipated that opportunities to **avoid** (preferred) or **minimize** impacts have been explored and integrated, where feasible, in the preferred / proposed design. The remaining impacts (i.e. those presented in the impact assessment section) will be addressed through mitigation (least preferred). Mitigation strategies are intended to address or minimize the anticipated and potential impacts such that there is ‘no *negative impact*’ resulting from the *development* or *site alteration*. **It is important to note that compensation for feature removal or anticipated *negative impacts* is not acceptable under the ROP.**

The EIA shall present the overall mitigation strategy (e.g. low impact *development*), as applicable, and describe each recommended mitigation measure. The anticipated efficacy of the mitigation strategy and individual mitigation measure(s) in maintaining the health, features and function of natural features and in reducing or eliminating potential impacts on the RNHS shall be discussed. Where appropriate (e.g., for non-standard approaches), figures and diagrams that illustrate proposed mitigation measures and detailed methods that provide direction for implementation are to be included. As new strategies and methods for the mitigation of *development* or *site alteration* impacts can be expected to continuously emerge, proponents should refer to and cite current and / or emerging approaches, best practices, etc. Efficacy and/or examples of successful use of proposed measures is to be explored where not a currently accepted ‘best practice’.

A list of potential mitigation measures is provided in **Appendix E-5**; however, the list is not to be considered exhaustive or prescriptive and mitigation measures other than those included in the table can be presented for consideration.

As noted in **Section 3.7** it is recommended that proposed mitigation measures be documented in table format with anticipated and potential impacts to facilitate review of how the proposed mitigation will address identified impacts. An example / template is provided in **Appendix E-3**.

3.7.3 Residual Impacts

Residual impacts represent those impacts that cannot be fully addressed through implementation of the proposed mitigation measures and strategy. Generally, these may include items such as some occupancy-related impacts, introduction of invasive species, etc. The scope, scale and magnitude of residual impacts should be discussed.

As noted in **Section 3.7** it is recommended that the residual impacts be documented in table format with anticipated and potential impacts to facilitate review of how the proposed mitigation will address identified impacts. An example / template is provided in **Appendix E-3**. The EIA must demonstrate that these residual impacts are not *negative impacts* per its definition.

3.8 Enhancement Opportunities

Enhancements are identified as opportunities that go beyond mitigating impacts, contributing to the long-term protection of the RNHS. Enhancement opportunities have the objective of increasing the *ecological integrity* and resilience of existing natural features and functions of the RNHS.

Enhancement opportunities can range in scope and scale and may include, for example:

- Enhanced *buffer* design(s) that support existing or increase habitat features and/or diversity;
- Areas for enhancement / restoration (from small to large) that:
 - Support or increase habitat features and/or diversity;
 - Link or join fragmented natural features to form larger core areas in order to create habitat for area sensitive species; and
 - Reduce edge-to-interior ratio of natural features;
- Activities that assist in removal and management of invasive species;
- Protection and restoration of areas that will increase the width of ecological corridors; and
- Protection and restoration of water catchment areas for *wetlands*; and
- Moving existing *infrastructure*, trails, etc. to reduce existing impacts and risks.

For new or expanded Mineral Resource Extraction Areas outside the Niagara Escarpment Plan area where the proponent has demonstrated “*no negative impact*” to the features and functions of the RNHS in accordance with Provincial and Regional policies; the Region may consider a “net environmental gain” approach to the preservation and enhancement of the RNHS, based on the principles outlined in ROP policy 110(7.2).

3.9 Policy Assessment

Based on the preceding sections of the EIA (i.e., Biophysical Inventory, Analysis, Impact Assessment, Mitigation and Residual Impacts, and Enhancement Opportunities), assess and provide an opinion as to the ability of the *development* or *site alteration* proposal to conform to the applicable legislation, plans, policies and guidelines identified in **Section 3.2**.

This section includes an assessment of the proposed *development* or *site alteration* against the ‘no *negative impact*’ test set out in the PPS, 2020 and the ROP.

3.10 Monitoring Plan

A monitoring plan, where required, is intended to assess the implementation and efficacy of mitigation measures. The requirement for and preliminary scope of a monitoring plan is established through **Step 2 – Scoping the EIA**. This preliminary scope may need to be revised to reflect the information presented in the EIA (i.e., feature sensitivity and significance, impact assessment, mitigation and residual impacts). The scope and extent of the monitoring plan should be prepared in consultation with Halton Region and other agencies, as appropriate.

Generally, the monitoring plan will include three phases for the project: pre-construction (i.e., pre-*development*), during-construction and post-construction⁶. It should include an environmental inspection plan to be conducted through all phases of *development* or *site alteration* outlining what is to

⁶ Typically, post-construction monitoring is considered to be initiated at 90% build-out or 90% completion of the construction activities.

be monitored, the frequency of monitoring, a reporting schedule and protocols that will ensure protection of natural features and functions, ceasing works temporarily until suitable mitigation measures are identified and implemented, rectifying the causes of environmental damage, and restoring areas that have been impacted by construction activities.

The EIA should identify how the monitoring plan will be implemented (e.g. through site plan control, conditions of planning approval or regulations by the appropriate authority, etc.), in accordance with policy 118(4) of the ROP and detail any securities requirements or other measures needed to guarantee mitigation measures are successfully implemented.

3.11 Conclusions

The key findings of the report including biophysical inventory and analysis, assessment of impacts, impact avoidance measures, mitigation measures and opportunities for environmental enhancements shall be summarized. A summary table documenting all mitigation measures, enhancement opportunities, and monitoring requirements to be implemented through the proposed *development* and *site alteration* and detailing the timing for their implementation should be included. As applicable, recommended conditions of approval to ensure successful implementation should be identified.

The conclusions should include a final recommendation to support / not support the *development* or *site alteration* proposal based on the results of the study and identify mechanisms that the recommendations of the EIA will be implemented in order to achieve 'no *negative impact*' in accordance with the ROP.

3.12 References

A list of all relevant references, background information sources, etc. used in the preparation of the EIA shall be included in the report.

3.13 Appendices & Supporting Material Requirements

The EIA will include numerous appendices and some supporting materials will be required as part of the submission. Below is a list of the minimum requirements:

- All submissions (i.e., initial through to final):
 - Approved Terms of Reference (TOR)
 - Record of Consultation
 - Data Tables (field surveys / biophysical inventory)
 - Figures⁷
 - Supporting Materials (as appropriate)
- Final Submission
 - ESRI compatible GIS files (NAD 83, UTM Zone 17T) of all relevant natural heritage data (e.g., *Significant Wildlife Habitat*, features boundaries, *significant* species locations, etc.); and
 - Digital copies of data tables (i.e., inventory results) in .xls or .csv format.

Note that items other than those listed may be included as appendices to streamline the main body text, where appropriate. For example, an impact assessment, mitigation and residual impact table may be included in the body of the report, or as an appendix.

Appendices and supporting materials required as part of a submission package for draft submissions (initial and any re-submissions required) are provided in the **EIA Submission Checklist (Appendix D-**

⁷ These may be provided as an appendix or nested in appropriate sections of the report.

3) and for the submission of the approved and completed EIA in the **Final EIA Data Package Submission Checklist (Appendix D-5)**.

Appendix A: Definitions

ACCESSORY BUILDING OR STRUCTURE¹ means a detached building or structure that is not used for human habitation, the use of which is naturally and normally incidental to, subordinate to, or exclusively devoted to a principal use or building and located on the same lot.

AGRICULTURAL BUILDING¹ is a building required for *agriculture, agricultural industry, agricultural operation or agricultural use or farming* and/or *agricultural-related uses* as defined below.

AGRICULTURE or AGRICULTURAL INDUSTRY or AGRICULTURAL OPERATION or AGRICULTURAL USE or FARMING¹ means the growth of crops, including nursery and horticultural crops (but not horticultural trade use); raising of livestock; raising of other animals for food, fur or fibre, including poultry and *fish*; aquaculture; apiaries; agro-forestry; maple syrup production; and associated on-farm buildings and structures, including accommodation for full-time farm labour when the size and nature of the operation requires additional employment.

AGRICULTURE-RELATED USES¹ means those farm-related commercial and farm-related industrial uses that are small scale and directly related to the farm operation and are required in close proximity to the farm operation.

AREAS OF NATURAL AND SCIENTIFIC INTEREST² means areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.

BUFFER¹ means an area of land located adjacent to *Key Features* or *watercourses* and usually bordering lands that are subject to *development* or *site alteration*. The purpose of the *buffer* is to protect the features and *ecological functions* of the Regional Natural Heritage System by mitigating impacts of the proposed *development* or *site alteration*. The extent of the *buffer* and activities that may be permitted within it shall be based on the sensitivity and significance of the *Key Features* and *watercourses* and their contribution to the long term *ecological functions* of the Regional Natural Heritage System as determined through a Sub-watershed Study, an Environmental Impact Assessment or similar studies that examine a sufficiently large area.

CENTRE FOR BIODIVERSITY¹ means an area identified through a Regional Official Plan Amendment that encompasses existing natural heritage features and associated enhancements to the *Key Features* and is of sufficient size, quality and diversity that it can support a wide range of native species and *ecological functions*, accommodate periodic local extinctions, natural patterns of disturbance and renewal and those species that are area sensitive, and provide sufficient habitat to support populations of native plants and animals in perpetuity. Any such amendment would be initiated after the day of adoption of this Plan (December 16, 2009) and shall include a detailed and precise justification supporting the identification of the area, based on current principles of conservation biology.

CONSERVATION AUTHORITY¹ means Conservation Halton (Halton Region Conservation Authority) or Credit Valley Conservation (Authority) or the Grand River Conservation Authority.

CUMULATIVE IMPACT (OFFICIAL PLAN¹) means the effect on the physical, natural, visual and Cultural Heritage Resources resulting from the incremental activities of *development* over a period of time and over an area. All past, present and foreseeable future activities are to be considered in assessing *cumulative impact*. (EIA GUIDELINE⁵) With respect to natural heritage resources considered in relation to these Guidelines, *cumulative impacts* are those created as a result of the combination of the *development* or *site alteration* evaluated in the EIA together with other projects causing **related** impacts. An assessment of *cumulative impacts* considers the incremental impact of the project combined with the cumulative effects of other past (i.e., existing impacts or effects), present (i.e. current

/ in-process projects / activities) and **reasonably** foreseeable future projects (i.e., based on existing land use designation and any *development* that can be reasonably anticipated).

DEVELOPMENT¹ means the creation of a new lot, a change in land use, or the construction of buildings and structures, any of which requires approval under the Planning Act, or that are subject to the Environmental Assessment Act, but does not include:

- (1) activities that create or maintain *infrastructure* authorized under an environmental assessment process,
- (2) works subject to the Drainage Act, or
- (3) within the Greenbelt Plan Area, the carrying out of agricultural practices on land that was being used for *agricultural uses* on the date the Greenbelt Plan 2005 came into effect.¹

DIRECT IMPACTS⁵ *Direct impacts* occur through direct interaction of a *development* or *site alteration* and/or its associated activities with features and / or functions of the *natural environment*. Examples of *direct impacts* include: *tree* or vegetation removal, changes in water temperature.

ECOLOGICAL FUNCTION² means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.

ECOLOGICAL INTEGRITY⁴ Which includes hydrological integrity, means the condition of ecosystems in which:

- a) the structure, composition and function of the ecosystems are unimpaired by the stresses from human activity,
- b) natural ecological processes are intact and self-sustaining, and
- c) the ecosystems evolve naturally. (A Place to Grow 2019)

ENDANGERED SPECIES² means a species that is listed or categorized as an “Endangered Species” on the Ontario Ministry of Natural Resources’ official Species at Risk list, as updated and amended from time to time.

ENHANCEMENTS TO THE KEY FEATURES¹ means ecologically supporting areas adjacent to *Key Features* and/or measures internal to the *Key Features* that increase the ecological resilience and function of individual *Key Features* or groups of *Key Features*.

ESCARPMENT BROW¹ means the uppermost point of the Escarpment slope or face. It may be the top of a rock cliff, or where the bedrock is buried, the most obvious break in slope associated with the underlying bedrock.

EVALUATED WETLAND⁵ means a *wetland* that has been evaluated using the criteria outlined in the most recent Ontario Wetland Evaluation System Manual (2014), as updated from time to time.

FISH² means *fish*, which as defined in the Fisheries Act, includes *fish*, shellfish, crustaceans, and marine animals, at all stages of their life cycles.

FISH HABITAT¹ means spawning grounds and nursery, rearing, food supply, and migration areas on which *fish* depend directly or indirectly in order to carry out their life processes.

FLOODPLAIN¹ means, for river, stream, and small inland lake systems, the area, usually lowlands adjoining a *watercourse* which has been or may be subject to flooding hazards.

GROUND WATER FEATURE² means water-related features in the earth's subsurface, including recharge/discharge areas, water tables, aquifers and unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations.

HAZARD LANDS¹ means properties or lands that could be unsafe for *development* due to naturally occurring processes. Along the shorelines of Lake Ontario and Burlington Bay, this means the land, including that covered by water, between a defined offshore distance or depth, and the furthest landward limit of the flooding, erosion or dynamic beach (areas of unstable accumulations of shoreline sediments) hazard limits. Along *river, stream and small inland lake systems*, this means the land, including that covered by water, to the furthest landward limit of the flooding or erosion hazard limits.

HIGHLY VULNERABLE AQUIFERS³ means aquifers, including lands above the aquifers, on which external sources have or are likely to have a significant adverse effect.

HYDROLOGIC FUNCTION² means the functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

INDIRECT IMPACTS⁵ *Indirect impacts* are generally produced away from or as a result of a complex impact pathway. The *indirect impacts* are also known as secondary or even third level impacts. Examples of *indirect impacts* include: changes in wildlife habitat presence / use via vegetation or *tree* removal, changes in water quality as a result of temperature changes. **Induced impacts** are included within *indirect impacts*. Induced impacts include those that are not directly associated with the *development* or *site alteration* activity, but generate impacts through or as a result of growth-related changes associated with the activity. For example: increased traffic resulting in increased road mortality, increased population resulting in increased recreational use which will introduce or increase the risk of new un-sanctioned trails, invasive species, off-leash animals and impacts to wildlife, etc.

INFRASTRUCTURE¹ means physical structures (facilities and corridors) that form the foundation for *development*. *Infrastructure* includes: sewage and water systems, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.

KEY FEATURES¹ in in the ROP means key natural heritage and hydrological features described in Sections 115.3(1) and 139.3.3 of the ROP, including:

- (1) Regional Natural Heritage System (s. 115.3(1))
 - a) *significant habitat of endangered and threatened species,*
 - b) *significant wetlands,*
 - c) *significant coastal wetlands,*
 - d) *significant woodlands,*
 - e) *significant valleylands,*
 - f) *significant wildlife habitat,*
 - g) *significant areas of natural and scientific interest,*
 - h) *fish habitat.*
- (2) Greenbelt Natural Heritage System (s. 139.3.3)
 - a) sand barrens, savannahs and tall grass prairies,
 - b) permanent and intermittent streams,
 - c) lakes,
 - d) seepage areas and springs,
 - e) alvars and,
 - f) *significant habitat of special concern species.*

KEY HYDROLOGIC AREAS³ within the Greenbelt Plan (2017) area include:

- a) *Significant ground water recharge areas*;
- b) *Highly vulnerable aquifers*; and
- c) *Significant surface water contribution areas*.

KEY HYDROLOGIC FEATURES³ within the Greenbelt Plan (2017) area include:

- a) Permanent and intermittent streams;
- b) Lakes (and their littoral zones);
- c) Seepage areas and springs; and
- d) Wetlands.

KEY NATURAL HERITAGE FEATURES³ within the Greenbelt Plan (2017) include:

- a) Habitat of *endangered species* and *threatened species*;
- b) *Fish habitat*;
- c) Wetlands;
- d) Life science *areas of natural and scientific interest* (ANSIs);
- e) *Significant valleylands*;
- f) *Significant woodlands*;
- g) *Significant wildlife habitat* (including habitat of special concern species);
- h) Sand barrens, savannahs and tallgrass prairies; and
- i) Alvars.

LEAD PLANNING AUTHORITY⁵ as it relates to the EIA process described here, means the planning authority to whom a *development* or *site alteration* application which triggers an EIA requirement is submitted for approval.

LINKAGE¹ means an area intended to provide connectivity supporting a range of community and ecosystem processes enabling plants and animals to move between *Key Features* over multiple generations. *Linkages* are preferably associated with the presence of existing natural areas and functions and they are to be established where they will provide an important contribution to the long-term sustainability of the Regional Natural Heritage System. They are not meant to interfere with *normal farm practice*. The extent and location of the *linkages* can be assessed in the context of both the scale of the proposed *development* or *site alteration*, and the *ecological functions* they contribute to the Regional Natural Heritage System.

MAJOR CREEK OR CERTAIN HEADWATER CREEK¹ means, as it applies to Section 277(4) of Halton's Official Plan (the Plan) ROP, all *watercourses* within a *conservation authority* Regulation Limit as of the date of the adoption of the Plan and those portions of a *watercourse* that extend beyond the limit of the *conservation authority* Regulation Limit to connect a *woodland* considered *significant* based on criteria under Section 277(1), 277(2) or 277(3) of the Plan and/or *wetland* feature within the Regional Natural Heritage System. The extent and location of *major creeks* or *certain headwater creeks* will be updated from time to time by the appropriate *conservation authority* and as a result may lead to refinements to the boundaries of *significant woodlands*.

MUNICIPAL COMPREHENSIVE REVIEW⁴ means a new official plan, or an official plan amendment, initiated by an upper- or single-tier municipality under section 26 of the Planning Act that comprehensively applies the policies and schedules of this Plan [the Growth Plan].

NATURAL ENVIRONMENT¹ means the air, land and water, or any combination or part thereof.

NATURAL FEATURES or NATURAL HERITAGE FEATURES or NATURAL HERITAGE FEATURES AND AREAS¹ means features and/or areas which are important for their environmental and social values as a legacy of the natural landscapes of an area.

NATURAL HERITAGE SYSTEM² means a system made up of natural heritage features and areas, and *linkages* intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems. These systems can include natural heritage features and areas, federal and provincial parks and conservation reserves, other natural heritage features, lands that have been restored or have the potential to be restored to a natural state, areas that support *hydrologic functions*, and working landscapes that enable *ecological functions* to continue. The Province has a recommended approach for identifying natural heritage systems, but municipal approaches that achieve or exceed the same objective may also be used.

NEGATIVE IMPACTS¹ means:

- (1) in regard to water, degradation to the quality and quantity of water, *sensitive surface water features* and *sensitive ground water features*, and their related *hydrologic functions*, due to single, multiple or successive *development* or *site alteration* activities;
- (2) in regard to *fish habitat*, any permanent alteration to, or destruction of *fish habitat*, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act; and
- (3) in regard to other components of the Regional Natural Heritage System, 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.

NORMAL FARM PRACTICE¹ means a practice that:

- (1) is conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar *agricultural operations* under similar circumstances, or
- (2) makes use of innovative technology in a manner consistent with proper advanced farm management practices.

If required, the determination of whether a farm practice is a *normal farm practice* shall be in accordance with the provision of the Farming and Food Production Protection Act, including the final arbitration on *normal farm practices* by the Farm Practices Protection Board under the Act.

PROVINCIALY SIGNIFICANT WETLANDS¹ means *wetlands* so classified by the Ministry of Natural Resources based on the Ontario *Wetland Evaluation System 2013 Southern Manual*, as amended from time to time.

REGULATORY FLOOD¹ means the approved standard(s), a regional flood or a one-in-one-hundred-year flood, used in a particular watershed to define the limit of the *floodplain* for regulatory purposes.

RIVER, STREAM AND SMALL INLAND LAKE SYSTEMS¹ means all *watercourses*, rivers, streams, and small inland lakes or waterbodies that have a measurable or predictable response to a single runoff event.

SENSITIVE² in regard to *surface water features* and *ground water features*, means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

SIGNIFICANT¹ under the ROP means:

- (1) in regard to wetlands, an area as defined under Section 276.5 of this Plan;
- (2) in regard to coastal wetlands and *areas of natural and scientific interest*, an area identified as provincially *significant* by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time;
- (3) in regard to the habitat of *endangered species* and *threatened species*, the habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of *endangered species* or

threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle;

- (4) in regard to woodlands, an area as defined by Section 277 of this Plan; and,
- (5) in regard to other components of the Regional Natural Heritage System, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system.

SIGNIFICANT GROUND WATER RECHARGE AREA³ in the Greenbelt Plan (2017) area means a significant ground water recharge area identified:

- a. as a significant ground water recharge area by any public body for the purposes of implementing the PPS;
- b. as a significant ground water recharge area in the assessment report required under the Clean Water Act, 2006; or
- c. as an ecologically significant ground water recharge area delineated in a subwatershed plan or equivalent in accordance with provincial guidelines.

Ecologically significant ground water recharge areas are areas of land that are responsible for replenishing ground water systems that directly support sensitive areas like coldwater streams and wetlands.

SIGNIFICANT SURFACE WATER CONTRIBUTION AREAS³ means areas, generally associated with headwater catchments, that contribute to baseflow volumes which are significant to the overall surface water flow volumes within a watershed.

SIGNIFICANT WETLANDS¹ means:

- (1) for lands within the Niagara Escarpment Plan Area, *Provincially Significant Wetlands* and wetlands as defined in the Niagara Escarpment Plan that make an important ecological contribution to the Regional Natural Heritage System;
- (2) for lands within the Greenbelt Plan Area but outside the Niagara Escarpment Area, *Provincially Significant Wetlands* and wetlands as defined in the Greenbelt Plan;
- (3) for lands within the Regional Natural Heritage System but outside the Greenbelt Plan Area, *Provincially Significant Wetlands* and wetlands that make an important ecological contribution to the Regional Natural Heritage System; and,
- (4) outside the Regional Natural Heritage System, *Provincially Significant Wetlands*.

SIGNIFICANT WILDLIFE HABITAT⁴ means A *wildlife habitat* that is ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. These are to be identified using criteria established by the Province.

SIGNIFICANT WOODLAND¹ means a *Woodland* 0.5 ha or larger determined through a *Watershed Plan*, a Sub-watershed Study or a site-specific Environmental Impact Assessment to meet one or more of the four following criteria:

- (1) The *Woodland* contains forest patches over 99 years old,
- (2) The patch size of the *Woodland* is 2 ha or larger if is located in the Urban Area, or 4 ha or larger if it is located outside the Urban Area but below the *Escarpment Brow*, or 10 ha or larger if it is located outside the Urban Area but above the *Escarpment Brow*,
- (3) The *Woodland* has an interior core area of 4 ha or larger, measured 100m from the edge, or
- (4) The *Woodland* is wholly or partially within 50m of a *major creek or certain headwater creek* or within 150m of the *Escarpment Brow*.”

SINGLE DETACHED DWELLING¹ means a separate building containing not more than one dwelling unit and may include a chalet, cottage, or mobile home.

SITE ALTERATION¹ means activities, such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site but does not include *normal farm practices* unless such practices involve the removal of fill off the property or the introduction of fill from off-site locations.

SRANK⁶

Provincial (or Subnational) (i.e., SRANK) ranks are used by the Natural Heritage Information Centre to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation, needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually. Natural Heritage Information Centre Website (2012)

SX Presumed Extirpated—Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH Possibly Extirpated (Historical)—Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.

S1 Critically Imperilled—Critically imperilled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2 Imperilled—Imperilled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 Secure—Common, widespread, and abundant in the nation or state/province.

SNR Unranked—Nation or state/province conservation status not yet assessed.

SU Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S## Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

SURFACE WATER FEATURE² means water-related features on the earth’s surface, including headwaters, rivers, stream channels, inland lakes, seepage areas, recharge/discharge areas, springs, wetlands, and associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics.

SYSTEMS APPROACH⁵ means a comprehensive approach to natural heritage system planning that considers the importance of maintaining and protecting ecological features in the environment (such as *woodlands, wetlands* and *watercourses*) *ecological functions* of the environment (such as water storage and water quality enhancement by wetlands, winter deer yards provided by cedar *woodlands*, amphibian breeding habitat in ephemeral forest ponds, etc.) and ecological interactions that occur over varying scales of time and space (such as animal predation and herbivory, the daily, seasonal and long term movement patterns of plants and animals, and the role of ecological disturbance mechanisms such as fire, wind, water and disease).

THREATENED SPECIES² means a species that is listed or categorized as a “Threatened Species” on the Ontario Ministry of Natural Resources official Species at Risk list, as updated and amended from time to time.

TREE¹ means any species of woody perennial plant, including its root system, which has reached or can reach a height of at least 4.5m above ground at physiological maturity.

UNEVALUATED WETLAND⁵ means a wetland that has not been evaluated using the criteria outlined in the most recent Ontario Wetland Evaluation System Manual (2014), as updated from time to time.

VEGETATION PROTECTION ZONE¹ means, as it applies within the Greenbelt Plan Area, a vegetated *buffer* area surrounding a *Key Feature* within which only those land uses permitted within the feature itself are permitted. The width of the *vegetation protection zone* is to be determined when new *development* or *site alteration* occurs within 120 metres of a *Key Feature*, and is to be of sufficient size to protect the feature and its functions from the impacts of the proposed change and associated activities that will occur before, during and after construction, and where possible, restore or enhance the feature and/or its function.

WATERCOURSE or **WATER COURSE¹** means an identifiable depression in the ground in which a flow of water regularly or continuously occurs.

WATERSHED PLAN¹ means a plan used for managing human activities and natural resources in an area defined by watershed boundaries. Watershed Plans shall include, but are not limited to, the following components:

- (1) a water budget and conservation plan;
- (2) land and water use and management strategies;
- (3) a framework for implementation;
- (4) an environmental monitoring plan;
- (5) requirements for the use of environmental management practices and programs;
- (6) criteria for evaluating the protection of water quality and quantity, and *key hydrologic features* and functions; and
- (7) targets on a watershed or sub-watershed basis for the protection and restoration of riparian areas and the establishment of natural self-sustaining vegetation.

WATERSHED MANAGEMENT¹ means the analysis, protection, *development*, operation and maintenance of water, water-related features, terrestrial resources and fisheries of a drainage basin.

WETLANDS¹ means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case, the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens. Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit *wetland* characteristics are not considered to be *wetlands* for the purposes of this definition. Within the Greenbelt Plan Area, wetlands include only those that have been identified by the Ministry of Natural Resources or by any other person, according to evaluation procedures established by the Ministry of Natural Resources, as amended from time to time.

WILDLIFE HABITAT² means areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species.

WOODLAND¹ means land with at least: 1000 *trees* of any size per ha, or 750 *trees* over 5 cm in diameter per ha, or 500 *trees* over 12 cm in diameter per ha, or 250 *trees* over 20 cm in diameter per ha but does not include an active cultivated fruit or nut orchard, a Christmas *tree* plantation, a plantation certified by the *Region*, a *tree* nursery, or a narrow linear strip of *trees* that defines a laneway or a boundary between fields. For the purpose of this definition, all measurements of the *trees* are to be taken at 1.37 m from the ground and *trees* in regenerating fields must have achieved that height to be counted.

Definition Sources:

¹ Region's Official Plan (June 19, 2018 Office Consolidation)

² Provincial Policy Statement (2014)

³ Greenbelt Plan (2017)

⁴ A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)

⁵ Prepared for the purpose of this Guideline

⁶ NatureServe <http://explorer.natureserve.org/nsranks.htm>

Appendix B: Contact Information for Planning Approval Authorities and Agencies

Halton Region

1151 Bronte Road
Oakville, Ontario
L6M 3L1
Tel: 905-825-6000

Town of Oakville

1255 Trafalgar Road
Oakville, Ontario
L6H 0H3
Tel: 905-845-6601

Town of Milton

150 Mary Street
Milton, Ontario
L9T 6Z5
Tel: 905-878-7252

City of Burlington

426 Brant Street
PO Box 5013
Burlington, Ontario
L7R 3Z6
Tel: 905-335-7600

Town of Halton Hills

1 Halton Hills Drive
Halton Hills, Ontario
L7G 5G2
Tel: 905-873-2601

Environment Canada (Ontario Office)

4905 Dufferin Street
Toronto, Ontario
M3H 5T4
Tel: 416-739-4826

Ministry of Environment, Conservation and Parks

SAROntario@ontario.ca
Tel: 416-325-4000 (general inquiries)

Grand River Conservation Authority

400 Clyde Road
PO Box 729
Cambridge, Ontario
N1R 5W6
Tel: 519-621-2761

Credit Valley Conservation

1255 Old Derry Road
Mississauga, Ontario
L5N 6R4
Tel: 905-670-1615

Conservation Halton

2596 Britannia Road West
Burlington, Ontario
L7P 0G3
Tel: 905-336-1158

Ministry of Natural Resources (Aurora Office)

50 Bloomington Road
Aurora, Ontario
L4G 0L8
Tel: 905-713-7400

Department of Fisheries and Oceans (Regional Office Central and Arctic)

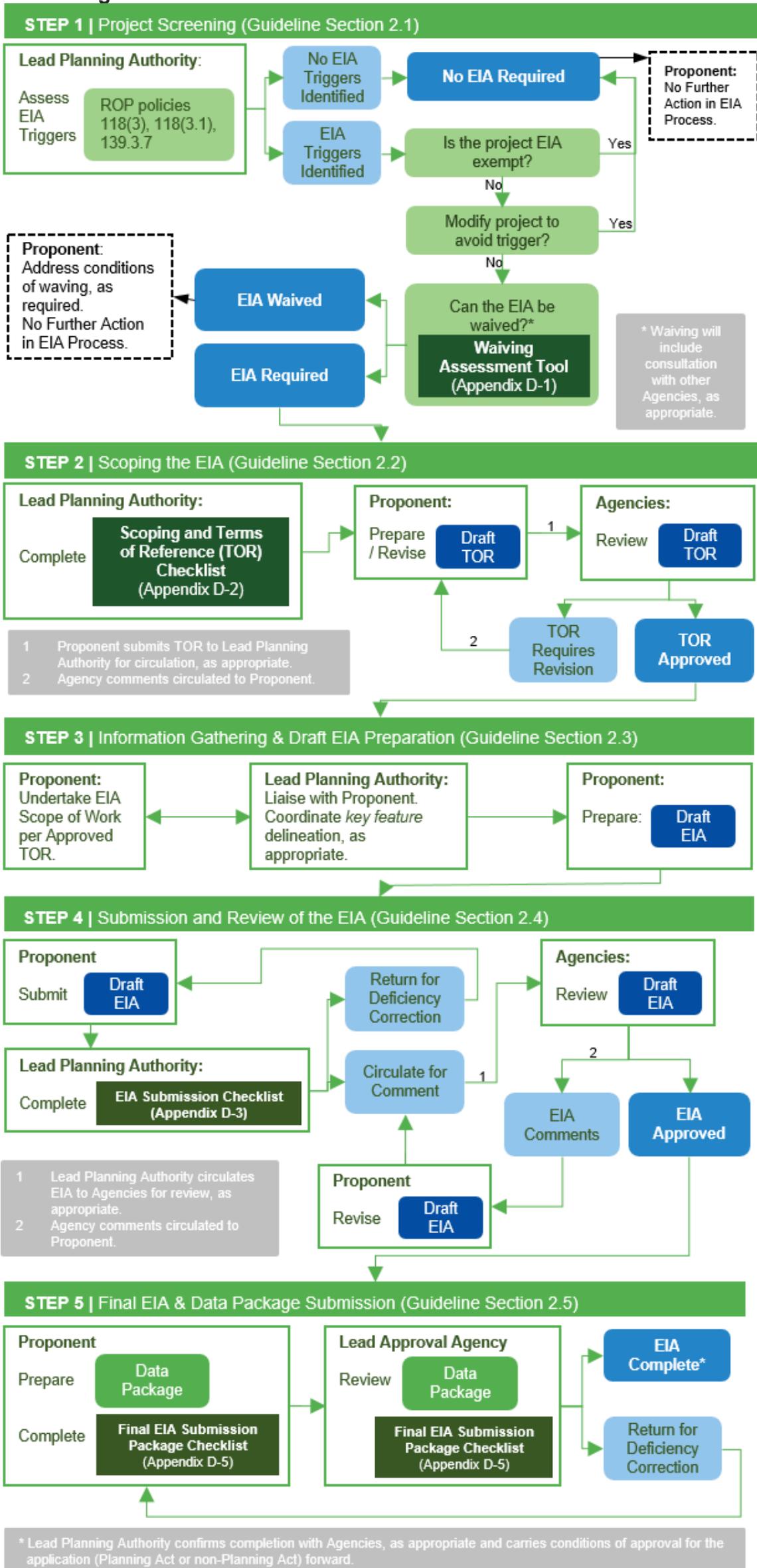
520 Exmouth St
Sarnia ON N7T 8B1
Toll-free: 1-866-290-3731
Telephone: 519-383-1809

Niagara Escarpment Commission

232 Guelph Street
Georgetown, Ontario
L7G 4B1
Tel: 905-877-5191

Appendix C: EIA Process Diagram

EIA Process Diagram



Appendix D: EIA Process Checklists and Tools

Appendix D-1

Waiving Assessment Tool

Project Name: _____
Proponent: _____
Primary Contact: _____
Contact Information: Email: _____
Phone: _____
Project Location: (Street Address or Lot and Concession)

BEFORE YOU BEGIN

The **Waiving Assessment Tool** facilitates review of eligible *development* and *site alteration* projects by the *Lead Planning Authority* (or their delegate or assign) to determine if the EIA requirement may be waived. Individual(s) with an appropriate level of knowledge and experience conducting and/or reviewing natural heritage and impact assessment information and processes is required commensurate with the scope, scale and complexity of the project. Technical matters may be addressed through the waiving process to facilitate the assessment process or assist a project in having the EIA requirement waived (e.g., Site Plan modification).

Completion of a waiving assessment **does not** guarantee that a project will have the EIA requirement waived.

HOW TO USE THIS TOOL

The waiving assessment tool includes six (6) steps which summarize existing conditions, identify features on or adjacent to the project site, assess the project to determine if waiving of the EIA requirement is appropriate.

Note: Please refer to the most current, in-force Regional and Provincial Planning documents to complete this assessment.

Each step is identified with a dark green heading, sub-components of each step are identified in light green. Grey boxes are located at the end of each Step; these provide information on how to proceed at the conclusion of each step and/or decision points associated with each step.

A figure outlining the waiving assessment process in this tool is provided below to provide an overview of the steps, key decision points and potential outcomes.

Figure: Waiving Assessment Process Diagram

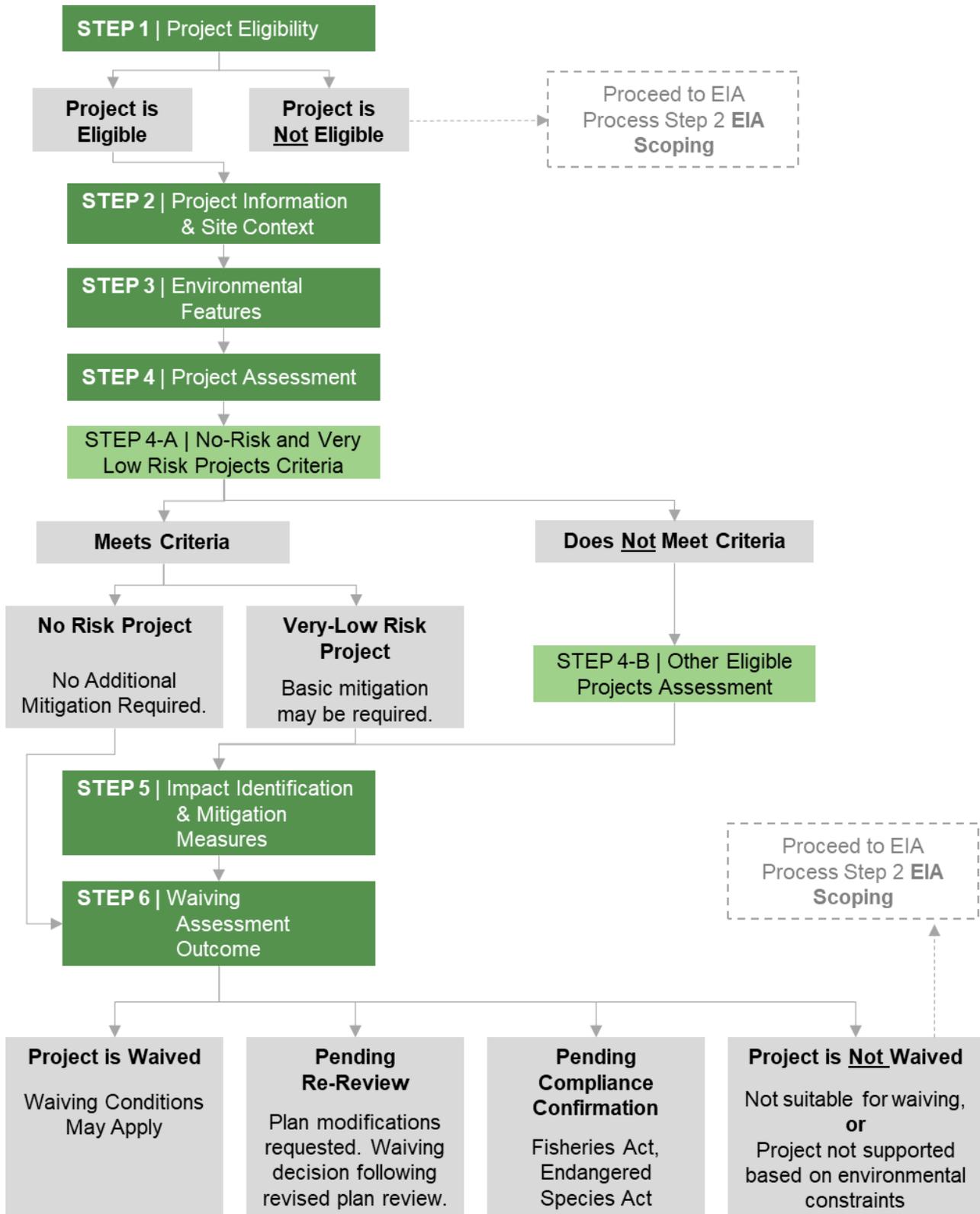


FIGURE LEGEND: Decision or Direction Process Step Process Sub-Step

STEP 1 | PROJECT ELIGIBILITY

The following projects / project types are **ineligible** for waiving:

- Medium-large scale *development* (residential, commercial, institutional, industrial)
- Aggregate resource or other extractive industries
- Medium-large scale recreational *development* (e.g., golf course, ski hill)
- Large scale site alteration

All other projects are eligible to proceed through the waiving assessment tool. Eligibility does not indicate the project is waived.

- The project is eligible for waiving assessment.** Proceed to Step 2.
- The project is not eligible for waiving assessment.** Contact the *Lead Planning Authority* to discuss EIA requirements or confirm study equivalency has been met (refer to **Section 1.4.1** of the Guideline).

STEP 2 | PROJECT INFORMATION & SITE CONTEXT

Complete all applicable sections below for the project.

Note: Please refer to the most current Regional and Provincial Planning documents to complete this section.

This section provides context for the project assessment (Step 4). It identifies existing conditions, potential existing impacts, feature quality and informs mitigation requirements (i.e. considers landscape context in any required mitigation to be implemented).

Project Type

- | | |
|---|---|
| <input type="checkbox"/> <i>Agricultural building</i> or structure within building cluster | <input type="checkbox"/> Re-build – same footprint |
| <input type="checkbox"/> <i>Agricultural building</i> or structure outside building cluster | <input type="checkbox"/> Re-build – larger or altered footprint |
| <input type="checkbox"/> Lot Severance for <i>single detached dwelling</i> | <input type="checkbox"/> Addition to existing dwelling |
| <input type="checkbox"/> New <i>single detached dwelling</i> on an existing lot | <input type="checkbox"/> Accessory re- <i>development</i> or modification (e.g., swimming pool, driveway) |
| <input type="checkbox"/> New accessory structure (garage, shed, etc.) | <input type="checkbox"/> Septic system or other servicing |
| <input type="checkbox"/> New accessory <i>development</i> (e.g., swimming pool, driveway) | <input type="checkbox"/> Other <i>development</i> or <i>site alteration</i> . Specify: |

Planning Context

Regional Official Plan

Land Use Designations (per Map 1 of ROP)

- RNHS
- Agricultural Area
- Urban Area
- Hamlet

Constraints (as shown on Map 1G of the ROP)

- Mapped *Key Features* in the RNHS or GBNHS Overlay
- Unmapped *Key Features*

Regional Official Plan (Continued)

Other

- Mineral Resource Extraction Area
- North Aldershot Policy Area
- Regional Waterfront Parks

Overlay

- GBNHS Overlay (shown on Map 1)

Greenbelt Plan [Not Applicable]

- Protected Countryside
- Greenbelt Plan NHS
- Agricultural System
- Settlement Area

Niagara Escarpment Plan [Not Applicable]

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Urban Area

Growth Plan [Not Applicable]

- Growth Plan NHS
- Water Resource System
- Settlement Area

On Site - Existing Land Use(s) and Condition(s)

- Agricultural
- Urban Residential
- Rural Residential
- Commercial
- Industrial
- Institutional
- Park or Open Space
- Golf Course
- Building / Structure
- Paved / Impermeable Surface
- Manicured Lawn / Garden
- Fallow Field / Meadow
- Natural Feature or Area
- Other:

Adjacent Lands - Existing Land Use(s) and Condition(s)

- Agricultural
- Urban Residential
- Rural Residential
- Commercial
- Industrial
- Institutional
- Park or Open Space
- Golf Course
- Building / Structure
- Paved / Impermeable Surface
- Manicured Lawn / Garden
- Fallow Field / Meadow
- Natural Feature or Area
- Other:

Buffers to Key Features – Existing Land Use and Conditions

What is the current distance separating *development* or *site alteration* from *Key Features* on the site and adjacent lands?

- <10 m
- 10-15 m
- 15-30 m
- >30 m

Is the area of the separating distance naturalized?

- Yes
- No

Notes / Comments:

Proceed to Step 3

STEP 3 | ENVIRONMENTAL FEATURES (confirmed or unconfirmed)

Complete sections below based on applicable plans identified in Step 2.

This section provides important information for assessing potential impacts, mitigation requirements, etc. for the project assessment (Step 4).

Regional Natural Heritage System (RNHS)

Key Features:

- | | |
|--|--|
| <input type="checkbox"/> Significant Woodland(s) | <input type="checkbox"/> Significant ANSI ⁹ |
| <input type="checkbox"/> Significant Wetland(s) | <input type="checkbox"/> Fish Habitat |
| <input type="checkbox"/> Significant Valleyland(s) | <input type="checkbox"/> Significant Habitat for <i>Endangered or Threatened Species</i> |
| <input type="checkbox"/> Candidate or Confirmed SWH ⁸ | |

Other RNHS Components:

- | | |
|----------------------------------|---|
| <input type="checkbox"/> Buffer | <input type="checkbox"/> Enhancement Area |
| <input type="checkbox"/> Linkage | |

Greenbelt Plan

Key Natural Heritage Features in Greenbelt Plan NHS:

- | | |
|--|--|
| <input type="checkbox"/> Significant Woodland(s) | <input type="checkbox"/> Habitat for <i>Endangered or Threatened Species</i> |
| <input type="checkbox"/> Wetland(s) | <input type="checkbox"/> Sand Barren(s) |
| <input type="checkbox"/> Significant Valleyland(s) | <input type="checkbox"/> Savannahs |
| <input type="checkbox"/> Confirmed SWH ⁸ | <input type="checkbox"/> Tallgrass Prairie(s) |
| <input type="checkbox"/> Life Science ANSI ¹⁰ | <input type="checkbox"/> Alvar(s) |
| <input type="checkbox"/> Fish Habitat | |

Key Hydrologic Features (Protected Countryside):

- | | |
|---|--|
| <input type="checkbox"/> Permanent and intermittent stream(s) | <input type="checkbox"/> Seepage areas and springs |
| <input type="checkbox"/> Lake(s) (and their littoral zones) | <input type="checkbox"/> Wetland(s) |

Growth Plan

Key Natural Heritage Features in Growth Plan NHS outside settlement areas:

- | | |
|--|--|
| <input type="checkbox"/> Significant Woodland(s) | <input type="checkbox"/> Habitat for <i>Endangered or Threatened Species</i> |
| <input type="checkbox"/> Wetland(s) | <input type="checkbox"/> Sand Barren(s) |
| <input type="checkbox"/> Significant Valleyland(s) | <input type="checkbox"/> Savannahs |
| <input type="checkbox"/> Confirmed SWH ⁸ | <input type="checkbox"/> Tallgrass Prairie(s) |
| <input type="checkbox"/> Life Science ANSI ¹⁰ | <input type="checkbox"/> Alvar(s) |
| <input type="checkbox"/> Fish Habitat | |

Key Hydrologic Features throughout Growth Plan outside settlement areas:

- Permanent stream(s)

⁸ Significant Wildlife Habitat

⁹ Area of Natural and Scientific Interest. Includes both Life Science and Earth Science ANSIs under Regional Policy.

¹⁰ Area of Natural and Scientific Interest.

- | | |
|--|--|
| <input type="checkbox"/> Intermittent stream(s) | <input type="checkbox"/> Seepage areas and springs |
| <input type="checkbox"/> Inland lakes and their littoral zone(s) | <input type="checkbox"/> Wetland(s) |

Other Environmental Features and Designations

- | | |
|---|--|
| <input type="checkbox"/> <i>Unevaluated wetland(s)</i> | <input type="checkbox"/> Candidate SWH |
| <input type="checkbox"/> <i>Non-Provincially Significant wetland(s)</i> | <input type="checkbox"/> Regulated Area(s) ¹¹ |
| <input type="checkbox"/> Woodland | <i>Feature Type(s):</i> |
| <input type="checkbox"/> Headwater Drainage Feature(s) | |
| <input type="checkbox"/> Species at Risk (and their Habitat) | <input type="checkbox"/> Other: |

Proceed to Step 4

STEP 4 | PROJECT ASSESSMENT

Information collected through Steps 2 and 3 is used in combination with other project information (e.g., site plans, airphoto / satellite imagery, map[s]) to determine if it is appropriate to waive the EIA requirement for the project.

Waiving may be appropriate where there is no or very low risk of *negative impact*, and / or the potential *negative impact(s)* are: well understood, of small scale, magnitude and/or duration and can be avoided or mitigated through basic mitigation measures.

Projects that are eligible to proceed through the waiving assessment tool (Step 1) may be assessed for waiving through one of two project groups:

- **No-Risk and Very Low-Risk Projects:** Some projects have no or very low risk of *negative impact* to the Region's Natural Heritage System. A set of criteria are used to identify projects in this group. These projects may proceed through a streamlined process.
- **Other Eligible Projects:** Projects that do not meet the criteria for 'No-Risk and Very Low-Risk Projects' can be assessed here. The project assessment for 'Other Eligible Projects' includes a more extensive review and requires an enhanced understanding of natural heritage, impact assessment, etc.

Note: Waiving of the EIA requirement does not waive, exempt or otherwise remove requirements for compliance with other applicable plans, policies, or legislation. It is the proponent's responsibility to ensure that their project meets the requirements for the site and/or project.

¹¹ Areas regulated by a Conservation Authority (CA) under the Conservation Authorities Act and pursuant to the Ontario Regulation for the CA in which the project occurs. CA must be contacted to confirm any requirements.

STEP 4-A | No-Risk and Very Low-Risk Projects

To be identified as a 'no' or 'very low' risk project, the conditions of both the primary **and** secondary criteria must be met. A site visit may be requested to support the project assessment.

Primary Criteria

The *development* or *site alteration* meets all the following:

- Adjacent features are not *Key Features* of the Greenbelt Plan NHS or the Growth Plan NHS.
 - Minimum *Vegetation Protection Zone* (VPZ) requirements of the Greenbelt Plan and Growth Plan do not apply;
- Adjacent features are one or more of the following: *significant woodland, Provincially Significant Wetland, wetland* or *watercourse*;
- Does not occur within or directly encroach into the NHS (Key Features and components of the NHS);
- There is no known confirmed or candidate *significant wildlife habitat* within the *development* or *site alteration* footprint;
- There are no *Species at Risk*¹² or their habitat known to occur or with a high potential of occurring within the footprint of the proposed *development* or *site alteration*.

Secondary Criteria

The *development* or *site alteration* meets at least one of the following:

- Is separated from the feature(s) by an intervening land use which provides an effective separation between the project and feature(s):
 - Road¹³
 - Existing *development*
 - Other¹⁴:
- Is wholly contained within an existing building footprint (e.g., adding a second storey, re-*development* within existing footprint).
- Footprint of the proposed building expansion extends away from the feature(s).
- Proposed *buffer(s)* for no / very low impact projects are a minimum of¹⁵:
 - 10 m from the dripline of a *significant woodland*
 - 30 m from a *Provincially Significant Wetland* (PSW)
 - 15 m from other wetlands
 - 30 m from a *watercourse*

¹² In the context of this assessment 'Species at Risk' includes species listed as Endangered or Threatened in Ontario and receiving protection under Sections 9 and/or 10 of the *Endangered Species Act* (2007).

¹³ A Road is defined as linear *infrastructure* at the site or landscape scale that has been constructed for the express purposes of transportation over an extended period of time. It has a compacted / constructed roadbed and surfaced with a material intended for long-term use by vehicles (i.e., gravel, pavement, cement).

¹⁴ 'Other' land uses may include other forms of development that would act as a barrier to movement (plants, wildlife) and / or are a primary impactor at the interface with the natural heritage feature(s) and their functions. Natural, open space, agricultural lands (e.g., fields, grazing land, etc.) and other similar land uses do not qualify as land uses that act as an effective barrier.

¹⁵ Minimum buffers presented here apply to the no / very low risk project group only. Buffers for other eligible projects (Step 4B) and projects not eligible for waiving are determined based on site-specific and project-specific considerations, as appropriate.

Using the criteria above and based on professional opinion, evaluate the risk of the proposed project on the RNHS and proceed accordingly.

- The project has **No Risk** of impact to the Region’s Natural Heritage System. Proceed to Step 6.
- The project has **Very Low Risk** of impact to the Region’s Natural Heritage System. Basic mitigation measures may be required. Proceed to Step 5 (Impact Identification & Mitigation Measures) to identify potential impacts and determine if mitigation measures are required.
- The project **does not** meet the criteria set out above. Proceed to ‘Other Eligible Projects’ project assessment below.

STEP 4-B | Other Eligible Projects

Eligible projects (per Step 1) that do not meet the criteria for ‘No-Risk and Very Low-Risk Projects’ may proceed through the more detailed assessment in this section.

Individual(s) with an appropriate level of knowledge of natural heritage features, functions and potential impacts associated with *development* or *site alteration* will be **required** to complete the project assessment. The *Lead Planning Authority* can consult the Region (or the delegates or assigns) to identify an appropriate individual to complete the assessment.

All sections below must be completed.

Site Visit

A site visit may be required by the *Lead Planning Authority*, their agent or assign, or other approval agency for the project / site.

A site visit was:

- Completed Not requested Requested

Site Visit Type (check all that apply):

- General site condition Feature review Feature delineation

Feature Sensitivity to Development or Site Alteration

At the screening level, feature sensitivity to *development* or *site alteration* is based on proxy indicators. Features with higher sensitivity may require additional consideration to more accurately assess the feature, and / or may require increased *buffers*, enhanced mitigation, etc.

Based on current land use on-site and on adjacent lands (Step 2), it is anticipated that the feature(s) experience the following existing level of impact / disturbance:

- High Moderate Low

Based on feature type(s) (2-D) and information in A, above; it is anticipated that the feature(s) would be:

- Highly sensitive to the proposed *development* or *site alteration*. Moderately sensitive to the proposed *development* or *site alteration*. Less sensitive to the proposed *development* or *site alteration*.

Proposed Buffers or Distance to Development or Site Alteration (Site-Plan)

Record *buffers* (if defined) or distance between feature(s) and the proposed *development* or *site alteration* from the site plan in the table below.

Feature #	Feature Type	Buffer / VPZ / Distance from Development or Site Alteration (m)	Naturalized Buffer Proposed? (Yes / No)	If VPZs are required¹⁶: Are minimums met?

Proceed to Step 5.

¹⁶ *Vegetation Protection Zones* are required for some Plan areas (e.g., Greenbelt, Growth Plan).

STEP 5 | IMPACT IDENTIFICATION & MITIGATION MEASURES

Identify all new or exacerbated existing impacts anticipated, or with a high potential to occur. Identify mitigation measure(s) that shall be implemented to address the impacts as conditions of waiving.

The Impact Identification & Mitigation Measures table is to be completed for Very Low Risk Projects (as appropriate) and Other Eligible Projects (Required).

Feature #	Potential Impact	Mitigation Required As Condition of Waiving
	<input type="checkbox"/> Increased risk of noise and/or light <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement plantings <input type="checkbox"/> Directional lighting <input type="checkbox"/> Fencing <input type="checkbox"/> Other:
	<input type="checkbox"/> Soil compaction, root damage <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Soil scarification <input type="checkbox"/> Fencing <input type="checkbox"/> Other:
	<input type="checkbox"/> Vegetation damage from construction equipment and migration of construction debris <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Fencing <input type="checkbox"/> Other:
	<input type="checkbox"/> Risk of spread of invasive species <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Invasive species removal <input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Fencing <input type="checkbox"/> Other:
	<input type="checkbox"/> Increased risk of dumping of garden refuse <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Fencing <input type="checkbox"/> Other:
	<input type="checkbox"/> Removal of uncommon/rare plant species <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Plant salvage <input type="checkbox"/> Enhancement plantings <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Removal of vegetation <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Timing restrictions <input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Creation of edge <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other:
	<input type="checkbox"/> Removal of, or disturbance to <i>wildlife habitat</i> <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Timing restrictions <input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment

Feature #	Potential Impact	Mitigation Required As Condition of Waiving
	<input type="checkbox"/> Fragmentation of natural area <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Enhancement plantings <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Removal of corridor/ <i>linkage</i> to natural area <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Potential for increased access to natural area <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Fencing <input type="checkbox"/> Other:
	<input type="checkbox"/> Risk to slope stability <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Change to hydrological function <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Increase in water temperature <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> In-stream habitat enhancement to increase stream shading <input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Degradation of water quality <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Sediment & Erosion Control <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Increased risk of erosion, sedimentation and turbidity <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Implementation of ESC measures <input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other:
	<input type="checkbox"/> Increased inputs of nutrients/contaminants to waterbodies or wetlands <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Other:
	<input type="checkbox"/> Changes to natural drainage area <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Reduction of stream baseflows/upwellings <input type="checkbox"/> New <input type="checkbox"/> Exacerbated	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment
	<input type="checkbox"/> Aggravation of existing impacts/cumulative Impacts	<input type="checkbox"/> Increased <i>buffer</i> <input type="checkbox"/> Enhancement Plantings <input type="checkbox"/> Fencing <input type="checkbox"/> Other: <input type="checkbox"/> n/a - requires additional assessment

Feature #	Potential Impact	Mitigation Required As Condition of Waiving
	<input type="checkbox"/> Other:	
<input type="checkbox"/> No additional impacts anticipated beyond what is considered existing. No mitigation required.		
<p>Notes: [Please add any notes that inform required mitigation identified. Recommended mitigation outside of required condition for waiving can also be identified here; these are not mandatory to achieve waiving.]</p>		

Proceed to Step 6.

STEP 6 | WAIVING OUTCOME

The waiving assessment result is informed by the preceding sections.

- Project is waived.**
 - Implement Site Plan, as submitted.
 - Implement mandatory mitigation measures (Step 5) and proceed.

- Pending Re-Review.** Modification and re-submission of the Site Plan requested¹⁷:
 - Change location / limits.
 - Minimum *buffer* requested: _____ m.
 - Demonstrate how mitigation measures (Step 5) will be implemented.

- Pending Compliance Confirmation**¹⁸.
 - Federal Fisheries Act (Department of Fisheries & Oceans [DFO])
Trigger: Proximity or potential impact to features that support fish habitat.
 - Provincial *Endangered Species Act* (Ministry of Environment Conservation and Parks [MECP])
Trigger: Endangered or Threatened species and/or their habitat identified as occurring or with a high potential to occur on site.

- Project is **not waived**.
 - An EIA is required. Return to EIA Process for Scoping.
 - Project is not supported based on potential impacts to the Region's Natural Heritage System.

Notes:

[This section provides an opportunity to identify *recommended* additional mitigation outside of required condition for waiving. These are **not** mandatory to achieve waiving]

¹⁷ The proponent may choose to proceed to an EIA in lieu of revising the site plan. Applications must be in accordance with applicable plans and policies. It is noted that completion of an EIA does not guarantee project approval.

¹⁸ Demonstration of compliance may include record of consultation identifying compliance (e.g., email(s)), record of self-assessment, letter of advice, project registration, permit, etc. as appropriate and in accordance with the requirements of the legislation and its processes.

ASSESSMENT SIGN-OFF

Each assessment is completed and then reviewed by a second qualified individual. Record of completion and review is required as part of the assessment process.

COMPLETED BY:	REVIEWED BY:
Signature: _____	Signature: _____
Date: _____	Date: _____
Name: _____	Name: _____
Position: _____	Position: _____
Agency: _____	Agency: _____
Contact Information: _____	Contact Information: _____

Appendix D-2

Scoping and Terms of Reference Checklist

The **Scoping Checklist** provides a brief summary of components to be considered in the preparation of an EIA Terms of Reference. Scoping is to be completed in consideration of the following:

- Scope and scale of the proposed *development* or *site alteration*;
- Scope and scale of potential impacts resulting from the proposed *development* or *site alteration*;
- Sensitivity or complexity of the features on or adjacent to the proposed project to land use change and specific impacts associated with the proposed project;
- Surrounding land use context (e.g., existing *development*);

Depending on the items above, not all elements listed below will necessarily be required. Large projects, those with a higher risk of potential impact, and those with complex natural heritage features and functions will generally require a more comprehensive set of assessments, analyses, etc. Smaller scale projects with lower potential impacts and where natural heritage features and functions are less complex are suitable for a scoped EIA and a greater number of items may be 'scoped out' (i.e., not required). In all cases, some items listed below may not be required depending on the specific site conditions and project.

Who Prepares the Checklist: The checklist is to be completed by the Lead Planning Agency (or by their delegate or assign) with input from other agencies with jurisdiction within the subject property or features that triggered the EIA requirement.

Who Uses the Checklist: The scoping checklist is to be used by the EIA practitioner who will be preparing the EIA to inform the preparation of a Terms of Reference for submission, review and approval.

When is the Checklist Completed? The scoping checklist may be completed through Step 2 of the EIA Process (Scoping the EIA).

Part 1 – Project Information

1-A | General Information

Project Name: _____

Proponent: _____

Primary Contact: _____

Contact Information: E: _____

P: _____

Project Location: _____
(Street Address or Lot and Concession)

Consultant: _____

Consultant Lead: _____

Contact Information: E: _____

P: _____

1-B | Project Type

- | | |
|---|---|
| <input type="checkbox"/> <i>Agricultural building</i> or structure within building cluster | <input type="checkbox"/> Re-build – same footprint |
| <input type="checkbox"/> <i>Agricultural building</i> or structure outside building cluster | <input type="checkbox"/> Re-build – larger or altered footprint |
| <input type="checkbox"/> Lot Severance for <i>single detached dwelling</i> | <input type="checkbox"/> Addition to existing dwelling / structure |
| <input type="checkbox"/> New <i>single detached dwelling</i> on an existing lot | <input type="checkbox"/> Accessory re-development or modification (e.g., swimming pool, driveway) |
| <input type="checkbox"/> New accessory structure (garage, shed, etc.) | <input type="checkbox"/> Septic system or other servicing |
| <input type="checkbox"/> New accessory <i>development</i> (e.g., swimming pool, driveway) | <input type="checkbox"/> Other <i>development</i> or <i>site alteration</i> . Specify: |

Part 2 – Scoping of Inventories and Delineations

Project Area
Adjacent Lands

This section provides general guidance on what types of field inventories and feature delineations are anticipated to be required for the EIA. The proponent (or consultant) is to provide detailed description(s) of the proposed approach (survey type, specific methods, seasons, etc.), rationale and locations for surveys as part of a Draft Terms of Reference.

Species at Risk

- Screening Assessment¹⁹
- Targeted surveys are anticipated to be required. To be confirmed through Screening Assessment and/ or in consultation with MECP, as appropriate

All of the above

Significant Wildlife Habitat

- Screening Assessment²⁰
- Field program to address assessment of *Significant Wildlife Habitat*, as appropriate

All of the above

Terrestrial

- Ecological Land Classification (ELC)
- Botanical Inventory
- Significant woodland assessment²¹
- Avifauna (Birds)
 - In-Field Habitat Assessment
 - Incidental / General Observations²²
 - Detailed or Targeted Survey(s)
- Herpetofauna (Amphibians and Reptiles)

¹⁹ The Terms of Reference (TOR) is to include a preliminary Species at Risk (SAR) screening assessment to identify if any SAR have potential to occur within or adjacent to the study area within a distance appropriate to determine impacts to the species or influence of species presence on the proposed *development* or *site alteration*. This may include species listed Provincially (ESA 2007) or federally (SARA 2004), as applicable to the species type and project.

²⁰ A Screening Assessment for *Significant Wildlife Habitat* (SWH) includes a desktop and secondary-source level assessment of habitats present against criteria for SWH in the applicable Ecoregion Criteria Schedule for the Project. This assessment approach is suitable for identifying most candidate habitat areas (e.g., by vegetation community); for most SWH types this approach is not enough to confirm presence or absence. Where candidate areas may be impacted, additional field surveys to confirm will be required.

²¹ A significant woodland assessment may require targeted field surveys to inform the assessment of significance (e.g., prism sweeps, forest patch age).

²² This survey approach should be limited to only those projects with low risk of impact to this species group and where the potential presence of Species at Risk or *Significant Wildlife Habitat* is very low.

-
- In-Field Habitat Assessment
 - Incidental / General Observations²¹
 - Detailed or Targeted Survey(s)
 - Mammals
 - In-Field Habitat Assessment
 - Incidental / General Observations
 - Detailed or Targeted Survey(s)
 - Terrestrial Crustaceans (e.g., chimney crawfish)
 - In-Field Habitat Assessment
 - Incidental / General Observations
 - Detailed or Targeted Survey(s)
 - Insects
 - In-Field Habitat Assessment
 - Incidental / General Observations
 - Detailed or Targeted Survey(s)

All of the above

- Aquatic
 - In-Field Habitat Assessment / General Assessment
 - Detailed / Targeted Survey(s)

All of the above

- Delineation of Features²³
 - Woodland (If determined to be a *significant woodland*)
 - Wetland
 - Valleyland (Top of Bank / Slope)
 - Other: _____

All of the above

Notes:

Part 3 – Other Studies²⁴

²³ Where Species at Risk are found to occur, delineation of habitat will also be required, but cannot be known at the scoping stage. Delineation of habitat is to be done in consultation with, or be approved by the MECP, as appropriate.

²⁴ These studies are generally prepared as stand-alone reports. Relevant information on the interaction of these processes and functions with natural heritage features and functions is to be addressed in the EIS. It is strongly encouraged that the programs for these studies be integrated with the EIA Terms of Reference to ensure information appropriate to informing the EIA is collected.

-
- Geotechnical
 - Secondary Source
 - Study Required
 - Hydrogeological
 - Secondary Source
 - Study Required
 - Geomorphological
 - Secondary Source
 - Study Required
 - Surface Water (e.g. hydrologic review, fluvial geomorphology)
 - Secondary Source
 - Study Required
 - Natural Hazard(s)²⁵
 - Secondary Source
 - Study Required
 - Wetland Water Balance
 - Other (specify): _____

All of the above

- Secondary Source
- Study Required

Part 4 – Terms of Reference Requirements

- Introduction
 - Description of Subject Property
 - Description of proposed *development* or *site alteration*
 - Description of known site history pertinent to the EIA (e.g., former land use(s), grading, filling)
 - Description of landscape context
 - Map:** location of subject property, orthophotography base.
 - Planning Context
 - Legislative, regulatory and policies applicable to the property and the proposed *development* or *site alteration*.
 - Current land use designation and zoning
 - Proposed land use designation and zoning to support proposed *development*
 - Background Review
 - List relevant natural heritage information secondary sources (e.g., species atlases, databases);
 - List relevant existing studies, plans, etc. (if / as available).
 - Map:** location of subject property, mapped feature(s), orthophotography base.
 - Biophysical Inventory
 - Define and provide rationale for study area.
 - Detailed study approach and methods for all identified inventories and delineations identified in **Part 2**. Where there is rationale to exclude a specific feature or area from assessment, provide rationale for consideration. Appropriate justification /
-

²⁵ This includes slopes, valleylands, steep and oversteep slopes, etc.

rationale for single-season or multi-season surveys shall be provided (e.g., vegetation community / ELC, wetland delineation, etc.)

- Map:** location of proposed surveys, subject property, proposed study area, orthophotography base.

- Biophysical Analysis**

Describe the general approach and anticipated approach and/or method(s) of analyses for the following:

- Species at Risk:**
 - Preliminary screening assessment to be provided as part of the TOR. This will inform the field program.
- Significant Wildlife Habitat:**
 - Preliminary screening assessment to be provided as part of the TOR. This will inform the field program.
- Evaluation of significance for natural heritage species, features and/or areas within the study area against appropriate policies and guidelines²⁶;
- Linkage* Assessment;
- Enhancement Area(s);
- Natural Hazards within the study area;
- Buffer* assessment;

- Alternative Assessment**

Outline approach to identifying or assessing alternatives to avoid or minimize impacts.

- Impact Assessment**

Confirm scope includes an impact assessment that will consider direct, indirect (including induced) and cumulative impacts and provide general approach to impact assessment.

- Mitigation**

Confirm scope includes identification of mitigation measures that effectively address anticipated impacts resulting from the proposed development or site alteration. Mitigation is to include recommendations for enhancement or restoration.

- Monitoring Program**

If a monitoring program may be required, confirm that consideration and recommendations for a monitoring plan (or rationale that one is not required) will be included in the EIA.

- Recommendations and Conclusions**

Confirm that recommendations and conclusions with respect to the 'no negative impact' test will be included in the EIA.

- Maps and Figures**

Outline anticipated maps and figures to be prepared for and included in the EIA to document and support assessment(s), recommendations and conclusions.

Note: Maps / figures may be combined for ease of production and review. The maps / figures listed are provided to illustrate the information that is to be included as part of the TOR submission.

²⁶ This may include local municipal, regional, provincial, federal legislation, policies, plans and guidance documents, as appropriate and applicable to the study area, project type, species and features.

CHECKLIST COMPLETION RECORD

A record of the individuals who complete the checklist is provided below.

COMPLETED BY:	
Name: _____	Name: _____
Position _____	Position _____
Agency: _____	Agency: _____
Contact Information: _____	Contact Information: _____
Date: _____	Date: _____

CHECKLIST COMPLETION RECORD (Continued)

COMPLETED BY (Continued):			
Name:	_____	Name:	_____
Position	_____	Position	_____
Agency:		Agency:	
Contact Information:		Contact Information:	
Date:	_____	Date:	_____

Appendix D-3

EIA Submission Checklist

The EIA shall be submitted as part of a complete application. The proponent's consultant will use the **EIA Submission Checklist** to confirm that the EIA meets submission requirements and has been prepared in accordance with an approved TOR. The *Lead Planning Authority* will review the submission and checklist to confirm it satisfactorily meets submission requirements. If the submitted EIA does not meet the submission standards or was not prepared in accordance with the approved TOR, the *Lead Planning Authority* may return the submission. The identified deficiencies must be addressed, and the EIA re-submitted prior to the initiation of the review process.

Applicant: _____ Consultant: _____

Phone: _____ Phone: _____

Email: _____ Email: _____

Address: _____ Address: _____

Development or site alteration Application Address:

Complete Application Verification Checklist (For Use by Lead Planning Authority)

Lead Planning Authority: _____

- 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size
- A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed
- Copy of approved Terms of Reference appended to EIA
- Digital copy of report, data and shapefiles
- Complete EIA Submission Checklist completed and signed by proponent (or delegate)

EIA Submission:

- Accept
- Return (if submission is returned, please provide written justification to proponent and request resubmission)

Signature: _____ Date: _____

EIA Completion Checklist (For Use by Proponent / EIA Consultant)

Reporting Standard

- 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size.
- A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed.
- Provide contact information for the consulting company/ principle author of the report .

- Digital copy of report, data and shapefiles.
-

Content

The following is a checklist of all the potential sections that may need to be addressed as part of and EIA. This checklist shall be used in the context of the approved EIA Terms of Reference. In the notes section below to describe why a piece wasn't included, such as it not being required in the Terms of Reference.

Date of approved Terms of Reference: _____

Introduction

- Descriptions of the subject property (natural features and areas, land cover, existing hard surfaces or buildings).
- Descriptions of the type and scale of the *development* or *site alteration* proposal (including any required servicing, *infrastructure* upgrades or stormwater facilities, existing or proposed trails).
- Description of the historical and present use of the subject property:
 - Grading and filling activities
 - Brownfield contamination
- Description of the site context/study area and the subject property's relationship to the surrounding landscape.
- Map(s) of the *development* or *site alteration* location, subject property and study area.
 - Orthographic map with known natural heritage features/ areas overlaid.

Planning Context

- Identify the current land use designations and zoning for the subject property and for the adjacent lands.
- Identify the type of required applications / permits.
- Map(s) of the *development* or *site alteration* location and extent of area to be studied including current zoning/land use.
- Identify environmental legislative, regulatory and policy requirements that may affect the *development* or *site alteration* proposal, including clauses relevant to the proposal.

Background Review

(may be included in Characterization of the *Natural Environment*)

- Identify relevant information from existing studies, plans, databases and other sources to be analyzed as part of the EIA.
- Identify and incorporate important information from additional technical studies such as: geotechnical, hydrogeologic and hydrologic studies.

Characterization of the Natural Environment

- Describe the study methods for natural heritage features and areas, wildlife, *wildlife habitat* and Species at Risk in detail (including time of year, level of search effort, etc.) as well as for delineating feature boundaries.
- Identify and describe all known or candidate natural heritage features and areas within the study area and specify their boundaries.
- Characterize the existing conditions of the following based on the accumulated data:
 - Geology and soils

- Hydrology and hydrogeology
 - Aquatic and *fish habitat*
 - Terrestrial and wetland vegetation
 - Wildlife
 - Natural hazards
 - Connectivity and ecological *linkages*
- Include map(s) showing locations for field studies (study area boundary, plots, stations, transect(s)), natural heritage features and areas (including their limits), etc.
 - Include completed SAR Screening Table as an appendix.
 - Include completed SWH Screening Table as an appendix.

Data Analysis

Natural Heritage and Natural Hazard Assessment

- Assess the various natural heritage features and areas against the appropriate policies and guidelines to determine significance.
- Assess the various natural heritage features and areas against the appropriate policies and guidelines related to natural hazards.
- Include an assessment of appropriate *buffers* and/or setbacks.

Opportunities and Constraints

- Discuss and depict Natural Heritage and Natural Hazard Opportunities and Constraints.
- Identify all of the constraints to potential *development* or *site alteration* related to natural heritage features and areas identified for protection, as well as natural hazards, including their respective *buffers* and setbacks.
- Identify opportunities for *development* or *site alteration* on the subject property that work within the limitations of the site-specific constraints.
- Identify opportunities for restoration, enhancement and/or stewardship opportunities.
- Depict constraints and opportunities in a Figure.
- Environmental Policy Analysis.
- Include an environmental policy analysis confirming how the proposal meets (or doesn't meet) the applicable policies and legislation as described in the Planning Context section (see above).

Impact Analysis

- Detailed description of the proposed *development* or *site alteration* as it relates to potential impacts to the natural heritage features and areas identified for protection, and/or their *ecological functions*. Consider elements such as: built form, grading, stormwater management, servicing, trails and post-*development* use of the land.
- Include a water balance (or appended/cross reference to a supporting study) with a supporting impact analysis in the EIA when addressing hydrological impacts.
- Include an impact assessment that considers both short-term and long-term impacts, including:
 - *Direct Impacts*
 - *Indirect Impacts (including induced)*
 - *Cumulative Impacts*

*It is recommended to use a table format to summarize the impact analysis section.

- The Evaluation of Alternative Options/Measures describes how impacts can be mitigated through use of Best Management Practices, and innovative measures. The iterative process undertaken by the design team is included in this section.

- Where trails are part of the *development*, identify and describe the opportunities for alternative trail alignments and approaches.
- Summarize preferred alternative(s) for the proposal.
- Recommend Mitigation Measures (including avoidance, enhancement, restoration, outreach, education and stewardship).

Monitoring

- Include a Monitoring Plan for performance and effectiveness of mitigation measures. Consider whether adequate baseline information has been collected and provide recommended time frame for monitoring program. Where an EIR is being recommended the monitoring plan will form a starting point for the EIR.

Recommendations and Conclusion

- Recommendations and Concluding Statement.

Appendices and attachments

- EIA Terms of Reference and *Lead Planning Authority* approval thereof
- Mapping and figures
- Species lists
- Additional technical studies, as applicable

Files and Permissions

- Digital copy of EIA and appendices are provided in PDF or Word format
- If available at time of submission, species data is provided as an excel file
- If available at time of submission, GIS shapefiles are provided in ESRI Compatible Format**

**Permission is given to Halton Region, *Lead Planning Authority*, as well as the CA and NEC (as appropriate / applicable) to utilize data collected from this study.

I _____, agent for _____, confirm that the attached Draft Environmental Impact Assessment (EIA) addresses the scope of work outlined in the approved Terms of Reference, contains the above study requirements and has been completed in accordance with the Region’s EIA Guideline.

Signature: _____ Date: _____

Appendix D-5

Final Submission Checklist

This checklist is to be completed by

Applicant: _____ Consultant: _____

Phone: _____ Phone: _____

Email: _____ Email: _____

Address: _____ Address: _____

Development or Site Alteration Application Address:

Final EIA Submission Verification Checklist

(For Use by *Lead Planning Authority*)

Lead Planning Authority: _____

- 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size
- A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed
- Digital copy of report, data and shapefiles
- Final EIA Submission Checklist completed and signed by the proponent (or delegate)

Final EIA Package Submission:

- Accept
- Return (if submission is returned, please provide written justification to proponent and request resubmission)

Signature: _____ Date: _____

Final EIA Data Package Submission Checklist

(For Use by *Proponent / EIA Consultant*)

- The approved EIA report with any associated addenda; A title page that includes: the name of the applicant, address of the subject property, lists the author(s) of the report, the consulting firm(s) and the date the report was completed
- 8 ½ by 11 paper (maps, figures and appendices may be on 11 by 17), double sided in a standard font of reasonable size
- Provide contact information for the consulting company/ principle author of the report
- A revised *development* or *site alteration* proposal (if required);
- Mechanisms or plan for implementation of recommendations identified in the approved EIA;

- GIS data package;
- Digital copy of report, data and shapefiles
- Species data is provided as an excel file
- Survey results tables;
- Datasheets.

Appendices and attachments

- Approved Terms of Reference
- Mapping and Figures
- Species List
- Additional studies, applicable
- Addendums to the EIA, as applicable
- Correspondence and review comments/responses, as applicable

Files and Permissions

- Digital copy of EIA and appendices are provided in PDF or Word format
- Species observational data is provided:
 - As an excel (.xls) file;
 - Attributed to observation points (e.g., breeding bird stations) or vegetation community (e.g., transects / area searches, plant species);
 - Pertinent information is to be provide with the species data, including: date, observer, evidence type / code (fauna), abundance, as applicable;
 - Data is **not** to be generalized to the project or study area;
 -
 - Specific point or polygon locations for uncommon or rare species is to be provided (as applicable);
- GIS shapefiles are provided:
 - In ESRI shapefile or GRID file format;
 - UTM-17N, NAD-83 projection;
 - Meter map units;
 - Shapefiles are to be accompanied by XML metadata file and PRJ projection file.

**Permission is given to Halton Region, *Lead Planning Authority*, as well as the CA and NEC (as appropriate / applicable) to utilize data collected from this study.

I _____, agent for _____, confirm that the attached Draft Environmental Impact Assessment (EIA) addresses the scope of work outlined in the approved Terms of Reference, contains the above study requirements and has been completed in accordance with the Region’s EIA Guideline.

Signature: _____ Date: _____

Appendix E: EIA Content Tools

Appendix E-1

List of Background Information Sources

The following references provide important information and guidance for species, habitats and other features that may be present and can inform field data collection requirements and analysis necessary for the completion of an EIA. This list is not exhaustive and represents only the most commonly used resources. Other site-specific resources may be available, such as EIAs completed for nearby projects, Environmental Study Reports for nearby Class Environmental Assessments (EAs), *conservation authority* subwatershed studies and other documents. Site-specific background materials may be identified in consultation with Regional planners, *conservation authority* staff, management biologists at the Ministry of Natural Resources and Forestry (MNR) and/or other agency staff.

General References for all EIA studies:

- Data from the Natural Heritage Information Centre (NHIC): <https://www.ontario.ca/page/get-natural-heritage-information>
- Halton Region. 2005. *Environmentally Sensitive Area Consolidation Report*.
- *Conservation authority* guideline or recommendation documents, as available, may include but are not limited to:
 - Landscaping and *tree* protection guidelines
 - Recommended seed mixes and / or species
 - Road ecology design guidelines
 - Monitoring protocols
 - Hydrological study guidelines
 - Wetland water balance guidelines
- Environment Canada. 2013. *How Much Habitat is Enough? Third Edition*. Environment Canada, Toronto, Ontario.
- Toronto and Region Conservation Authority (TRCA) and Credit Valley Conservation (CVC). 2014. Evaluation, Classification and Management of Headwater Drainage Features Guidelines. Available from <http://www.trca.on.ca/dotAsset/180724.pdf>
- Land Information Ontario (LIO) geospatial data: <https://www.ontario.ca/search/data-catalogue>
- Ontario Ministry of Transportation (MTO) Habitat Mapping protocols
- A data request should be submitted to the *conservation authority* may identify species, vegetation community (e.g., ELC), monitoring and other data relevant and applicable to an EIA.
- A data request to the local MNR district office may provide relevant and applicable information to an EIA.

Earth Sciences and Hydrology

- Chapman, L.J. and D.F. Putnam. 1984. *The Physiography of Southern Ontario, Fourth Edition*. Geological Survey, Special Volume 2, 270 p. Accompanied by Map P.2715 (coloured), scale 1:600 000.
- University of Guelph Department of Land Resource Studies. 2003. Field Manual for Describing Soils in Ontario. University of Guelph, Guelph, Ontario.
- Gillespie, J.E., R.E. Wicklund and M.H. Miller. 1971. The Soils of Halton County: Report No. 43 of the Ontario Soil Survey. Ontario Department of Agriculture and Food, Toronto, Ontario and Canada Department of Agriculture, Ottawa, Ontario.
- Wetland water balance risk evaluation tool (TRCA 2017) https://trca.ca/app/uploads/2017/12/WetlandWaterBalanceRiskEvaluation_Nov2017.pdf

Fish and Aquatic Habitat

- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk (SAR) mapping: <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>

- LIO Aquatic Resources Areas and *watercourse* data: <https://www.ontario.ca/search/data-catalogue>

Plants and Plant Communities

- NHIC provincial conservation status ranks for plant species and communities
- Oldham, M.J. and S.R. Brinker. 2009. *Rare Vascular Plants of Ontario*, Fourth Edition. MNRF, Peterborough, Ontario.
- Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. *Ecological Land Classification for Southern Ontario*. MNR, Peterborough, Ontario.
- *Distribution and Status of the Vascular Plants of the Greater Toronto Area* (Varga et. al. Draft 2005)
- Halton Natural Areas Inventory (NAI) Volumes 1 and 2 (2006) shall be considered the primary sources of information for local species status

Wildlife and Wildlife Habitat

- NHIC provincial conservation status ranks for wildlife species
- Cadman, M., D. Sutherland and G. Beck. 2009. *Atlas of the Breeding Birds of Ontario*. Bird Studies Canada. Available from <http://www.birdsontario.org/atlas/index.jsp>
- Ontario Nature. 2019. *Ontario Reptile and Amphibian Atlas*. Available from <https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/>
- Toronto Entomologists' Association. 2019. *Ontario Butterfly Atlas*. Available from http://www.ontarioinsects.org/atlas_online.htm
- Dobbyn, J.S. 1994. *Atlas of the Mammals of Ontario*. Federation of Ontario Naturalists, Toronto, Ontario.
- Citizen science data from publicly available platforms such as eBird (<https://ebird.org/home>) and iNaturalist (<https://www.inaturalist.org/home>)
- Halton NAI Volumes 1 and 2 (2006) shall be considered the primary sources of information for local species status
- Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregions 6E and 7E (MNRF, 2015)
- Ontario Ministry of Natural Resources (MNR). 2000. *Significant Wildlife Habitat Technical Guide*. MNR, Peterborough, Ontario.
- MNR. 2010. *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005*. Second Edition. MNR, Peterborough, Ontario.

Significant Species Regulations and Legislation

- *Species at Risk Act* (SARA), 2002, Regulations and Rankings (available from the SARA public registry: <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>)
- Ontario *Endangered Species Act* (ESA), 2007, Regulations and Rankings (available from <http://cossaroagency.ca/species/>)
- Species at Risk (SAR) Assessment Reports, Management Plans, Recovery Strategies, Government Response Statements, General Habitat Descriptions and other documentation
- *Fisheries Act*, 1985
- *Migratory Birds Convention Act*, 1994

Guideline Documents

- MNRF. 2014. *Ontario Wetland Evaluation System, Southern Manual*. Third Edition (Version 3.3).
- MNRF. 2014. *Significant Wildlife Habitat Mitigation Support Tool*. MNRF, Peterborough, Ontario.
- MNRF. 2016. *Guidance for Development Activities in Redside Dace Protected Habitat*. MNRF, Peterborough Ontario.

Appendix E-2

Common Methods

The following data sources, survey protocols and reference manuals provide important direction and detailed methods for field data collection and data analysis necessary for the completion of an EIA. Table 1 outlines optimal periods for field surveys and the preferred field survey methods to be used when completing an EIA.

Note that data collection requirements and protocols may be updated periodically and the list provided below may not represent the most recent versions/editions. The proponent is encouraged to contact Halton Region to ascertain the most current versions.

TABLE: Optimal Periods for Field Surveys and Preferred Field Survey Methods to be used when Collecting Natural Heritage Information

Notes:

For some taxa, repeated sampling may be required to accurately determine species presence and abundance.

Please refer to preferred field inventory method to determine the optimal period for field inventory, including the appropriate hours during the day or night to conduct field work. Regulations for *Endangered species* may require sampling over a period of more than one year to accurately determine species presence and abundance (see for example the Jefferson Salamander *Recovery Strategy* 2010). For all fieldwork undertaken, the EIA should describe the methods used and include date, time, location, weather conditions, staff, and other incidental information.

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
Water Temperature	<ul style="list-style-type: none"> July 1 to Sept 10, provided air temperature does not exceed 24.5°C and has not exceeded 24.5°C for previous 48 hours (daily maximum temperature) Any date, provided sampling date is preceded by three days without rainfall that could affect baseflow (spot temperature measurements) 	<ul style="list-style-type: none"> Data loggers 	References: <ul style="list-style-type: none"> Jones, N.E. and L. Allin. 2009. Measuring Stream Temperature Using Data Loggers: Laboratory and Field Techniques. MNR River and Stream Ecology Lab, Peterborough, Ontario. Chu et al. (2009). Evaluation of a Simple Method to Classify the Thermal Characteristics of Streams Using a Nomogram of Daily Maximum Air and Water Temperatures. North American Journal of Fisheries Management V29:1605–1619.
<i>Fish</i>	<ul style="list-style-type: none"> April to June (most fish) Various seasons for specific taxa 	<ul style="list-style-type: none"> Ontario Stream Assessment Protocol 	References: <ul style="list-style-type: none"> Stanfield, L. 2010. Ontario Stream Assessment Protocol, Version 8. MNRF

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
		<ul style="list-style-type: none"> • MTO Fish Habitat Assessment Protocol 	<p>Fisheries Policy Section, Peterborough, Ontario.</p> <ul style="list-style-type: none"> • MTO. 2009. Environmental Guide for Fish and Fish Habitat. MTO, Toronto, Ontario.
Benthos	<ul style="list-style-type: none"> • Spring or Fall 	<ul style="list-style-type: none"> • Ontario Benthos Biomonitoring Network protocols 	<p>References:</p> <ul style="list-style-type: none"> • Jones, C., K.M. Somers, B. Craig and T.B. Reynoldson. 2007. Ontario Benthos Biomonitoring Network: Protocol Manual. Ontario Ministry of the Environment, Dorset, Ontario.
Mollusks	<ul style="list-style-type: none"> • June 1 to September 30, providing water temperature is warmer than 16°C 	<ul style="list-style-type: none"> • Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario-Great Lakes Area 	<ul style="list-style-type: none"> • Mackie, G., T.J. Morris and D. Ming. 2008. Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario-Great Lakes Area (OGLA). DFO, Burlington, Ontario.
Vegetation	<ul style="list-style-type: none"> • Late April to mid-June (spring ephemerals) • mid-June to late August (summer flora) • late August to late September (late summer/fall flora) <p>If a single season for vegetation survey(s) has been accepted through an approved TOR, it should be completed during the summer flora period.</p>	<ul style="list-style-type: none"> • ELC System for Southern Ontario (1998, with updates) 	<ul style="list-style-type: none"> • Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario. MNR, Peterborough, Ontario. • NHIC provincial conservation status ranks for plants and plant communities • Oldham, M.J. and S.R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. MNRF, Peterborough, Ontario. • University of Guelph Department of Land Resource Studies. 2003. Field Manual for Describing Soils in Ontario. University of Guelph, Guelph, Ontario.

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
			<ul style="list-style-type: none"> Gillespie, J.E., R.E. Wicklund and M.H. Miller. 1971. The Soils of Halton County: Report No. 43 of the Ontario Soil Survey. Ontario Department of Agriculture and Food, Toronto, Ontario and Canada Department of Agriculture, Ottawa, Ontario.
Wetlands	<ul style="list-style-type: none"> Various components require study at different times of year Delineation for sites with challenging feature limits should occur the wet growing season and under normal growing conditions. 	<ul style="list-style-type: none"> Ontario Wetland Evaluation System (OWES), Southern Manual ELC System for Southern Ontario (1998, with updates) 	<p>Notes:</p> <ul style="list-style-type: none"> <i>wetland</i> evaluation requires inventories of plants and wildlife – follow protocols for taxa as outlined in this table <p>References:</p> <ul style="list-style-type: none"> MNRF. 2014. Ontario Wetland Evaluation System, Southern Manual, Third Edition.
Birds	<ul style="list-style-type: none"> May 24 to July 10 (most breeding birds); other dates for birds with different life histories (e.g. owls, waterfowl) March to April (migratory waterfowl); April to May (spring migrants); December to March (overwintering birds, such as raptors) 	<ul style="list-style-type: none"> Ontario Breeding Bird Atlas protocol Forest Bird Monitoring Program Marsh Monitoring Program Taxon-specific protocols developed by MNRF (e.g. winter raptors, migratory waterfowl, SAR birds) 	<p>References:</p> <ul style="list-style-type: none"> Marsh Monitoring Protocol (Canadian Wildlife Service and Bird Studies Canada) Forest Bird Monitoring Program protocol (Canadian Wildlife Service) Ontario Breeding Bird Atlas protocols and conventions (Cadman et al. 2007 and on-line summaries at http://www.birdsontario.org/atlas/index.jsp) Migratory Birds Convention Act (1994) City of Toronto Bird Friendly Design Guidelines
Mammals	<ul style="list-style-type: none"> Mid-May to mid-July (Bats) Various seasons for other taxa 	<ul style="list-style-type: none"> Bat survey protocols (MNRF) most accurate methods highly labour intensive 	<ul style="list-style-type: none"> MNRF. 2017. Survey Protocol for Species at Risk Bats within <i>Treed</i> Habitats: Little Brown Myotis, Northern Myotis and Tricolored Bats. MNRF. 2014. Use of Buildings and Isolated <i>Trees</i>

Natural Heritage Feature	Optimal Period for Field Inventory	Preferred Field Inventory Method	Notes and Related References
			by Species at Risk Bats: Survey Methodology.
Amphibians	<ul style="list-style-type: none"> March to early April (salamanders) April, May and June (amphibian call count surveys) 	<ul style="list-style-type: none"> Marsh Monitoring Program (MMP) Call Count Survey Protocol 	<ul style="list-style-type: none"> Bird Studies Canada, Environment Canada and United States Environmental Protection Agency. 2008. Marsh Monitoring Program: Participant's Handbook for Surveying Amphibians.
Turtles	<ul style="list-style-type: none"> May to August 	<ul style="list-style-type: none"> basking, nesting, road mortality surveys from late spring to late summer 	
Snakes	<ul style="list-style-type: none"> Spring and Fall (hibernacula) April to October (most snakes) 	<ul style="list-style-type: none"> Survey Protocol for Ontario's Species at Risk Snakes 	<ul style="list-style-type: none"> MNRF. 2016. Survey Protocol for Ontario's Species at Risk Snakes.
Butterflies	<ul style="list-style-type: none"> May to September (depending on species) 	<ul style="list-style-type: none"> active searching sweep net capture and release 	<ul style="list-style-type: none"> Commission for Environmental Cooperation. 2009. Monarch Butterfly Monitoring in North America: Overview of Initiatives and Protocols
Dragonflies and Damselflies	<ul style="list-style-type: none"> May to September (depending on species) 	<ul style="list-style-type: none"> active searching sweep net capture and release 	
SAR and SAR Habitat	<ul style="list-style-type: none"> Taxon-dependent 	<ul style="list-style-type: none"> Survey protocols for specific SAR prepared by MNRF (e.g., Butternut Health Assessment protocol) 	<ul style="list-style-type: none"> MNRF. 2014. Butternut Assessment Guidelines: Assessment of Butternut <i>Tree</i> Health for the Purposes of the <i>Endangered Species Act</i>, 2007.
<i>Significant Wildlife Habitat</i>	<ul style="list-style-type: none"> Taxon-dependent 	<ul style="list-style-type: none"> Study guidelines from SWH Criteria Schedules for Ecoregion 6E or 7E 	<ul style="list-style-type: none"> MNRF. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. MNRF. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E.

Appendix E-3

Impact Assessment, Mitigation Measures and Residual Impacts Table Example Template

The **Impact Assessment, Mitigation Measures and Residual Impacts Table** provides a composite table of impacts, mitigation and outcomes after implementation (i.e., residual impacts). Providing this information in table format facilitates review and clearly presents these key components of the EIA in supporting and assessing conclusions of ‘no *negative impact*’. Detailed descriptions of some components that will be repeated throughout the table (e.g., mitigation measures) should be provided in text so that lists can be used in the table to reduce overall table length and improve readability.

Impact	Development / Site alteration Activity or Condition Creating the Impact	Description of Impacts by Feature and/or Function	Mitigation Measures	Efficacy and / or Residual Impacts
<p><i>List each impact type / category in a separate row.</i></p> <p>e.g., vegetation removal, changes to surface drainage, etc.</p>	<p><i>List the activities, conditions or components of the development or site alteration that will or have potential to result in the impact identified in the first column.</i></p> <p>e.g., clearing, grading, creation of impermeable surfaces, etc.</p>	<p><i>Describe the potential impact to the feature(s) and / or function(s) using the following categories²⁷:</i></p> <ul style="list-style-type: none"> • <i>Direct</i> • <i>Indirect (including Induced)</i> • <i>Cumulative</i> 	<p><i>List recommended mitigation strategies to address impacts.</i></p>	<p><i>Assess efficacy of the mitigation measures / strategy in addressing the impact(s) described in the third column. Conclude whether there are any residual impact and the magnitude and severity of any residual impacts.</i></p>

²⁷ Impact categories are defined in Appendix A.

Appendix E-4

Potential Environmental Impacts

Environmental impacts associated with *development* or *site alteration* may be characterised as irreversible, short-term, construction related, long-term and cumulative. Impact analysis is to be based on the scientific literature available and should build on successful approaches that ensure long term protection of Halton's NHS based on a *systems approach* to EIA in environments undergoing *development* or *site alteration*. The second edition of the MNRF's Natural Heritage Reference Manual (Chapter 13: Addressing Impacts of *development* and *site alteration* and Table C.1 of Appendix C) should also be consulted when considering environmental impacts.

Examples of impacts that may be considered include, but are not limited to, the following:

1. Fragmentation or reduction in the size of the NHS;
2. Increase in the perimeter-to-area ratio of features within the NHS²⁸;
3. Loss of ecological features and supporting functions of agricultural lands adjacent to the NHS;
4. Alteration of natural disturbance cycles important to the ecological health and renewal of the NHS, such as flooding, erosion, deposition, disease, and fire, etc.;
5. Loss or reduction in functional ecological *linkage* of the NHS among natural features important for daily, seasonal and/or long term movement patterns of plants and animals;
6. Alteration of natural topography that results in impacts to the NHS;
7. Ongoing or increased potential for human or domestic animal impacts on the NHS, especially area-sensitive species, ground-nesting birds, small mammals, reptiles and amphibians;
8. Alteration of the quantity, quality, timing (hydroperiod) or direction of flow, of surface or ground water resulting in impacts to the NHS;
9. Alteration of the structure, functions or ecological interrelationships of natural habitat that sustains representative community associations or species populations;
10. Reductions in the size and diversity of species populations, or the health and reproductive capacity of species;
11. Removal of vegetation communities which are structural and/or functional element of the NHS;
12. Erosion or compaction of soils, slope failure, or deposition of sediment;
13. Increased potential for the introduction of non-native species;
14. Occupancy of lands adjacent to the NHS resulting in increased access, pets, night lighting, escape of horticultural plants, noise, dumping of waste, air pollution, water pollution, encroachment, increased presence of humans, etc.;

²⁸ Note: Wetlands may benefit from higher perimeter to area ratios (e.g., increase habitat complexity). This should be addressed if / as appropriate in the EIA. Note that this does not imply support for adding 'edge' to wetlands or other features as a result of proposed impacts.

15. Harmful Alteration, Disruption or Destruction (HADD) of *fish habitat* as defined by and pursuant to the Canada Fisheries Act; and,
16. Environmental impacts associated with aquatic environments:
- disruption or prevention of natural sediment transport regime
 - severing the connection of a *watercourse* from its *floodplain*
 - impairment or loss of *fish* passage through a *watercourse*
 - negative changes to the health, composition, density or type of riparian vegetation
 - negative changes to in-stream structure (e.g. overhanging banks, dynamic banks, hydraulic habitats that have formed over time, sand, gravel, and organic substrates)
 - enclosure of *watercourses* in underground pipes
 - excavation of on-line ponds
 - excavation of off-line pond that could be a source of thermal or water quality pollution with respect to surface and/or ground water resources
 - the lining of the banks or channel of any *watercourse* with hard materials

Appendix E-5

Potential Mitigation Measures

Mitigation measures are intended to maintain the health, features and function of the NHS components and contribute to reducing or eliminating potential short or long-term impacts from *development* or *site alteration* on the NHS. New strategies and methods for the mitigation of *development* or *site alteration* impacts can be expected to continuously emerge, and as such, proponents should refer to and cite recent scientific literature. Examples of mitigation measures may include, but are not limited to, the following:

1. Avoidance of natural features and functions;
2. Modifying or redesigning the proposal to reduce or eliminate impacts;
3. Dedication or transfer of natural areas to a public body;
4. *Buffers* and/or setbacks adequate to reduce impacts and preserve *ecological functions* along edges of natural features;
5. Consider use of ‘living fences’ to deter access into sensitive features or areas;
6. Measures to restore or enhance natural areas, features or functions onsite;
7. Installation of functional ecopassages for roads that cross natural areas to allow movement of resident plants and animals;
8. Construction timing restrictions to avoid critical periods such as *fish* spawning, herpetofauna breeding and hibernation periods, bird breeding and nesting (May 1st to July 31st)²⁹, and animal migrations and/or seasons when heavy construction equipment operating on exposed soils is most likely to cause soil erosion and siltation;
9. Effective temporary stormwater management and sediment control during construction;
10. Ministry of the Environment and Climate Change Enhanced permanent stormwater management facilities;
11. Innovative infiltration measures suitable for the site such as infiltration trenches, porous pavements, catchment cisterns, etc.;
12. Proper collection of ground water elevation data that will allow proponents to design *development* or *site alteration* in a way that will mitigate impacts to groundwater;
13. For waterways currently impacted by past human alteration wherever possible make every effort to:
 - “daylight” and restore waterways that currently exist in underground pipes;
 - remove human created impoundments that currently exist within *watercourses*; and
 - Rehabilitate hardened creek channels using natural channel design principles and techniques.

²⁹ The timing window provided is general and may not capture all birds occurring at the specific habitats or locations of the project site. Please refer to the Government of Canada Nesting Period information (<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#toc1>) and / or the Bird Studies Canada Nesting Query Tool (<https://www.birdscanada.org/volunteer/pnw/rnest/warning.jsp?lang=en>) for additional guidance for site and/or species specific considerations.

14. Institute strategies to reduce salt application to roads that cross or are located adjacent to waterways;
15. Consider adoption of on-site stormwater management including green roofs;
16. Low impact *development* techniques;
17. Urban design guidelines that consider factors such as window treatments to prevent bird strikes, lighting that does not impact adjacent natural areas, *street* and lot orientation that provides additional separation from natural features;
18. Salvaging strategies for plants and animals that will be directly impacted by *development* or *site alteration*;
19. Comprehensive ecological restoration plans;
20. Trail siting and design that considers ecological sensitivities and principles;
21. Promotion of stewardship initiatives;
22. Detailed *tree* saving plans developed to maximize *tree* saving through careful adjustment of final *development* or *site alteration* plans;
23. Installation of temporary and permanent fencing;
24. Posting securities for environmental damage repair; and
25. Promotion of public awareness through the development of homeowners' guides and the creation and installation of information signage.

Significant Wildlife Habitat Assessment Table Template

Ecoregion 7E

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seasonal Concentration Areas of Animals					
<p>Waterfowl Stopover and Staging Areas (Terrestrial)</p> <p>Rationale: Habitat important to migrating waterfowl.</p>	<p>American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan</p>	<p>CUM1 CUT1</p> <p>Plus evidence of annual spring flooding from meltwater or run-off within these Ecosites.</p> <p>Fields with seasonal flooding and waste grains in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee areas may be important to Tundra Swans.</p>	<ul style="list-style-type: none"> •Fields with sheet water during Spring (mid-March to May) •Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl •Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. •Reports and other information available from Conservation Authorities •Sites documented through waterfowl planning processes (eg. EHJV implementation plan) •Field Naturalist Clubs •Ducks Unlimited Canada •Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area 	<p>Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"</p> <ul style="list-style-type: none"> •Any mixed species aggregations of 100 or more individuals required •The flooded field ecosite habitat plus a 100-300m radius, dependent on local site conditions and adjacent land use is the significant wildlife habitat •Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates) •SWH MIST Index #7 provides development effects and mitigation measures. 	
<p>Waterfowl Stopover and Staging Areas (Aquatic)</p> <p>Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.</p>	<p>American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan 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</p>	<p>MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7</p>	<ul style="list-style-type: none"> •Ponds, marshes, lakes, bays, coastal inlets and <i>watercourses</i> used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify •These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Environment Canada •Naturalist clubs often are aware of staging/stopover areas. •OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. •Sites documented through waterfowl planning processes (e.g., EHJV implementation plan) •Ducks Unlimited projects •Element occurrence specification by Nature Serve: http://www.natureserve.org •Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area 	<p>Studies carried out and verified presence of:</p> <ul style="list-style-type: none"> •Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days •Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH •The combined area of the ELC ecosites and a 100m radius area is the SWH •Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). •SWH MIST Index #7 provides development effects and mitigation measures. 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Shorebird Migratory Stopover Area Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	<ul style="list-style-type: none"> •Shorelines of lakes, rivers and wetlands, including beach area, bars and seasonally flooded, muddy and un-vegetated shoreline habitats •Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October •Sewage treatment ponds and storm water ponds do not qualify as SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Western hemisphere shorebird reserve network •Canadian Wildlife Service (CWS) Ontario Shorebird Survey •Bird Studies Canada •Ontario Nature •Local birders and naturalist clubs •Natural Heritage Information Centre (NHIC) Shorebird Migratory Concentration Area 	<p>Studies confirming:</p> <ul style="list-style-type: none"> •Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #8 provides development effects and mitigation measures. 	
Raptor Wintering Area Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl Bald Eagle	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM, CUT, CUS, CUW. Bald Eagle: Forest Community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	<ul style="list-style-type: none"> •The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors •Raptor wintering (hawk/owl) sites need to be >20 ha with a combination of forest and upland •Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands •Field area of the habitat is to be wind swept with limited snow depth or accumulation. •Eagle sites have open water and large trees and snags available for roosting <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •OMNRF Ecologist or Biologist •Naturalist clubs •Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area •Data from Bird Studies Canada •Results of Christmas Bird Counts •Reports and other information available from Conservation Authorities 	<p>Studies confirming:</p> <ul style="list-style-type: none"> •Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #8 provides development effects and mitigation measures. <p>Studies confirm the sue of these habitats by:</p> <ul style="list-style-type: none"> •One or more Short-eared Owls or; one of more Bald Eagles or; at least 10 individuals and two of the listed hawk/owl species •To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. •The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area□ •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #10 and #11 provides development effects and mitigation measures. 	
Bat Hibernacula Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR3 CCA1 CCA2 (Note: buildings are not considered SWH)	<ul style="list-style-type: none"> •Hibernacula may be found in caves, mine shafts, underground foundations and Karsts •Active mine sites should not be considered as SWH •The locations of Bat Hibernacula are relatively poorly known. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •OMNRF for possible locations and contact for local experts •Natural Heritage Information Centre (NHIC) Bat Hibernaculum •Ministry of Northern Development and Mines for location of mine shafts. •Clubs that explore caves (eg. Sierra Club) •University Biology Departments with bat experts. 	<ul style="list-style-type: none"> •All sites with confirmed hibernating bats are SWH •The area includes 200 m radius around the entrance of the hibernaculum for most development types and 1000 m for wind farms •Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects" •S□WH MIST Index #1 provides development effects and mitigation measures. 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD, FOM, SWD, SWM	<ul style="list-style-type: none"> •Maternity colonies can be found in <i>tree</i> cavities, vegetation and often in buildings (buildings are not considered to be SWH). •Maternity roosts are not found in caves and mines in Ontario •Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife <i>trees</i> •Female bats prefer wildlife <i>trees</i> (snags) in early stages if decay, class 1-3 or class 1 or 2 •Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in <i>tree</i> cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •OMNRF for possible locations and contact for local experts •University Biology Departments with bat experts. 	<ul style="list-style-type: none"> •Maternity colonies with confirmed use by: <ul style="list-style-type: none"> o>10 Big Brown Bats o>5 adult female Silver-haired Bats •The area of habitat includes the entire woodland or a forest stand ELC Ecosite or an Eco-element containing the maternity colonies •Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects” •S□WH MIST Index #12 provides the development effects and mitigation measures. 	
Turtle Wintering Areas Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant	Special Concern: Midland Painted Turtle Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles: SW, MA, OA and SA; FEO and BOO. Northern Map Turtle: Open water areas such as deeper rivers or streams and lakes with current can also be used as overwintering habitat.	<ul style="list-style-type: none"> •For most turtles, wintering areas are in the same general areas as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. •Overwintering sites are permanent water bodies, large wetlands and bogs or fens with adequate dissolved oxygen. •Manmade ponds such as sewage lagoons or storm water ponds should not be considered SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •EIA/EIS studies carried out by conservation authorities. •Field naturalists clubs. •OMNRF ecologist or biologist •NHIC 	<ul style="list-style-type: none"> •Presence of five overwintering Midland Painted Turtles is significant. •One or more Northern Map Turtle or Snapping Turtle overwintering within a wetland is significant. •The mapped ELC ecosite area with the overwintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are overwintering is the SWH. •Overwintering areas may be identified by searching for congregations (basking areas) of turtles on warm, sunny days during the fall (September to October) or spring (March to May). Congregation of turtles is more common where wintering areas are limited and therefore significant. •SWH MIST Index #28 provides development effects and mitigation measures for turtle wintering habitat 	
Reptile Hibernaculum Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are	Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Special Concern: Milksnake Eastern Ribbonsnake	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator.	<ul style="list-style-type: none"> •For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. •Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line •Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens or depressions in bedrock terrain with sparse <i>trees</i> or shrubs with sphagnum moss or sedge hummock ground cover. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •I In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). •Reports and other information available from Conservation Authorities. •Field Naturalist Clubs •University herpetologists •Natural Heritage Information Centre (NHIC) 	<p>Studies confirming:</p> <ul style="list-style-type: none"> •Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. •Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) •NOTE: If there are Special Concern Species present, then site is SWH •NOTE: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. •The feature in which the hibernacula is located plus a 30 m radius area is the SWH •SWH MIS Index #13 provides development effects and mitigation measures for snake hibernacula. 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	<ul style="list-style-type: none"> Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources <ul style="list-style-type: none"> Reports and other information available from Conservation Authorities Ontario Breeding Bird Atlas Bird Studies Canada NatureCounts http://www.birdscanada.org/birdmon Field Naturalist Clubs 	Studies confirming: <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. A □ colony identified as SWH will include a 50m radius habitat area from the peripheral nests Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWH MIST Index #4 provides development effects and mitigation measures. 	
Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	<ul style="list-style-type: none"> Nests in live or dead standing <i>trees</i> in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in <i>trees</i> are 11 to 15 m from ground, near the top of the <i>tree</i>. Information Sources <ul style="list-style-type: none"> Ontario Breeding Bird Atlas colonial nest records. Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony Aerial photographs can help identify large heronries. Reports and other information available from Conservation Authorities. MNRF District Offices Field Naturalist Clubs. 	Studies confirming: <ul style="list-style-type: none"> Presence of 2 or more active nests of Great Blue Heron or other listed species. The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15 ha with a colony is the SWH Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells SWH MIST Index #5 provides development effects and mitigation measures. 	
Colonially -Nesting Bird Breeding Habitat (Ground) Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map). Close proximity to <i>watercourses</i> in open fields or pastures with scattered <i>trees</i> or shrubs (Brewer's Blackbird) MAM1 – 6 MAS1 – 3 CUM CUT CUS	<ul style="list-style-type: none"> Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources <ul style="list-style-type: none"> Ontario Breeding Bird Atlas, rare/colonial species records. Canadian Wildlife Service Reports and other information available from Conservation Authorities. Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area MNRF District Offices. Field Naturalist Clubs 	Studies confirming: <ul style="list-style-type: none"> Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern Presence of 5 or more pairs for Brewer's Blackbird Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3 ha with a colony is the SWH Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWH MIST Index #6 provides development effects and mitigation measures. 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Migratory Butterfly Stopover Areas Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral Special Concern: Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: FIELD: CUM, CUT, CUS FOREST: FOC, FOD, FOM, CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	<ul style="list-style-type: none"> •A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Erie or Lake Ontario •The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south •The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat •Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •MNR District Offices •Natural Heritage Information Centre (NHIC) •Agriculture Canada in Ottawa may have list of butterfly experts. •Field Naturalist Clubs •Toronto Entomologists Association 	Studies confirm: <ul style="list-style-type: none"> •The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days the site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur •Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. •MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. •SWH MIST Index #16 provides development effects and mitigation measures. 	
Landbird Migratory Stopover Areas Rationale: Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptor species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD	<ul style="list-style-type: none"> •Woodlots >5 ha in size and within 5 km of Lake Erie and Lake Ontario. If woodlands are rare in an area of shoreline, woodland fragments 2-5 ha can be considered for this habitat •If multiple woodlands are located along the shoreline those woodlands <2 km from Lake Erie and Lake Ontario are more significant •Sites have a variety of habitats: forest, grassland and wetland complexes •The largest sites are more significant •Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and within 5 km of Lake Erie and Lake Ontario are Candidate SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Bird Studies Canada •Ontario Nature •Local birders and field naturalist clubs •Ontario Important Bird Areas (IBA) Program 	Studies confirm: <ul style="list-style-type: none"> •Use of the habitat by >200 birds/day and with >35 species and with at least 10 bird species recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant •Studies should be completed during spring (Mar.-May) and fall (Aug.-Oct.) migration using standardized assessment techniques. Evaluation to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #9 provides development effects and mitigation measures. 	
Deer Winter Congregation Areas Rationale: Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions	White-tailed Deer	All forested Ecosites with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD Conifer plantations much smaller than 50 ha may also be used.	<ul style="list-style-type: none"> •Woodlots >100 ha in size or if large woodlots are rare in a planning area, woodlots >50 ha •Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands •Large woodlots >100 ha and up to 1,500 ha are known to be used annually by densities of deer that range from 0.1-0.5 deer/ha •Woodlots with high densities of deer due to artificial feeding are not significant. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •MNR District Offices •LIO/NRVIS 	Studies confirm: <ul style="list-style-type: none"> •Deer management is an MNR responsibility, deer winter congregation areas considered significant will be mapped by MNR •Use of the woodlot by white-tailed deer will be determined by MNR, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNR •Studies should be complete4d during winter (Jan./Feb.) when >20 cm of snow is on the ground using aerial survey techniques, ground road surveys, or a pellet count deer survey •SWH MIST Index #2 provides development effects and mitigation measures 	
Rare Vegetation Communities					
Cliffs and Talus Slopes Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	<ul style="list-style-type: none"> •Most cliff and talus slopes occur along the Niagara Escarpment <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •The Niagara Escarpment Commission has detailed information on location of these habitats •OMNR Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities 	<ul style="list-style-type: none"> •Confirm any ELC Vegetation Type for Cliffs or Talus Slopes •SWH MIST Index #21 provides development effects and mitigation measures 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Sand Barren Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). <i>Tree</i> cover always <60%	Sand barrens typically are exposed sand, generally sparsely vegetated and caused by a lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to <i>tree</i> covered but less than 60%.	<ul style="list-style-type: none"> •A sand barren area >0.5 ha in size <u>Information Sources</u> <ul style="list-style-type: none"> •The Niagara Escarpment Commission has detailed information on location of these habitats •OMNRF Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities 	<ul style="list-style-type: none"> •Confirm any ELC Vegetation Type for Sand Barrens •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •SWH MIST Index #20 provides development effects and mitigation measures 	
Alvar Rationale: Alvars are extremely rare habitats in Ecoregion 7E.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Indicator Species: Carex crawei Panicum philadelphicum Eleocharis compressa Scutellaria parvula Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 7E	An Alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% <i>tree</i> cover	<ul style="list-style-type: none"> •An Alvar site >0.5 ha in size •Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie <u>Information Sources</u> <ul style="list-style-type: none"> •Alvars of Ontario (Federation of Ontario Naturalists, 2000) •Conserving Great Lakes Alvars (Ontario Nature) •OMNRF Districts •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities 	<ul style="list-style-type: none"> •Field studies identify that four of the five Alvar Indicator Species at a Candidate Alvar Site is significant •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses •SWH MIST Index #17 provides development effects and mitigation measures 	
Old Growth Forest Rationale: Due to historic logging practices and land clearance for agriculture, old growth forest is rare in Ecoregion 7E.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth Forests are characterized by heavy mortality or turnover of over-storey <i>trees</i> resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	<ul style="list-style-type: none"> •Woodland area is >0.5 ha <u>Information Sources</u> <ul style="list-style-type: none"> •OMNRF Forest Resource Inventory mapping •OMNRF Districts •Field Naturalist Clubs •Conservation Authorities •Sustainable Forestry License (SFL) companies will possibly know locations through field operations •Municipal forestry departments 	Field studies will determine: <ul style="list-style-type: none"> •If dominant <i>tree</i> species of the forest are >140 years old, then the area containing these <i>trees</i> is SWH •The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) •The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH •Determine ELC vegetation types for the forest area containing the old growth characteristics •SWH MIST Index #23 provides development effects and mitigation measures 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Savannah Rationale: Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	<p>A Savannah is a tallgrass prairie habitat that has <i>tree</i> cover between 25-60%</p> <p>In Ecoregion 7E, known tallgrass prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).</p>	<ul style="list-style-type: none"> •No minimum size to site •Site must be restored or a natural site. Remnant sites such as railway right-of-ways are not considered SWH <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities 	<p>Field studies confirm:</p> <ul style="list-style-type: none"> •One or more of the Savannah indicator species listed in Appendix N should be present. Note: savannah plant spp. List from Ecoregion 7E should be used. •Area of the ELC Ecosite is the SWH •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •SWH MIST Index #18 provides development effects and mitigation measures. 	
Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	<p>A tallgrass prairie has ground cover dominated by prairie grasses. An open tallgrass prairie habitat has <25% <i>tree</i> cover.</p> <p>In Ecoregion 7E, known tallgrass prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).</p>	<ul style="list-style-type: none"> •No minimum size to site •Site must be restored or a natural site. Remnant sites such as railway right-of-ways are not considered SWH <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities 	<p>Field studies confirm:</p> <ul style="list-style-type: none"> •One or more of the Prairie indicator species listed in Appendix N should be present. Note: savannah plant spp. List from Ecoregion 7E should be used. •Area of the ELC Ecosite is the SWH •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic spp.) •SWH MIST Index #19 provides development effects and mitigation measures. 	
Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.		<p>Provincially rare (S1, S2, S3) vegetation communities are listed in Appendix M of the Significant Wildlife Habitat Technical Guide (MNR, 2000). Any ELC Ecosite Code that has a possible ELC Vegetation Type that is provincially rare is candidate SWH.</p> <p>Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.</p>	<ul style="list-style-type: none"> •ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M of the Significant Wildlife Habitat Technical Guide (MNR, 2000). •MNR/NHIC will have up to date listing for rare vegetation communities. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Natural Heritage Information Centre (NHIC) has location information available on their website •Field Naturalist Clubs •Conservation Authorities 	<ul style="list-style-type: none"> •Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of the Significant Wildlife Habitat Technical Guide (MNR, 2000). •Area of the ELC Vegetation Type polygon is the SWH. •SWH MIST Index #37 provides development effects and mitigation measures. 	

Ecoregion 7E Habitat Type	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Specialized Habitat for Wildlife					
Waterfowl Nesting Area Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4 NOTE Includes adjacency to Provincially Significant Wetlands	<ul style="list-style-type: none"> •A waterfowl nesting area extends 120 m from a wetland (>0.5 ha) or a wetland (>0.5 ha) and any small wetlands (0.5 ha) within 120 m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur •Upland areas should be at least 120 m wide so that predators such as raccoons, skunks and foxes have difficulty finding nests •Wood Ducks and Hooded Mergansers utilize large diameter <i>trees</i> (>40 cm dbh) in woodlands for cavity nest sites. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Ducks Unlimited staff may know the locations of particularly productive nesting sites •MNRF Wetland Evaluations for indication of significant waterfowl nesting habitat •Reports and other information available from Conservation Authorities 	Studies confirmed: <ul style="list-style-type: none"> •Presence of 3 or more nesting pairs for listed species excluding Mallards, or; •Presence of 10 or more nesting pairs for listed species including Mallards. •Any active nesting site of an American Black Duck is considered significant. •Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •A field study confirming waterfowl nesting habitat will determine boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest •SWH MIST Index #25 provides development effects and mitigation measures. 	
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Rationale: Nest sites are fairly uncommon in Eco - region 7E and are used annually by the se species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey SPECIAL CONCERN Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	<ul style="list-style-type: none"> •Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. •Osprey nests are usually at the top a <i>tree</i> whereas Bald Eagle nests are typically in super canopy <i>trees</i> in a notch within the <i>tree's</i> canopy. •Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms) <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •NHIC compiles all known nesting sites for Bald Eagles in Ontario •MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat •Nature Counts, Ontario Nest Records Scheme data. •OMNRF District. •Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented •Reports and other information available from Conservation Authorities. •Field Naturalists clubs 	Studies confirm the use of these nests by: <ul style="list-style-type: none"> •One or more active Osprey or Bald Eagle nests in an area •Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large <i>trees</i> within this area is important •For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800 m is dependent on sight lines from the nest to the development and inclusion of perching and foraging habitat •To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid-August. •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #26 provides development effects and mitigation measures 	
Woodland Raptor Nesting Habitat Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3.	<ul style="list-style-type: none"> •All natural or conifer plantation woodland/forest stands >30 ha with > 4 ha of interior habitat. Interior habitat determined with a 200 m buffer. •Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests, within tops or crotches of <i>trees</i>. Species such as Cooper's Hawk nest along forest edges sometimes on peninsulas or small off-shore islands. •In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •OMNRF Districts. •Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. •Check data from Bird Studies Canada. •Reports and other information available from Conservation Authorities. 	Studies confirm: <ul style="list-style-type: none"> •Presence of one or more active nests from species list is considered significant •Red-shouldered Hawk and Northern Goshawk – A 400 m radius around the nest or 28 ha area of habitat is the SWH. The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest. •Barred Owl – A 200m radius around the nest is the SWH •Broad-winged Hawk and Coopers Hawk, – A 100m radius around the nest is the SWH •Sharp-Shinned Hawk – A 50m radius around the nest is the SWH •Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. •SWH MIST Index #27 provides development effects and mitigation measures 	

Ecoregion 7E Habitat Type	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Turtle Nesting Areas Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles	Special Concern: Midland Painted Turtle Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1, FEO1	<ul style="list-style-type: none"> •Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. •For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and is located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. •Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes and rivers are most frequently used. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). •Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. •Natural Heritage Information Centre (NHIC). •Field naturalist clubs. 	Studies confirm: <ul style="list-style-type: none"> •Presence of 5 or more nesting Midland Painted Turtles. •One ore more Northern Map Turtles or Snapping Turtles nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 to 100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. •Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 to 100 m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. •SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat. 	
Seeps and Springs Rationale: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamanders	Seeps/springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	<ul style="list-style-type: none"> •Any forested area (with <25% meadow/field/ pasture) within the headwaters of a stream or river system •Seeps and springs are important feeding and drinking areas. Especially in the winter will support a variety of plant and animal species. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Topographical Map. •Thermography. •Hydrological surveys conducted by Conservation Authorities and MOECC. •Field Naturalists Clubs and landowners. •Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped 	Studies confirm: <ul style="list-style-type: none"> •Presence of 5 or more nesting Midland Painted Turtles. •One ore more Northern Map Turtles or Snapping Turtles nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30 to 100 m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. •Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30 to 100 m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. •SWH MIST Index #28 provides development effects and mitigation measures for turtle nesting habitat. Field studies confirm: <ul style="list-style-type: none"> •Presence of a site with 2 or more seeps/springs should be considered SWH. •The area of an ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of <i>trees</i> and ground water condition need to be considered in delineation the habitat •SWH MIST Index #30 provides development effects and mitigation measures 	
Amphibian Breeding Habitat (Woodland). Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	<ul style="list-style-type: none"> •Presence of a wetland, pond or woodland pool (including vernal pools) >500 m² (about 25 m diameter) within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. •Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records •Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. •OMNRF Districts and wetland evaluations •Field Naturalist clubs •Canadian Wildlife Service Amphibian Road Call Survey •Ontario Vernal Pool Association: http://www.ontariovernalpools.org 	Studies confirm: <ul style="list-style-type: none"> •Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or egg masses) or 2 or more of the listed frog species with Call Level Codes of 3. •A combination of observational study and call count surveys will be required during the spring (Mar.-Jun.) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands •The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. •SWH MIST Index #14 provides development effects and mitigation measures 	

Ecoregion 7E Habitat Type	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120 m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bullfrog) may be adjacent to woodlands.	<ul style="list-style-type: none"> Wetlands >500m² (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators Bullfrogs require permanent water bodies with abundant emergent vegetation. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Ontario Herpetofaunal Summary Atlas (or other similar atlases) Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. OMNRF Districts and wetland evaluations. Reports and other information available from Conservation Authorities 	Studies confirm: <ul style="list-style-type: none"> Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3 or; Wetland with confirmed breeding Bullfrogs are significant The ELC ecosite wetland area and the shoreline are the SWH A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. SWH MIST Index #15 provides development effects and mitigation measures. 	
Woodland Area -Sensitive Bird Breeding Habitat Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Pileated Woodpecker Special Concern: Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series: FOC, FOM, FOD, SWC, SWM, SWD	<ul style="list-style-type: none"> Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha Interior forest habitat is at least 200 m from forest edge habitat <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> Local birder clubs. Canadian Wildlife Service (CWS) for the location of forest bird monitoring. Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species Reports and other information available from Conservation Authorities. 	Studies confirm: <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH Conduct field investigations in spring and early summer when birds are singing and defending their territories Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWH MIST Index #34 provides development effects and mitigation measures HABITATS OF SPECIES OF CONSERVATION CONCERN	
Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)					
Marsh Breeding Bird Habitat Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Gallinule American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan Special Concern: Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: all SW, MA and CUM1 sites	<ul style="list-style-type: none"> Nesting occurs in wetlands. All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF District and wetland evaluations. Field Naturalist clubs Natural Heritage Information Centre (NHIC) Records. Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas 	Studies confirm: <ul style="list-style-type: none"> Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 or more of the listed species Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH Area of the ELC ecosite is the SWH. Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWH MIST Index #35 provides development effects and mitigation measures 	

Ecoregion 7E Habitat Type	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Open Country Bird Breeding Habitat Rationale; This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow Special Concern: Short-eared Owl	CUM1 CUM2	<ul style="list-style-type: none"> •Large grassland areas (includes natural and cultural fields and meadows) >30 ha •Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years) •Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. •The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Agricultural land classification maps, Ministry of Agriculture. •Local bird clubs. •Ontario Breeding Bird Atlas •EIA/EIS Reports and other information available from Conservation Authorities 	Field studies confirm: <ul style="list-style-type: none"> •Presence of nesting or breeding of 2 or more of the listed species •A field with 1 or more breeding Short-eared Owls is to be considered SWH •The area of SWH is the contiguous ELC ecosite field areas •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #32 provides development effects and mitigation measures 	
Shrub/Early Successional Bird Breeding Habitat Rationale; This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	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 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	<ul style="list-style-type: none"> •Large field areas succeeding to shrub and thicket habitats >10 ha in size •Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years) •Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species •Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Agricultural land classification maps, Ministry of Agriculture. •Local bird clubs. •Ontario Breeding Bird Atlas •Reports and other information available from Conservation Authorities 	Field studies confirm: <ul style="list-style-type: none"> •Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species •A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat •The area of the SWH is the contiguous ELC ecosite field/thicket area. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWH MIST Index #33 provides development effects and mitigation measures 	
Terrestrial Crayfish Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (<i>Fallicambarus fodiens</i>) Devil Crayfish or Meadow Crayfish; (<i>Cambarus diogenes</i>)	MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3, SWD, SWT, SWM CUM1 with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish	<ul style="list-style-type: none"> •Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish •Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water •Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well-formed. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF, March, 1998 	Studies confirm: <ul style="list-style-type: none"> •Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites •Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH •Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult •SWH MIST Index #36 provides development effects and mitigation measures 	
Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1, S2, S3, SH) plant and animal species. Lists of these species are tracked by the NHIC	All plant and animal element occurrences (EOs) within a 1 km or 10 km grid. Older EOs were recorded prior to GPS being available, therefore location information may lack accuracy.	<ul style="list-style-type: none"> •When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. •NHIC Website "Get Information": http://nhic.mnr.gov.on.ca •Ontario Breeding Bird Atlas •Expert advice should be sought as many of the rare spp. Have little information available about their requirements 	Studies confirm: <ul style="list-style-type: none"> •Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. •The area of the habitat to the finest ELC scale that protects the habitat features and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. •SWH MIST Index #37 provides development effects and mitigation measures 	

Ecoregion 7E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Animal Movement Corridors					
Amphibian Movement Corridors Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	<ul style="list-style-type: none"> • Movement corridors between breeding habitat and summer habitat • Movement corridors must be determined when amphibian breeding habitat is confirmed as SWH (Amphibian Breeding Habitat, Wetland) <u>Information Sources</u> <ul style="list-style-type: none"> • MNRF District Office. • Natural Heritage Information Centre (NHIC). • Reports and other information available from Conservation Authorities. • Field Naturalist Clubs 	<ul style="list-style-type: none"> • Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant • Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat • SWH MIST Index #40 provides development effects and mitigation measures 	
Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 7E					
7E-2 Bat Migratory Stopover Area Rationale: Stopover areas for long distance migrant bats are important during fall migration	Hoary Bat Eastern Red Bat Silver-haired Bat	No specific ELC types.	<ul style="list-style-type: none"> • Long distance migratory bats typically migrate during late summer and early fall from summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. • This is the only known bat migratory stopover habitats based on current information. <u>Information Sources</u> <ul style="list-style-type: none"> • OMNRF for possible locations and contact for local experts • University of Waterloo, Biology Department 	<ul style="list-style-type: none"> • Long Point (42°35'N, 80°30'E, to 42°33'N, 80°03'E) has been identified as a significant stop-over habitat for fall migrating Silver-haired Bats, due to significant increases in abundance, activity and feeding that was documented during fall migration. • The confirmation criteria and habitat areas for this SWH are still being determined. • SWH MIST Index #38 provides development effects and mitigation measures 	

Ecoregion 6E

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial) Rationale: Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 -Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). •Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. •Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available cxlviii. <u>Information Sources</u> •Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. •Reports and other information available from Conservation Authorities •Sites documented through water fowl planning processes (eg. EHJV implementation plan) •Field Naturalist Clubs •Ducks Unlimited Canada •Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •Any mixed species aggregations of 100 or more individuals required. •The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat. •Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). •SWHMiST Index #7 provides development effects and mitigation measures.	
Waterfowl Stopover and Staging Areas (Aquatic) Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long -tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant Canvasback	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	•Ponds, marshes, lakes, bays, coastal inlets, and <i>watercourses</i> used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. •These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water) <u>Information Sources</u> •Environment Canada. •Naturalist clubs often are aware of staging/stopover areas. •OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. •Sites documented through waterfowl planning processes (eg. EHJV implementation plan) •Ducks Unlimited projects •Element occurrence specification by Nature Serve: http://www.natureserve.org •Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of: •Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days. •Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH •The combined area of the ELC ecosites and a 100m radius area is the SWH •Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat. •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). •SWHMiST Index #7 provides development effects and mitigation measures.	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Shorebird Migratory Stopover Area Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	<ul style="list-style-type: none"> •Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. •Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. •Sewage treatment ponds and storm water ponds do not qualify as a SWH. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Western hemisphere shorebird reserve network. •Canadian Wildlife Service (CWS) Ontario Shorebird Survey. •Bird Studies Canada •Ontario Nature •Local birders and naturalist clubs •Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area 	<p>Studies confirming:</p> <ul style="list-style-type: none"> •Pre sence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period) •Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. •The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area i •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWHMiST Index #8 provides development effects and mitigation measures. 	
Raptor Wintering Area Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl Bald Eagle	<p><u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW.</p> <p><u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area)</p>	<ul style="list-style-type: none"> •The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. •Raptor wintering sites (hawk/owl) need to be > 20 ha cxlvi ii, cxlix with a combination of forest and upland. xvi, xvii, xviii, xix, xx, xxi. •Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands cxlix •Field area of the habitat is to be wind swept with limited snow depth or accumulation. •Eagle sites have open water, large trees and snags available for roosting cxlix <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> •OMNRF Ecologist or Biologist •Field Naturalist Clubs •Natural Heritage Information Center (NHIC) Raptor Winter Concentration Area •Data from Bird Studies Canada •Results of Christmas Bird Counts •Reports and other information available from Conservation Authorities. 	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> •One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. •To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. •The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWHMiST Index #10 and #11 provides development effects and mitigation measures. 	
Bat Hibernacula Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	<ul style="list-style-type: none"> •Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. •Active mine sites should not be considered as SWH •The locations of bat hibernacula are relatively poorly known. <p><u>Information Sources:</u></p> <ul style="list-style-type: none"> •OMNRF for possible locations and contact for local experts •Natural Heritage Information Center (NHIC) Bat Hibernaculum •Ministry of Northern Development and Mines for location of mine shafts. •Clubs that explore caves (eg. Sierra Club) •University Biology Departments with bat experts. 	<ul style="list-style-type: none"> •All sites with confirmed hibernating bats are SWH. •The habitat area includes a 200m radius around the entrance of the hibernaculum for most development types and 1000m for wind farms. •Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". •SWHMiST Index #1 provides development effects and mitigation measures. 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	<ul style="list-style-type: none"> •Maternity colonies can be found in <i>tree</i> cavities, vegetation and often in buildlings (buildings are not considered to be SWH). •Maternity roosts are not found in caves and mines in Ontario. •Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife <i>trees</i> •Female Bats prefer wildlife <i>tree</i> (snags) in early stages of decay, class 1-3 or class 1 or 2. •Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in <i>tree</i> cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred <u>Information Sources</u> <ul style="list-style-type: none"> •OMNRF for possible locations and contact for local experts •University Biology Departments with bat experts. 	Maternity Colonies with confirmed use by; <ul style="list-style-type: none"> •>10 Big Brown Bats •>5 Adult Female Silver-haired Bats •The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. •Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects". •SWHMiST Index #12 provides development effects and mitigation measures. 	
Turtle Wintering Areas Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant	Midland Painted Turtle Special Concern: Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	<ul style="list-style-type: none"> •For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. •Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen •Man -made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources</u> <ul style="list-style-type: none"> •EIS studies carried out by Conservation Authorities. •Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites. •OMNRF Ecologist or Biologist •Field Naturalist clubs •Natural Heritage Information Center (NHIC) 	<ul style="list-style-type: none"> •Presence of 5 over-wintering Midland Painted Turtles is significant. •One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. •The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep - water pool where the turtles are over wintering is the SWH. •Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May). •Congregation of turtles is more common where wintering areas are limited and therefore significant. •SWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat. 	
Reptile Hibernaculum Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are	<u>Snakes:</u> Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Special Concern: Milksnake Eastern Ribbonsnake <u>Lizard:</u> Special Concern (Southern Shield population): Five-lined Skink	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites:FOC1 FOC3	<ul style="list-style-type: none"> •For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH. •Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line. •Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse <i>trees</i> or shrubs with sphagnum moss or sedge hummock ground cover. •Five-lined Skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. <u>Information Sources</u> <ul style="list-style-type: none"> •In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). •Reports and other information available from Conservation Authorities. •Field Naturalists clubs •University herpetologists •Natural Heritage Information Center (NHIC) •OMNRF ecologist or biologist may be aware of locations of wintering skinks 	Studies confirming: <ul style="list-style-type: none"> •Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. •Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct) •Note: If there are Special Concern Species present, then site is SWH •Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH •SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula. •Presence of any active hibernaculum for skink is significant. •SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat. 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	<ul style="list-style-type: none"> Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. Does not include a licensed/permitted Mineral Aggregate Operation. <u>Information Sources</u> <ul style="list-style-type: none"> Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas Bird Studies Canada; NatureCounts http://www.birdscanada.org/birdmon/ Field Naturalist Clubs. 	Studies confirming: <ul style="list-style-type: none"> Presence of 1 or more nesting sites with 8 or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. A colony identified as SWH will include a 50m radius habitat area from the peripheral nests Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWHMiST Index #4 provides development effects and mitigation measures 	
Colonially -Nesting Bird Breeding Habitat (Tree/Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	<ul style="list-style-type: none"> Nests in live or dead standing <i>trees</i> in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. Most nests in <i>trees</i> are 11 to 15 m from ground, near the top of the <i>tree</i>. <u>Information Sources</u> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas colonial nest records. Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). Natural Heritage Information Center (NHIC) Mixed Wader Nesting Colony Aerial photographs can help identify large heronries. Reports and other information available from CAs. MNRF District Offices. Local naturalist clubs 	Studies confirming: <ul style="list-style-type: none"> Presence of 5 or more active nests of Great Blue Heron or other listed species. The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells SWHMiST Index #5 provides development effects and mitigation measures. 	
Colonially -Nesting Bird Breeding Habitat (Ground) Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map). Close proximity to <i>watercourses</i> in open fields or pastures with scattered <i>trees</i> or shrubs (Brewer's Blackbird) MAM1 – 6 MAS1 – 3 CUM CUT CUS	<ul style="list-style-type: none"> Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. Brewer's Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> <ul style="list-style-type: none"> Ontario Breeding Bird Atlas, rare/colonial species records. Canadian Wildlife Service Reports and other information available from CAs. Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting Area MNRF District Offices. Field Naturalist clubs. 	Studies confirming: <ul style="list-style-type: none"> Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. Presence of 5 or more pairs for Brewer's Blackbird. Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWHMiST Index #6 provides development effects and mitigation measures. 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Migratory Butterfly Stopover Areas Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.	Painted Lady Red Admiral Special Concern: Monarch	Combination of ELC Community Series; need to have present one Community Series from each land class: <u>Field:</u> CUM CUT CUS <u>Forest:</u> FOC FOD FOM CUP Anecdotally, a candidate site for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario cxlix. <ul style="list-style-type: none"> •The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south xxxii, xxxiii, xxxiv, xxxv, xxxvi. •The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat cxlv iii, cxlix. •Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes xxxvii, xxxviii, xxxix, xl, xli. <u>Information Sources</u> <ul style="list-style-type: none"> •OMNRF (NHIC) •Agriculture Canada in Ottawa may have list of butterfly experts. •Field Naturalist Clubs •Toronto Entomologists Association •Conservation Authorities 	Studies confirm: <ul style="list-style-type: none"> •The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct)xliiii. MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. •Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. •MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant. •SWHMiST Index #16 provides development effects and mitigation measures. 	
Landbird Migratory Stopover Areas Rationale: Sites with a high diversity of species as well as high numbers are most significant.	All migratory songbirds. Canadian Wildlife Service Ontario website: http://www.ec.gc.ca/nature/default.asp?lang=En&n=421B7A9D-1 All migrant raptors species: Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Woodlots need to be >10 ha in size and within 5 km of Lake Ontario. <ul style="list-style-type: none"> •If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant •Sites have a variety of habitats; forest, grassland and wetland complexes. •The largest sites are more significant •Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH. <u>Information Sources</u> <ul style="list-style-type: none"> •Bird Studies Canada •Ontario Nature •Local birders and naturalist club •Ontario Important Bird Areas (IBA) Program 	Studies confirm: <ul style="list-style-type: none"> •Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. •Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWHMiST Index #9 provides development effects and mitigation measures. 	
Deer Yarding Areas Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in "yards" to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM FOC SWM SWC Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	<ul style="list-style-type: none"> •Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter. •The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%. •OMNRF determines deer yards following methods outlined in "Selected Wildlife and Habitat Features: Inventory Manual" •Woodlots with high densities of deer due to artificial feeding are not significant. 	No Studies Required: <ul style="list-style-type: none"> •Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH. •Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNR offices or via Land Information Ontario (LIO). •Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNR will complete these field investigations. •If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. •SWHMiST Index #2 provides development effects and mitigation measures. 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Winter Congregation Areas Rationale: Deer movement during winter in the southern areas of Eco region 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions cxlviii.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	<ul style="list-style-type: none"> •Woodlots will typically be >100 ha in size[Ⓔ]. Woodlots <100ha may be considered as significant based on MNRF studies or assessment. •Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands. •If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule. •Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha. •Woodlots with high densities of deer due to artificial feeding are not significant[Ⓔ]. Information Sources •MNRF District Offices. •LIO/NRVIS 	Studies confirm: <ul style="list-style-type: none"> •Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. •Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF •Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey. •If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. •SWHMiST Index #2 provides development effects and mitigation measures. 	
Rare Vegetation Communities					
Cliffs and Talus Slopes Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris	Most cliff and talus slopes occur along the Niagara Escarpment. <u>Information Sources</u> <ul style="list-style-type: none"> •The Niagara Escarpment Commission has detailed information on location of these habitats. •OMNRF District •Natural Heritage Information Center (NHIC) has location information available on their website •Field Naturalist clubs •Conservation Authorities 	<ul style="list-style-type: none"> •Confirm any ELC Vegetation Type for Cliffs or Talus Slopes •SWHMiST Index #21 provides development effects and mitigation measures. 	
Sand Barren Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). <i>Tree</i> cover always < 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to <i>tree</i> covered, but less than 60%.	A sand barren area >0.5ha in size. <u>Information Sources</u> <ul style="list-style-type: none"> •OMNRF Districts. •Natural Heritage Information Center (NHIC) has location information available on their website. •Field Naturalist clubs •Conservation Authorities 	<ul style="list-style-type: none"> •Confirm any ELC Vegetation Type for Sand Barrens •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). •SWHMiST Index #20 provides development effects and mitigation measures. 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Alvar</p> <p>Rationale: Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Eco regions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.</p>	<p>ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2</p> <p>Five Alvar Indicator Species: 1) Carex crawei 2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum</p> <p>These indicator species are very specific to Alvars within Ecoregion 6E</p>	<p>An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.</p>	<p>An Alvar site > 0.5 ha in size.</p> <p><u>Information Sources</u> •Alvars of Ontario (2000), Federation of Ontario Naturalists lxxvi. •Ontario Nature – Conserving Great Lakes Alvars cvviii. •Natural Heritage Information Center (NHIC) has location information available on their website •OMNRF Districts •Field Naturalist clubs. •Conservation Authorities.</p>	<p>•Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). •The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses •SWHMiST Index #17 provides development effects and mitigation measures.</p>	
<p>Old Growth Forest</p> <p>Rationale: Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.</p>	<p>Forest Community Series: FOD FOC FOM SWD SWC SWM</p>	<p>Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.</p>	<p>Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest.</p> <p><u>Information Sources</u> •OMNRF Forest Resource Inventory mapping •OMNRF Districts. •Field Naturalist clubs •Conservation Authorities •Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. •Municipal forestry departments</p>	<p>Field Studies will determine: •If dominant trees species of the area >140 years old, then the area containing these trees is Significant Wildlife Habitat •The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) •The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH. •Determine ELC vegetation types for the forest area containing the old growth characteristics lxxviii •SWHMiST Index #23 provides development effects and mitigation measures.</p>	
<p>Savannah</p> <p>Rationale: Savannahs are extremely rare habitats in Ontario.</p>	<p>TPS1 TPS2 TPW1 TPW2 CUS2</p>	<p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p>	<p>No minimum size to site Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH.</p> <p><u>Information Sources</u> •Natural Heritage Information Center (NHIC) has location information available on their website •OMNRF Districts •Field Naturalist clubs. •Conservation Authorities.</p>	<p>Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. •Area of the ELC Ecosite is the SWH. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). •SWHMiST Index #18 provides development effects and mitigation measures.</p>	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> •Natural Heritage Information Center (NHIC) has location information available on their website •OMNRF Districts •Feld Naturalist clubs. •Conservation Authorities.	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used •Area of the ELC Ecosite is the SWH. •Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.). •SWHMiS Index #19 provides development effects and mitigation measures.	
Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in Appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> •Natural Heritage Information Center (NHIC) has location information available on their website •OMNRF Districts •Feld Naturalist clubs. •Conservation Authorities	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. •Area of the ELC Vegetation Type polygon is the SWH. •SWHMiST Index #37 provides development effects and mitigation measures.	
Specialized Habitat for Wildlife					
Waterfowl Nesting Area Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands	A waterfowl nesting area extends 120 m cplx from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. •Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. •Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <u>Information Sources</u> •Ducks Unlimited staff may know the locations of particularly productive nesting sites. •OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. •Reports and other information available from Conservation Authorities.	Studies confirmed: •Presence of 3 or more nesting pairs for listed species excluding Mallards, or; •Presence of 10 or more nesting pairs for listed species including Mallards. •Any active nesting site of an American Black Duck is considered significant. •Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m i from the wetland and will provide enough habitat for waterfowl to successfully nest. •SWHMiST Index #25 provides development effects and mitigation measures.	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Bald Eagle and Osprey Nesting, Foraging and Perching Habitat</p> <p>Rationale: Nest sites are fairly uncommon in Eco - region 6E and are used annually by the species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.</p>	<p>Osprey</p> <p>Special Concern: Bald Eagle</p>	<p>ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM, and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands</p>	<p>Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water.</p> <ul style="list-style-type: none"> •Osprey nests are usually at the top a <i>tree</i> whereas Bald Eagle nests are typically in super canopy <i>trees</i> in a notch within the <i>tree</i>'s canopy. •Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario. •MNR values information (LIO/ NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat. •Nature Counts, Ontario Nest Records Scheme data. •OMNRF Districts. •Check the Ontario Breeding Bird Atlas ccv or Rare Breeding Birds in Ontario for species documented •Reports and other information available from Conservation Authorities. •Field Naturalists clubs 	<p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> •One or more active Osprey or Bald Eagle nests in an area. •Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. •For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH ci, maintaining undisturbed shorelines with large <i>trees</i> within this area is important. •For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat •To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant. •Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWHMiST Index # 26 provides development effects and mitigation measure 	
<p>Woodland Raptor Nesting Habitat</p> <p>Rationale: Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.</p>	<p>Northern Goshawk Cooper's Hawk Sharp -shinned Hawk Red -shouldered Hawk Barred Owl Broad-winged Hawk</p>	<p>May be found in all forested ELC Ecosites.</p> <p>May also be found in SWC, SWM, SWD and CUP3</p>	<p>All natural or conifer plantation woodland/forest stands >30ha with >10 ha of interior habitat. Interior habitat determined with a 200m buffer</p> <ul style="list-style-type: none"> •Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of <i>trees</i>. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. •In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. Information Sources •OMNRF Districts. •Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented. •Check data from Bird Studies Canada. •Reports and other information available from Conservation Authorities. 	<p>Studies confirm:</p> <ul style="list-style-type: none"> •Presence of 1 or more active nests from species list is considered significant. •Red -shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH ci. (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) •Barred Owl – A 200m radius around the nest is the SWH. •Broad-winged Hawk and Coopers Hawk, – A 100m radius around the nest is the SWH. •Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. •Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. •SWHMiST Index #27 provides development effects and mitigation measures. 	
<p>Turtle Nesting Areas</p> <p>Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles</p>	<p>Midland Painted Turtle</p> <p>Special Concern: Northern Map Turtle Snapping Turtle</p>	<p>Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites:</p> <p>MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1</p>	<p>Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.</p> <ul style="list-style-type: none"> •For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. •Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> •Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). •Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. •Natural Heritage Information Center (NHIC) •Field Naturalist clubs 	<p>Studies confirm:</p> <ul style="list-style-type: none"> •Presence of 5 or more nesting Midland Painted Turtles •One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. •The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH. •Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. •Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method. •SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seeps and Springs Rationale: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. •Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <u>Information Sources</u> •Topographical Map. •Thermography. •Hydrological surveys conducted by Conservation Authorities and MOE. •Field Naturalists clubs and landowners. •Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: •Presence of a site with 2 or more seeps/springs should be considered SWH. •The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and ground water condition need to be considered in delineation the habitat. •SWHMiST Index #30 provides development effect and mitigation measures	
Amphibian Breeding Habitat (Woodland). Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWMSWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibian	•Presence of a wetland, pond or woodland pool (including vernal pools) >500m2 (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians. •Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat <u>Information Sources</u> •Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records •Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. •OMNRF District. •OMNRF wetland evaluations •Field Naturalist clubs •Canadian Wildlife Service Amphibian Road Call Survey •Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; •Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3. •A combination of observational study and call count surveys ii will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. •The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. •SWHMiST Index #14 provides development effects and mitigation measures.	
Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	•Wetlands>500m2 (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats. •Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. •Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> •Ontario Herpetofaunal Summary Atlas (or other similar atlases) •Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. •OMNRF Districts and wetland evaluations •Reports and other information available from Conservation Authorities.	Studies confirm: •Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; Wetland with confirmed breeding Bullfrogs are significant. •The ELC ecosite wetland area and the shoreline are the SWH. •A combination of observational study and call count surveys ii will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands. •If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. •SWHMiST Index #15 provides development effects and mitigation measures.	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Woodland Area - Sensitive Bird Breeding Habitat Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Special Concern: Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	<ul style="list-style-type: none"> Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. Interior forest habitat is at least 200 m from forest edge habitat. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Local bird clubs. Canadian Wildlife Service (CWS) for the location of forest bird monitoring. Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species Reports and other information available from Conservation Authorities. 	Studies confirm: <ul style="list-style-type: none"> Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. Conduct field investigations in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWHMiST Index #34 provides development effects and mitigation measures. 	
Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)					
Marsh Breeding Bird Habitat Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan Special Concern: Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	Nesting occurs in wetlands. <ul style="list-style-type: none"> All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present. For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> OMNRF District and wetland evaluations. Field Naturalist clubs Natural Heritage Information Center (NHIC) Records. Reports and other information available from Conservation Authorities. Ontario Breeding Bird Atlas. 	Studies confirm: <ul style="list-style-type: none"> Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species. Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH. Area of the ELC ecosite is the SWH. Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWHMiST Index #35 provides development effects and mitigation measures 	
Open Country Bird Breeding Habitat Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow Special Concern: Short-eared Owl	CUM1 CUM2	<ul style="list-style-type: none"> Large grassland areas (includes natural and cultural fields and meadows) >30 ha Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years). Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <p><u>Information Sources</u></p> <ul style="list-style-type: none"> Agricultural land classification maps, Ministry of Agriculture. Local bird clubs. Ontario Breeding Bird Atlas Reports and other information available from Conservation Authorities. 	Field Studies confirm: <ul style="list-style-type: none"> Presence of nesting or breeding of 2 or more of the listed species. A field with 1 or more breeding Short-eared Owls is to be considered SWH. The area of SWH is the contiguous ELC ecosite field areas. Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" SWHMiST Index #32 provides development effects and mitigation measures 	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Shrub/Early Successional Bird Breeding Habitat Rationale; This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay -coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher Special Concern: Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats >10ha size. •Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years). •Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species. •Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <u>Information Sources</u> •Agricultural land classification maps, Ministry of Agriculture. •Local bird clubs. •Ontario Breeding Bird Atlas •Reports and other information available from Conservation Authorities.	Field Studies confirm: •Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. •A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat. •The area of the SWH is the contiguous ELC ecosite field/thicket area. •Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories •Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects" •SWHMiST Index #33 provides development effects and mitigation measures.	
Terrestrial Crayfish Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; (Fallicambarus fodiens) Devil Crayfish or Meadow Crayfish; (Cambarus Diogenes)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. •Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. •Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> •Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998	Studies Confirm: •Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites •Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH. •Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult •SWHMiST Index #36 provides development effects and mitigation measures.	
Special Concern and Rare Wildlife Species Rationale: These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1 - S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> •Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. •NHIC Website "Get Information": http://nhic.mnr.gov.on.ca •Ontario Breeding Bird Atlas •Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: •Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. •The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. •SWHMiST Index #37 provides development effects and mitigation measures.	
Animal Movement Corridors					
Amphibian Movement Corridors Rationale; Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue -spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat. Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) of this Schedule. <u>Information Sources</u> •MNRF District Office. •Natural Heritage Information Center (NHIC). •Reports and other information available from Conservation Authorities. •Field Naturalist Clubs.	•Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. •Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant •Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. •Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat. •SWHMiST Index #40 provides development effects and mitigation measures	

Ecoregion 6E Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment of Habitat in EIA Study Area
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Movement Corridors Rationale: Corridors important for all species to be able to access seasonally important life - cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridor	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. •A deer wintering habitat identified by the O MNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion. •Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). <u>Information Sources</u> •MNRF District Office. •Natural Heritage Information Center (NHIC). •Reports and other information available from Conservation Authorities. •Field Naturalist Clubs.	Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas. •Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas. •Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway Shorter corridors are more significant than longer corridors. •SWHMiST Index #39 provides development effects and mitigation measures	
Significant Wildlife Habitat Exceptions for Ecodistricts within EcoRegion 6E					
6E-14 Mast Producing Areas Rationale: The Bruce Peninsula has an isolated and distinct populations of Black Bears. Maintenance of large woodland tracts with mast- producing <i>tree</i> species is important for bears.	Black Bear	All forested habitat represented by ELC community series: FOM FOD	Habitat Description •Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing <i>tree</i> species. •Forested habitats need to be large enough to provide cover and protection for black bears Habitat Criteria and Information Woodland ecosites >30ha with mast -producing <i>tree</i> species, either soft (cherry) or hard (oak and beech) <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	•All woodlands > 30ha with a 50% composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	
6E-17 Lek Rationale: Sharp-tailed Grouse only occur on Manitoulin Island in Ecoregion 6E, Leks are an important habitat to maintain their population.	Sharp-tailed Grouse	CUM CUS CUT	Habitat Description •The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography. •Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer <i>trees</i> within 500m are not tolerated. Habitat Criteria and Information Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. •Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying) •Leks will be used annually if not destroyed by cultivation or invasion by woody plants or <i>tree</i> planting <u>Information Sources</u> •OMNRF district office •Bird watching clubs •Local landowners •Ontario Breeding Bird Atlas	Studies confirming lek habitat are to be completed from late March to June. •Any site confirmed with sharp-tailed grouse courtship activities is considered significant •The field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitat •SWHMiST Index #32 provides development effects and mitigation measures	

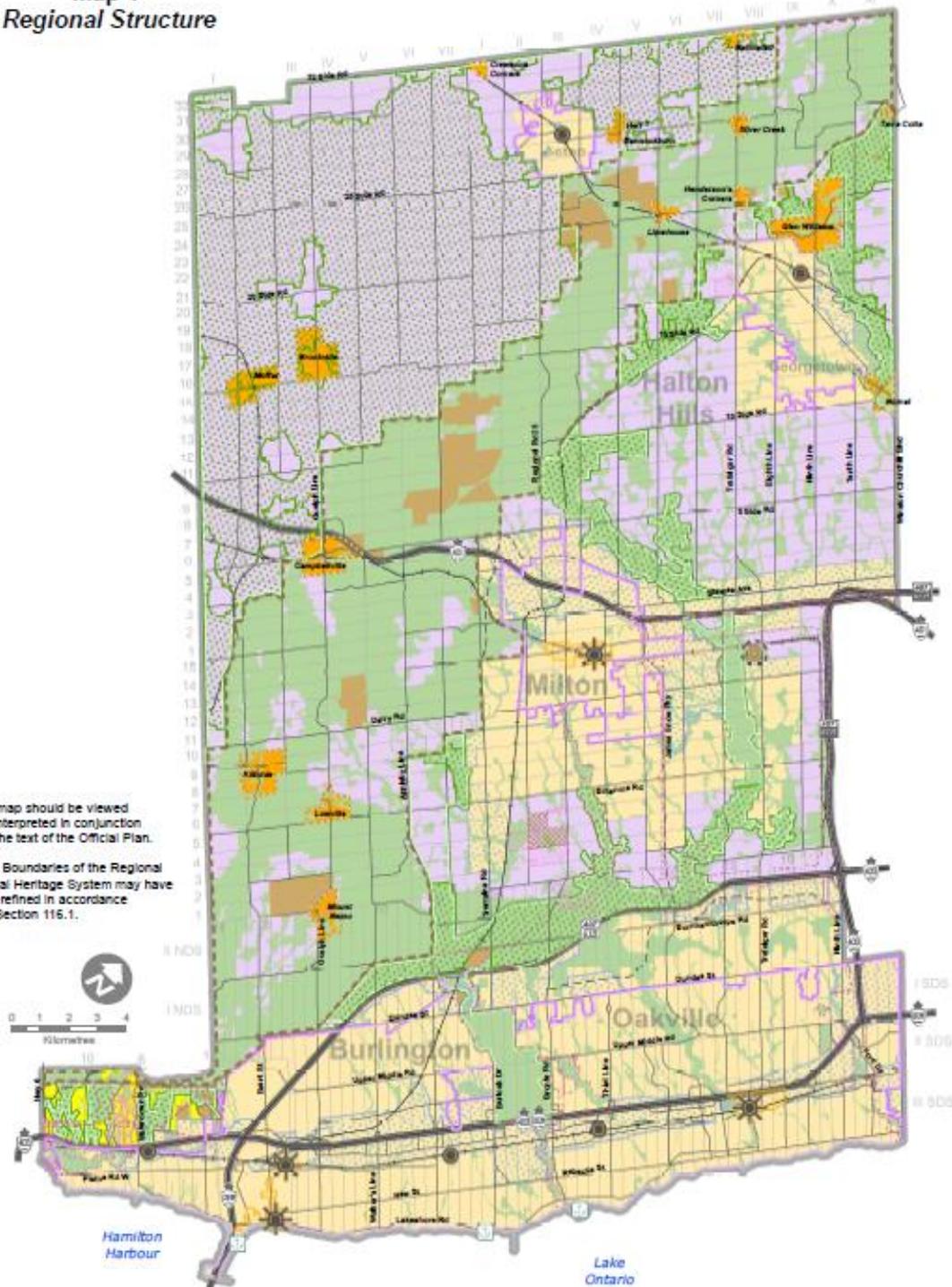
Appendix E-7

Species at Risk Screening Assessment Table

Endangered and Threatened Species									
Species	Source	Status	Habitat Description	Habitat Present on Site	Surveys Conducted	Likelihood of Occurrence and Rationale	Potential to be Impacted by Proposed Activities	Anticipated / Confirmed Compliance Requirements	Authorizing Agency Consultation / Status
Plants									
		SARA-ESA-							
Insects									
		SARA-ESA-							
Amphibians									
		SARA-ESA-							
Reptiles									
		SARA-ESA-							
Birds									
		SARA-ESA-							
Mammals									
		SARA-ESA-							
Special Concern Species									
Species	Source	Status	Habitat Description	Habitat Present on Site	Surveys Conducted	Likelihood of Occurrence and Rationale	Potential to be Impacted by Proposed Activities		
Plants									
		SARA-ESA-							
Insects									
		SARA-ESA-							
Amphibians									
		SARA-ESA-							
Reptiles									
		SARA-ESA-							
Birds									
		SARA-ESA-							
Mammals									
		SARA-ESA-							

Appendix F: Reference Maps

**Map 1
Regional Structure**



This map should be viewed and interpreted in conjunction with the text of the Official Plan.

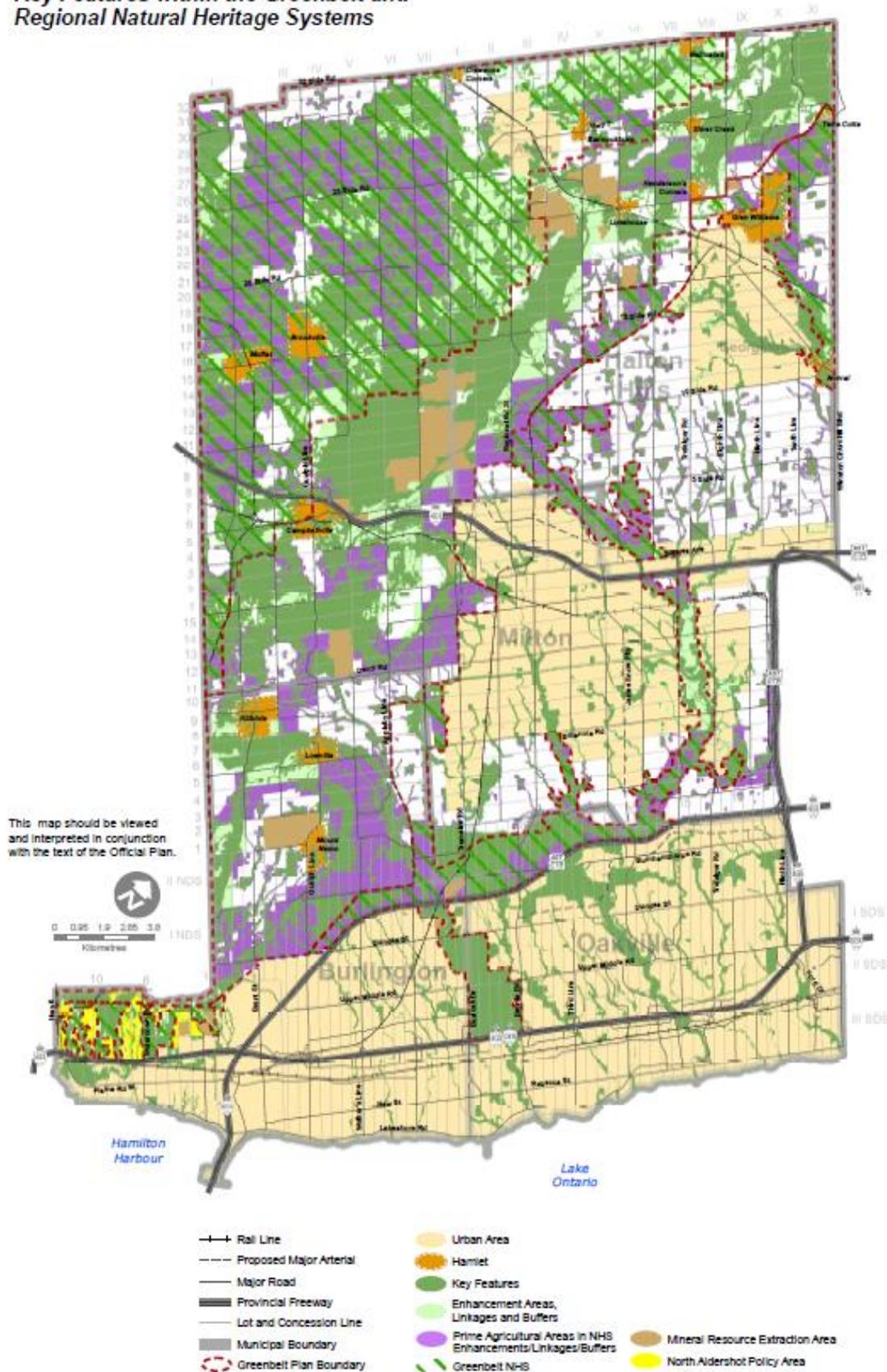
* The Boundaries of the Regional Natural Heritage System may have been refined in accordance with Section 116.1.

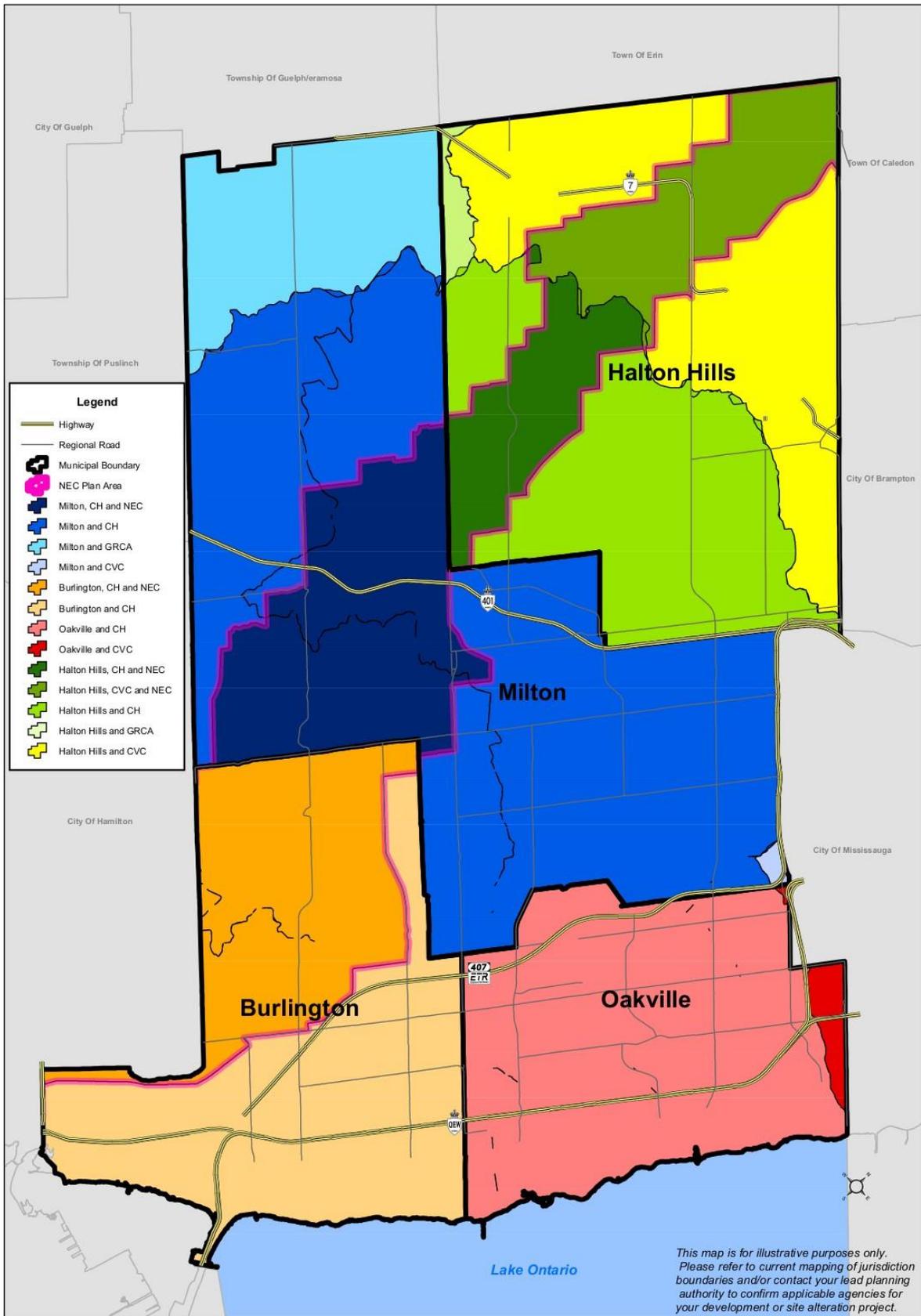


- | | |
|---|---|
| Waterfront Park (See Map 2) | Greenbelt Plan Protected Countryside Boundary |
| Major Transit Station | Niagara Escarpment Plan Boundary |
| Proposed Major Transit Station | Parkway Belt West Plan Boundary |
| Mobility Hub | Built Boundary |
| Rail Line | Employment Area |
| Proposed Major Arterial | Urban Growth Centre |
| Major Road | Area Eligible for Urban Servicing |
| Provincial Freeway | Halton Waste Management Site |
| Lot and Concession Line | |
| Municipal Boundary | |
| Urban Area | |
| Hamlet | |
| Agricultural Area | |
| Regional Natural Heritage System * | |
| Mineral Resource Extraction Area | |
| North Aldershot Policy Area | |
| Greenbelt Natural Heritage System (Overlay) | |

June 19, 2018

Map 1G
Key Features within the Greenbelt and
Regional Natural Heritage Systems





EIA Commenting Agencies in Halton Region

Data Management & GIS Services
 January 2020
 Produced by Legislative & Planning Services
 Sustainable Planning - Data Management &
 GIS Services - Halton Region ©
 K/GIS Services/Internal
 Planning Services
 Planning Policy/Request
 Halton_Munis/NEC/CACs_Map

