

74 Berkeley Street, Toronto, ON M5A 2W7 Tel: 647-795-8153 | www.pecg.ca

Environmental Impact Study Elite Properties East of Port Colborne

City of Port Colborne

Palmer Project # 2007705

Prepared For Elite Developments

September 28, 2023



Table of Contents

1.	Introduction			
2.	Environmental Policy			
	2.1 2.2 2.3 2.4	Provincial Policy Statement (2020) Niagara Region Official Plan City of Port Colborne Official Plan Niagara Peninsula Conservation Authority 2.4.1 Buffers		
	2.5	Migratory Birds Convention Act		
3.	Study Approach 17			
	3.1 3.2 3.3	Background Review Agency Liaison Ecological Surveys 3.3.1 Vegetation Communities and Flora 3.3.2 Amphibian Breeding Surveys 3.3.3 Breeding Bird Surveys 3.3.4 Aquatic Assessment 3.3.4.1 Watercourses 3.3.5 Salamander Habitat Assessment 3.3.6 Snake Surveys 3.3.7 Soil Sampling 3.3.8 Species at Risk 3.3.9 Significant Wildlife Habitat 3.3.10 Incidental Wildlife Observations	17 17 18 19 19 19 19 20 20 20 20 20 20 21 21 21	
4.	Exist	ing Conditions	22	
	4.1 4.2	Physiography Vegetation Communities and Flora 4.2.1 Ecological Land Classification 4.2.1.1 Forest Communities 4.2.1.2 Wetland Communities 4.2.1.3 Cultural Communities 4.2.2 Flora		
	4.3	 Wildlife 4.3.1 Breeding Amphibians 4.3.1.1 Salamander Habitat Assessment 4.3.2 Breeding Birds 4.3.2.1 Avian Species at Risk 4.3.3 Snake Surveys 4.3.4 Turtle Nesting Habitat 	40 40 42 42 42 43 44 44	



		4.3.5	Incidental Wildlife Observations	44
	4.4	Aquat	ic Habitat Assessment	44
		4.4.1	Watercourses	
		4.4.2	Headwater Drainage Features	
		4.4.3	Fish Habitat	
	4.5	Lands	scape Connectivity	48
5.	Asse	essme	nt of Significance	50
	5.1	Specie	es at Risk	50
	5.2	Signifi	icant Wildlife Habitat	53
	5.3	Wood	lands	54
	5.4	Wetla	nds	57
	5.5	Aquat	ic Habitat and Fish Habitat	59
		5.5.1	Watercourses	
		5.5.2	Headwater Drainage Features	
6.	Prop	osed	Development	60
7.	Impa	act Ass	sessment and Mitigation	62
	7.1	Impac	zts	62
		7.1.1	Natural Habitat and Vegetation Removal	62
		7.1.2	Species at Risk (SAR)	62
		7.1.3	Significant Wildlife Habitat (SWH)	63
	7.2	Mitiga	ition and Enhancements	63
		7.2.1	Mitigation by Design - Natural Heritage Feature Buffers	63
		7.2.2	Fencing	
		7.2.3	Species at Risk	66
		7.2.4	Significant Wildlife Habitat	
		7.2.5	Wildlife Connectivity	
		7.2.6		
			7.2.6.1 Wignell Drain West Tribulary	
		7 2 7	Wildlife Protection	
		7.2.8	Enhancement Plantings	
8.	Polic	cy Con	ıformity	70
٩	Conclusion			70
J.	CON	ciusioi		12
10.	Cert	Certification		
11.	Refe	rences	S	75

List of Figures

Figure 1	1. 8	Site Location	2
----------	------	---------------	---



Figure 2. Ecological Land Classification	24
Figure 3. Wildlife and Drainage Features	41
Figure 4. Natural Heritage Features	51
Figure 5. Natural Heritage Constraints and Development Limit	52
Figure 6. Proposed Development Plan	61

List of Tables

Table 1. Summary of Ecological Surveys (2021/2022)	18
Table 2. Breeding Amphibian Calling Survey Results (2022) (excludes additional incidental	40
	42
Table 3. HDF Functional Classification and Management	47
Table 4. Significant Woodland Assessment	55
Table 5. Wetland Characteristics and Delineation	58
Table 6. Impacts to Significant Wildlife Habitat	63
Table 7. Proposed Buffers to Natural Heritage Features	64
Table 8. Policy Conformity	70

List of Appendices

- Appendix A. NPCA and Niagara Region Correspondence
- Appendix B. Flora Checklist
- Appendix C. Breeding Bird List
- Appendix D. Species at Risk Assessment
- Appendix E. Significant Wildlife Habitat Assessment
- Appendix F. Proposed Draft Plan of Subdivision

Environmental Impact Study Elite Properties East of Port Colborne

Palmer.

1. Introduction

Palmer has been retained by Elite M.D. Developments to complete an Environmental Impact Study (EIS) as part of a Site Plan Approval application for the proposed development of multiple properties located east of the City of Port Colborne, Niagara Region (the Subject Lands – **Figure 1**). The 142.2 ha Subject Lands are primarily situated between Elizabeth Street, Main Street East, Lorraine Road and Killaly Street East (**Figure 1**). Snider Road, which is an infrequently used dirt road, subdivides the Subject Lands. One property is situated southeast of Killaly St. E. and Snider Road. The proposed development includes the construction of residential single-family dwellings and townhouses on the Subject Lands.

The properties currently support agricultural fields, woodland features, wetlands, a watercourse, and several Headwater Drainage Features (HDFs), with one area of abandoned farm buildings in the southwest and one area of active farm buildings in the southeast of the Subject Lands. The Subject Lands are mostly surrounded by rural lands, though there are residential neighbourhoods of the town of Port of Colborne southwest of the properties. the Subject Lands are partially regulated by the Niagara Peninsula Conservation Authority (NPCA).

The intent of this EIS is to delineate, inventory and evaluate the sensitivity and significance of the existing natural heritage features and ecological functions associated with the Subject Lands and assess the impacts of the proposed development. For the natural heritage features requiring protection, avoidance and mitigation measures are recommended where appropriate, to address potential impacts resulting form the proposed development.



ocument Path: G:\Shared drives\Projects 2020\20077 - Elite M.D. Developments\2007705 - Killaly Street Port Colborne\GIS\1_Workspace\MXD-Figures\2007705-1-2-Site Location.mxd





2. Environmental Policy

2.1 **Provincial Policy Statement (2020)**

The *Provincial Policy Statement* (PPS) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (Ontario Ministry of Municipal Affairs and Housing, 2020). The PPS defines eight types of Natural Heritage Features (NHF) and adjacent areas and provides planning policies for each. Of these NHF, development is not permitted in:

- Significant Coastal Wetlands;
- Significant Wetlands in Ecoregions 5E, 6E and 7E;
- Fish Habitat, except in accordance with provincial and federal requirements; or
- Habitat of species designated as Endangered and Threatened, except in accordance with provincial and federal requirements.

Additionally, unless it can be demonstrated through an Environmental Impact Study (EIS) that there will be no negative impacts on the natural features or their ecological functions, development and site alteration are also not permitted in:

- Significant Wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest (ANSI);
- Other Coastal Wetlands in Ecoregions 5E, 6E and 7E; and
- Lands defined as Adjacent Lands to all the above natural heritage features.

Each of these natural heritage features is afforded varying levels of protection subject to guidelines, and in some cases, regulations.

Site-specific Relevance to the PPS

The Subject Lands are located within Ecoregion 7E (Crins, Gray, Uhlig, & Wester, 2009). As depicted on the Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) mapping, there are Non-Provincially Significant Wetlands (Welland Canal South Wetland Complex), unevaluated wetlands, woodland features, and a watercourse within the lands (Map A).



Map A. MNRF NHIC Map depicts the Subject Lands with Non-Provincially Significant Wetlands (green/turquoise layer), unevaluated wetlands (blue hatched layer), woodland features (green layer), and a watercourse (blue line).

2.2 Niagara Region Official Plan

The Niagara Region Official Plan (OP) was recently adopted by the Regional Council in June 2022 and approved by the province on November 2022 (Niagara Region, 2022). The Subject Lands are within Settlement Area (Map B). The Regional OP sets out Natural Heritage policies in *Chapter 3 – Sustainable Region*. Section 3.1 outlines the objective and policies of the Regional *Natural Heritage System* and *Water Resource System*. These two systems have been integrated in the OP and are known together as the Region's *Natural Environmental System* (Map B).

Natural Heritage System – made up of natural heritage features and areas, wetlands, 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 *key natural heritage features, key hydrologic features*, federal and provincial parks and conservation reserves, other natural heritage features and areas, lands that have been restored or have the potential to be restored to a natural state, associated areas that support *hydrologic functions*, and working landscapes that enable ecological functions to continue.

Natural Heritage Features and Areas – means features and areas, including significant wetlands, significant coastal wetlands, other coastal wetlands, fish habitat, significant woodlands, significant valleylands, habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area (modified from PPS, 2020). For the



purposes of this definition, *natural heritage features and areas* includes *other woodlands, earth science areas of natural and scientific interest* (provincial and regional), *and life science areas of natural and scientific interest* (provincial and regional).

Water Resource System – means a system consisting of *groundwater features* and areas and *surface water features* (including shoreline areas), and *hydrologic functions*, which provide the water resources necessary to sustain healthy aquatic and terrestrial ecosystems and human water consumption.

- a) Groundwater features
 - a. Recharge/discharge areas
 - b. Water tables
 - c. Aquifers and unsaturated zones
- b) Surface water features
 - a. Headwater Drainage Features
 - b. Recharge/discharge areas
 - c. Associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics.
- c) Other Hydrologic functions



Map B. The Region's OP Schedule C1 depicts the Subject Lands within Settlement Areas (grey layer) and within the Region's Natural Environment System (green layer)

Development and Site Alteration

As per OP Section 3.1.9.5.1, development and site alteration shall not be permitted in the following natural heritage features and areas:

- a) Provincially Significant Wetlands
- b) Significant Coastal Wetlands
- c) Significant Woodlands

Furthermore, as per OP Section 3.1.9.5.2, development and site alteration shall not be permitted in the following natural heritage features and areas unless it has been demonstrated through an EIS that there will be no negative impacts to the natural features or their ecological functions:

- a) Other woodlands
- b) Significant valleylands
- c) Significant Wildlife Habitat
- d) Areas or Natural and Scientific Interest.

Furthermore, the OP Section 3.1.9.5.4 states:

Notwithstanding any other policies of this Plan, development and site alteration in, and adjacent to watercourses, provincially significant wetlands, and other wetlands that are regulated by the Conservation Authority, may also be subject to the regulations and land use planning policies of the Conservation Authority. When development or site alteration is proposed in or adjacent to any watercourse, provincially significant walleyland, or other wetland the applicant shall contact the Conservation Authority, at which time Conservation Authority staff will advise the applicant and the Region of the land use or regulatory policies that will apply.

Map C from the OP indicates mapped natural heritage features.





Map C. The Region's OP Schedule C2 depicts the Subject Lands within "Other Wetland and Non-Provincially Significant Wetlands" (blue hatched layer) (in this case the former), "Other Woodlands" (brown layer), "Linkages" (purple layer), Significant Woodlands (dark green layer), and "Permanent and Intermittent Streams" (navy blue line)

Buffers in Settlement Areas

Section 3.1.9.9.1 of the OP states that within settlement areas, mandatory buffers from natural heritage features and areas are required. The width of an ecological appropriate buffer would be determined though an EIS and/or hydrologic evaluation at the time of an application for development or site alteration is made, or through the completion of a subwatershed study in support of a secondary plan or other large-scale development.

<u>Linkages</u>

Section 3.1.17.3 of the OP states that when a subwatershed study is being undertaken, or when development or site alteration is proposed in, within 30 metres of a linkage shown on Schedule C2 (**Map C**), an evaluation shall be completed that:

- a) Assesses the ecological features and functions of a linkage, including its vegetative, wildlife, and/or landscape features or functions.
- b) Identifies appropriate boundaries/widths that permit the movement of wildlife between nearby key natural heritage features, key hydrological features, and/or natural heritage feature and areas.
- c) Describes the ecological functions the linkage is intended to provide and identifies how these ecological functions can be maintained or enhanced within a development proposal.
- d) Assesses the potential for compatible uses including, but not limited to, stormwater management ponds, passive recreational uses, and trails within the linkage to determine how the intended ecological functions of the linkage can be maintained or enhanced.
- e) Assesses potential impacts on the linkage as a result of the development.
- f) Makes recommendations on how to protect, enhance, or mitigate impacts on the linkage and its ecological functions through avoidance and planning, design, and construction practices.

Significant Woodlands

According to Table 4-1 of the OP's Schedule L (Natural Environment System: Components, Definitions, & Criteria), Significant Woodlands *must meet the definition of ELC forest and meet one or more of the following criteria:*

- 1) 2 ha or greater in size
- 2) 1 ha or greater in size meeting at least one of the following criteria:
 - a. Naturally occurring (i.e., not planted) trees (as defined in the species list of Appendix D in the Greenbelt Technical Paper)
 - b. Treed areas planted with the intention of restoring woodland
 - c. 10 or more trees per ha greater than 100 years old or 50 cm or more in diameter
 - d. Wholly or partially within 30 m of a provincially significant wetland or habitat of an endangered or threatened species
 - e. Overlapping or abutting one or more of the following features:



- *i.* Permanent streams or intermittent streams
- ii. Fish habitat
- *iii.* Significant valleylands
- 3) 0.5 ha or greater in size meeting at least one of the following criteria:
 - a. A provincially rare treed vegetation community with an S1, S2 or S3 in its ranking by the MNRF's N.H.I.C.
 - b. Habitat of a woodland plant species with an S1, S2 or S3 in its ranking or an 8, 9, or 10 in its Southern Ontario Coefficient of Conservatism by the NHIC, consisting of 10 or more individual stems or 100 or more sqm of leaf coverage.
 - c. Any woodland overlapping or abutting one or more of the following features:
 - *i.* Significant wildlife habitat
 - ii. Habitat of threatened species and endangered species
 - iii. Non-Provincially Significant Wetlands
- 4) Any size overlapping or abutting one or more of the following features:
 - a. Provincially significant wetland
 - b. Life Science area of natural and scientific interest

Other Woodlands

According to Table 4-1 of the OP's Schedule L (Natural Environment System: Components, Definitions, & Criteria), Other Woodlands are a terrestrial treed area must have \geq 25% tree cover and meet one or more of the following criteria:

- 1) an average minimum width of 40 m and is ≥ 0.3 ha, measured to crown edges; or
- 2) any size abutting a significant woodland, wetland or permanent stream.

Treed areas that "abut" a significant woodland, wetland or permanent stream are considered adjacent when located within 20 m of each other. Other woodlands are identified based on the Ecological Land Classification (ELC) methodology.

Other Wetlands

According to Table 4-1 of the OP's Schedule L (Natural Environment System: Components, Definitions, & Criteria), Other Wetlands include:

- all wetlands that meet an Ecological Land Classification (ELC) wetland system classification and have not been evaluated as a provincially significant wetland (PSW).
- both evaluated non-PSWs and wetlands that have not been evaluated. These include wetlands that are regulated, and wetlands that are not regulated by the Conservation Authority
- wetlands with ecological and hydrological functions and wetlands that have only have a hydrological function.

In settlement areas other wetlands which are not regulated by the Conservation Authority require further evaluation to determine the appropriate protection or management of the feature. Within settlement areas, other wetlands which are not regulated by the Conservation Authority are considered to be a required



component of the water resource system and are protected or managed in accordance with the policies of this Plan

Fish Habitat

According to Table 4-1 of the OP's Schedule L (Natural Environment System: Components, Definitions, & Criteria), Fish Habitat *is identified as any watercourse or waterbody identified by the MNRF or provided / approved by the Federal Department of Fisheries and Oceans (DFO) or a delegated authority of DFO (including Conservation Authorities, as appropriate).*

For screening purposes, and until such time appropriate studies are completed to assess watercourses and waterbodies, Fish Habitat will be presumed to be:

- Any permanent or intermittent stream or waterbody excluding constructed and actively managed offline ponds (e.g., stormwater ponds, active farm irrigation ponds, etc.);
- Intermittent or ephemeral watercourses, or Headwater Drainage Features that provide contributions in terms of baseflow, material (e.g., substrates, etc.) or allochthonous inputs that are important to the maintenance of downstream fish habitat; or
- Shoreline features that provide contributions in terms of material (e.g., substrates, etc.) or allochthonous inputs that are important to the maintenance of fish habitat in the Great Lakes.

Site-specific Relevance

- According to the Region's OP Schedule C1 (Natural Environment System Overlay and Provincial Natural Heritage Systems), the Subject Lands are within the Settlement Areas (comprised of urban areas and rural settlements) and within the Region's Natural Environment System (Map B).
- Within the Subject Lands "Other Wetland and Non-Provincially Significant Wetlands", "Other Woodlands", "Linkages", and "Permanent and Intermittent Streams" have been mapped by the Region, as per the OP's Schedule C2 (Natural Environment System: Individual Components and Features) (Map C).
- Though not mapped in the Region's Schedules, Fish Habitat (Wignell Drain West Tributary) and Significant Wildlife Habitat were also noted within the Subject Lands during the 2021/2022 field investigations.
- As per the OP's policies (section 3.1.9.9.1), within settlement areas, these natural features are to be protected with an ecological buffer. The width of an appropriate buffer for each feature will be determined though an EIS.

2.3 City of Port Colborne Official Plan

The *City of Port Colborne Official Plan* (OP) was approved by the Ontario Land Tribunal on November 25, 2013 (City of Port Colborne, 2013). In Schedule A (City-wide Land Use), the subject lands are shown within Urban Area boundary. Most of the subject lands are shown on this Schedule as Urban Residential, with a portion through the centre, that appears to follow the floodplain, as Environmental Protection Area.



The City promotes the protection, conservation, restoration, and enhancement of Natural Heritage Features within and adjacent to its boundaries. The City's Natural Heritage is shown on Schedule B of the OP, as Environmental Protection Areas (EPA), Environmental Conservation Areas (ECA), Streams, and Fish Habitat.

Environmental Protection Areas are lands that are classified as PSWs, Provincially ANSIs, habitat of Threatened and Endangered species and Natural Hazard Areas.

Environmental Conservation Areas are lands that are classified as Regionally ANSIs, Non-Provincially Significant Wetlands, Significant Wildlife Habitat, Significant Woodlands, Significant Valleylands, Habitats of Species of Concern, and Environmental Corridors and Linkages.

As part of the City's OP Section 4.1.1 policies, development should maintain, enhance, or restore ecosystem health and integrity. First priority is to be given to avoiding negative environmental impacts. If negative impacts cannot be avoided, mitigation measures will be required.

<u>Woodlands</u>

The City's OP Section 4.3.5.1 b) states that *Woodlands are treed areas, woodlots or forest areas that provide environmental and economic benefits to private landowners and the public that vary in levels of significance. To be classified as significant, a woodland must:*

- Contain a threatened or endangered species or species of concern,
- be equal or greater than 2 hectares in size,
- overlap or contain one or more significant natural heritage features, or
- abut or be crossed by a water body greater than 2 hectares in area.

<u>Fish Habitat</u>

According to the City's OP Section 4.3.7.1 g), a naturally vegetated buffer areas of at least 30 metres in width from the stable top of bank will be required adjacent to a Critical Fish Habitat. A minimum 15 metre vegetative buffer from the stable top of bank will be required adjacent to important or Marginal Fish Habitat. A buffer narrower than 15 metres may be considered for important or marginal fish habitat where the EIS has demonstrated that there will be no harmful destruction of fish habitat.

Although types of fish habitat are not differentiated on City mapping, NPCA (2010) indicates that the Wignell Drain on the Subject Lands is Important/Marginal Habitat and not Critical Fish Habitat.

In regard to Municipal Drains, Section 4.3.7.1 h) states that where development, site alteration or construction is proposed adjacent to a Municipal Drain or a buffer zone, a minimum 15 metres in width measured from stable top of bank shall be required to provide access for drain maintenance

Site specific Relevance to the City's OP

• According to the OP's Schedule B (Natural Heritage) the Subject Lands contain Environmental Protection Areas and Environmental Conservation Areas (**Map D**).



- As depicted on the OP's Schedule B1 (Environmental Protection Area), Natural Hazard Lands are found within the properties (**Map E**).
- Additionally, the OP's Schedule B2 (Environmental Conservation Area), depicts the properties with Significant Woodlands, Non-Provincially Significant Wetlands, Fish Habitat, and Streams (**Map F**).
- As per Section 4.1.1 (j) of the OP, undisturbed, vegetated buffers will be required between Natural Heritage Features and any proposed buildings or structures of adjacent development and, **unless** *reduced buffers are determined by an EIS* (Palmer bold), the size of the buffers shall be:
 - Non-Provincially Significant Wetlands: 50 metres (m)
 - o Fish Habitat: a) Critical: 30 m; b) Important or Marginal: 15 m
 - Significant Woodlands: 50 m
 - Significant Wildlife Habitat: 50 m



Map D. The City's OP Schedule B depicts the Subject Lands within an Environmental Protection Area (green layer), Environmental Conservation Area (brown layer), Streams (blue line), and Fish Habitat (blue squares). Much of the green layer is reflective of the floodplain (see Map D).



Map E. The City's OP Schedule B1 depicts Natural Hazard Lands (orange hatched layer) within the Subject Lands.



Map F. The City's OP Schedule B2 depicts the Subject Lands with Significant Woodlands (green layer), Non-Provincially Significant Wetlands (pink hatched layer), Streams and Fish Habitat (blue squares and blue line). Note blue 'polygons' are simply enlarged dashed line from OP mapping.



2.4 Niagara Peninsula Conservation Authority

The *Conservation Authorities Act* directs all Conservation Authorities to produce local regulations to streamline development approvals. Ontario Regulation (O. Reg.) 155/06 enables the NPCA to provide the Regulation of Development, Interference with Wetlands and Alteration to Shorelines and Watercourses within their jurisdiction (Niagara Peninsula Conservation Authority, 2020). The Subject Lands, including areas associated with the wetland features, watercourse, and floodplain are within NPCA's regulated lands (**Map G**). As such, the development will require authorization under O. Reg. 155/06.



Map G. NPCA's regulated lands (light blue layer).

Implementation of O. Reg. 155/06 is guided by the NPCA Policy Document: Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority (Office Consolidation) (NPCA, 2022).

Through regulation, the NPCA has jurisdiction adjacent to and within wetlands, watercourses and other hazard lands. For example:

8.2.2.1 Unless otherwise stated in this Document, no development and/or interference shall be permitted within PSWs and any other wetland greater than 0.5 hectares in size.

And,

8.1.2.3 Unevaluated Wetlands

Some wetlands within the watershed have not been evaluated and delineated under the OWES. In those instances, the following policies apply:



a) Prior to development or site alteration on a property with an unevaluated wetland, a wetland evaluation shall be required prior to completion of an EIS if required, or the approval process, and approved by the MNRF.

b) Exceptions to (a) may be considered in cases where an appropriate natural buffer (as determined by the NPCA) is proposed between the NPCA staked wetland boundary and all site alteration and development (including grading), or small scale non-permanent development (such as small backyard sheds not requiring planning approval) which in the opinion of NPCA will have no negative impact on the ecological and hydrologic function of the wetland. These cases will only be considered for small-scale development through the work permit process and where an appropriate buffer is maintained.

It should be noted that the provincial Bill 23, *More Homes Built Faster Act* was passed on November 28, 2022. This bill is expected to bring changes to conservation authorities' role in permitting, planning and development. It is Palmer's understanding that until Regulations are written and implemented by the Ministry of Natural Resources and Forestry, that current conservation authorities' roles may continue as previously, however not all conservation authorities are approaching the Bill in the same manner. Contact with the conservation authority regarding this Bill is recommended at each relevant stage of the development process in order to determine their role at that point in time.

2.4.1 Buffers

Additional relevant policy regarding buffers to wetlands and watercourse is as below.

Wetland Buffers

Section 8.2.3.1 of the NPCA policy document states:

Buffers to Wetlands

Where development is proposed adjacent to a wetland, a minimum 30 metre buffer shall be provided.
 Notwithstanding Section 8.2.3.1 1), a reduction to a non-PSW buffer shall only be considered where:

- a) There is no other reasonable alternative; and
 - b) where supported by an EIS in accordance with NPCA Procedural Manual.

Watercourse Buffers

According to Section 9.2.5.1 of the NPCA Policy Document,

9.2.5.1 Buffer Requirements

The following buffer requirements apply to development and site alteration adjacent to a watercourse:

a) A 30 metre buffer shall be provided where the watercourse contains permanent flow, cool water or coldwater systems or specialized aquatic or riparian habitat (such as but not limited to fish spawning areas, habitat of species at risk or species of concern, forested riparian areas or Type 1 Critical Fish Habitat). Notwithstanding this requirement, the buffer may be reduced where supported by an EIS in accordance with the NPCA Procedural Manual, but in no case shall the buffer be reduced below 15 metres.



b) A 15 metre buffer shall be provided for watercourses containing intermittent flow, warmwater systems or general/impacts aquatic or riparian habitat, or Type 2 Important Fish Habitat or Type 3 Marginal Fish Habitat. Notwithstanding this requirement, the buffer may be reduced where supported by an EIS in accordance with the NPCA Procedural Manual.

Fish Habitat Classification

Based on other Watershed Plans completed by the NPCA, such as the Twenty Mile Creek Watershed Plan (located north of Port Colborne), Fish Habitat is classification is based on the MNRF's 2000 protocol (Niagara Peninsula Conservation Authority, 2006). Fish habitat falls into one of three categories in Niagara:

- Type 1 'Critical': This is the most sensitive habitat and requires the highest level of protection. It includes critical spawning and rearing areas, migration routes, over-wintering areas, productive feeding areas, and habitat occupied by sensitive species.
- Type 2 'Important': This habitat is less sensitive and requires a moderate level of protection. These areas are considered "ideal for enhancement or restoration projects" and include feeding areas for adult fish and unspecialised spawning habitat.
- Type 3 'Marginal': This habitat type is considered marginal or highly degraded and does not contribute directly to fish productivity. Examples of Type 3 habitat include channelized stream and artificially created watercourses.

2.5 Endangered Species Act

Species designated as Endangered or Threatened by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk (SAR) in Ontario (Government of Ontario, 2007). These SAR and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation, and migration) are afforded legal protection under the *Endangered Species Act, 2007* (ESA). This *Act* is administered by the Ministry of Environment, Conservation and Parks (MECP).

The protection provisions for species and their habitat within the ESA apply only to those species listed as Endangered or Threatened on the SARO list, being *Ontario Regulation 230/08* of the ESA. Species listed as Special Concern may be afforded protection through policy instruments respecting significant wildlife habitat (e.g., the PPS) as defined by the Province or other relevant authority, or other protections contained in Official Plans.

2.6 Migratory Birds Convention Act

The *Migratory Birds Convention Act, 1994* (Government of Canada, 1994) and *Migratory Birds Regulations, 2014* (MBR), along with the provincial *Fish and Wildlife Conservation Act* (1997), protect most species of migratory birds and their nests and eggs anywhere they are found in Canada. General prohibitions under the MBCA and MBR protect migratory birds, their nests and eggs and prohibit the deposit of harmful substances in waters / areas frequented by them. The MBR includes an additional prohibition against incidental take, which is the inadvertent harming or destruction of birds, nests or eggs.



Compliance with the MBCA and MBR is best achieved through a due diligence approach, which identifies potential risk, based on a site-specific analysis in consideration of the Avoidance Guidelines and Best Management Practices information on the Environment Canada website (Government of Canada, 2018).

3. Study Approach

3.1 Background Review

Palmer has reviewed relevant background material to provide a focus on field investigations and ensure compliance with applicable regulations and policy. Background information collection is guided by the *Natural Heritage Information Request Guide* (Ministry of Natural Resources and Forestry, 2018). Current direction from the Ministry of Natural Resources and Forestry (MNRF) and Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the Natural Heritage Information Centre (NHIC) Make Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2021). Information gathered is recommended to be balanced and supplemented by a professional ecological review of potential habitats and characteristics of a project site.

Background review included the collection and review of relevant mapping and reports, including regulations and policies, Official Plans, and zoning by-laws; and the NHIC Make-a-Map application for species occurrences and designated area mapping. In addition to these sources, the following data sources were reviewed for the project:

- Land Information Ontario (LIO): certain data types including aquatic resource area (ARA) information is available through these publicly available data layers (Government of Ontario, 2023).
- **Conservation Authorities:** the NPCA collects and maintains natural heritage mapping and data, and publish reports, that all provide regional and often site-specific ecological context.
- Natural Areas Inventory, 2006-2009 (Volume 2): Niagara Peninsula Conservation Authority
- **Ontario Breeding Birds Atlas (OBBA):** Referenced Square 17TPH45 for breeding bird records in the general vicinity (Bird Studies Canada, 2023).
- **Fisheries and Oceans Canada (DFO):** The DFO maintains mapping of aquatic species at risk (SAR) habitats, including the critical habitat, occupied and contributing habitat ranges of SAR and Special Concern species (Fisheries and Oceans Canada, 2023).

Following the *Information Request Guide* (MNRF, 2018), MECP advice and direction should be solicited once Species at Risk (SAR) interactions or potential interactions are identified via field investigations and analysis.

3.2 Agency Liaison

An initial EIS Terms of Reference (ToR) was provided to NPCA and Niagara Region in August 2021. Comments were received and these were discussed at a meeting on March 1, 2022 with Palmer, NPCA, Region in attendance. A revised ToR was submitted on April 21, 2022 (dated March 29, 2022) (**Appendix A Part 1**). This was accepted by the NPCA and Region (**Appendix A Part 2**).

Additionally, a senior Palmer ecologist, met staff from both the Region and NPCA to stake and discuss delineation of natural features. Site Staking occurred on November 18, 2021 (woodlands with Niagara Region) and September 14, 2022 (wetlands and some woodlands with NPCA and Region).



Features are described and mapped later in the report, however the following methods were used to delineate the numbered features:

- A1/B1 (wetland/woodland) used existing evaluated wetland mapping with agreement NPCA, Region
- A2 (SWH/wetland) staked (NPCA)
- B2 (woodland) staked (Region)
- B2 (interior wetland) used air photo delineation/field observations with agreement of NPCA, Region
- B3 (wetland/woodland) Part staked (NPCA), part used air photo delineation with agreement of NPCA, Region
- A3 (woodland) staked (Region)
- A4 (woodland) staked (Region)
- A4 (wetland) part staked (NPCA), part used air photo delineation with agreement of NPCA, Region

Existing mapping was used to delineate watercourses/drains and there are no valleylands on the Subject Lands.

3.3 Ecological Surveys

Field investigations were conducted to collect existing conditions data on flora, fauna, natural features, and ecological functions. Field investigations were conducted by Palmer in 2021 and 2022; survey tasks and dates are provided in **Table 1**. In total the Subject Lands surveys or visits occurred on four days in 2021 and 16 days in 2022.

Table 1. Summary of Ecological Surveys (2021/2022)

Survey Type	Date			
	2021	2022		
Amphibian Breeding Surveys	-	March 31, April 12, May 18, and June 23		
Breeding Bird Surveys	June 17 and July 5 (most of site)	May 31, and June 22, 2022 (areas not surveyed in 2021)		
Vegetation Communities and Flora	June 17, July 5, and October 19	March 1, April 27, August 20		
Aquatic Assessment	June 17 and July 5	March 18, and May 24		
Salamander Habitat Assessment	-	March 18, and May 24 (with additional observations March 31)		
Snake Surveys	May 18, May 31, June 2 and August 30			
Soil Sampling	-	August 31, September 14, and October 27		
Wetland and Woodland Staking	November 18	September 14		



3.3.1 Vegetation Communities and Flora

Vegetation communities were mapped and described following the Ecological Land Classification (ELC) System for Southern Ontario protocols (Lee, et al., 1998). Vegetation community boundaries were delineated on field maps through the interpretation of recent aerial photographs and refined in the field. Information collected during ELC includes dominant species cover, community structure, as well as level of disturbance, presence of indicator species, and other notable features.

Botanical surveys were completed by traversing the site and recording species observed in each vegetation community, as access allowed (private properties were no entered). Provincial plant status was based on the *Rare Flora of Ontario* (Oldham & Brinker, 2009) and the Natural Heritage Information Centre (Ministry of Natural Resources and Forestry, 2023). Regional plant status was based on the *Checklist of the Vascular Plants of Niagara Regional Municipality Ontario* (Oldham M., 2010).

3.3.2 Amphibian Breeding Surveys

Amphibian breeding surveys were conducted on April 12, May 18, and June 23, 2022. Breeding surveys were conducted in accordance with standard field protocols (Bird Studies Canada, 2009). Surveys were completed in the evenings between 20:30 and 23:50 h. Weather conditions were between 5°C and 20°C, with few clouds, no precipitation, and light wind.

Species were identified by call, and an abundance code for each species heard calling was assessed by the following the Amphibian Monitoring protocol:

- Code 0: No calls heard.
- Code 1: Calls not overlapping or simultaneous, number of individual frogs can be counted.
- Code 2: Calls overlapping or simultaneous, number of individuals can still be distinguished, number of individual frogs cannot be counted, but a reliable estimate of numbers can be made based on location and call voices.
- Code 3: Full chorus, calls simultaneous and overlapping, numbers of calling males cannot be reasonably counted or estimated.

Additionally, observations were made in several locations on March 31, 2022 during the day when amphibians were calling.

3.3.3 Breeding Bird Surveys

Breeding bird surveys were conducted using a roving survey method whereby the entirety of site is covered. Thus, the site was walked such that the observer was within about 50 m or less of all parts of the site. Palmer conducted two breeding bird surveys, more than one week apart within the peak breeding season, on the dates given above. Surveys were conducted between 5:30 and 10:00 a.m. to coincide with the dawn chorus. Surveys were conducted under suitable weather conditions when wind speeds were less than 20 km/h and there was no precipitation. The surveyor used a site map to record all bird species and individuals seen and heard in the approximate location observed. Any fly-overs or migrants were excluded from the species list.

3.3.4 Aquatic Assessment

3.3.4.1 Watercourses

Aquatic habitat assessments were carried out by Palmer on March 18 and May 24, 2022 for the watercourses that traverse the Subject Lands (i.e., the main portions of the Wignell Drain), with additional observations on other dates. The following characteristics were recorded:

- Channel width and depth profile, bank height, bank stability;
- Substrate types and distribution;
- Presence of potential fish barriers;
- Riparian vegetation type and cover; and
- In-stream cover type and extent.

3.3.4.2 Headwater Drainage Feature Assessments

Headwater Drainage Features (HDFs) within the subject property were assessed following the Ontario Stream Assessment Protocol Headwater Drainage Feature Module (Stanfield, Del Giudice, Bearss, & Morodvanschi, 2013) and followed the requirements as set out in the Evaluation, Classification and Management of Headwater Drainage Features Guidelines ("Guidelines"; (Toronto and Region Conservation Authority and Credit Valley Conservation, 2014). The guidelines use an integrated approach for the evaluation of key attributes of drainage features including flow and feature form, riparian vegetation, fish and fish habitat and terrestrial habitat. The evaluation divides headwater drainage features into segments, with breaks between segments occurring where key attributes change. The Guidelines are meant to address ephemeral, intermittent and permanent watercourses in the early spring so as to capture characteristics of smaller aquatic features which may not persist throughout the year.

3.3.5 Salamander Habitat Assessment

In areas where potential salamander breeding habitat was noted presence of salamander eggs was noted. Furthermore, surveyors flipped logs, rocks, or other objects in suitable woodland habitat in search for individuals. The location of the areas that were surveyed were recorded and geo-referenced includes areas A1, B1, and A4. Additionally, while on-site for other reasons, any suitable habitat was recorded.

3.3.6 Snake Surveys

Snake surveys involved creating artificial habitat (wood cover boards) in potential suitable areas within the Subject Lands. Snake boards were approximately either 1m by 1 m or 1 m by 2 m and about half were pre-weathered. A total of 12 snake boards were placed in dry, flat, and open/semi-open areas within the forest/swamp/thicket communities of the lands. Snake boards were placed in the early spring and were subsequently checked during the spring and summer for five site visits in 2022. Additionally, while on-site for other reasons, any snake observations were recorded.



3.3.7 Soil Sampling

Soil sampling occurred on several dates in 2022 at each main ELC polygon, for a total of 14 soil samples. Using a standard-sized soil auger, soil samples were generally dug to a depth which would enable the sample to determine the soil texture and moisture regime. Sometimes it was not possible to dig deeply due to encountering resistance which may have been due to heavy clay soils or bedrock. The following characteristics were recorded: depth of sample; presence of litter; depth and characteristics of organic layer and lower mineral layers; texture of mineral layer(s), depth of distinct mottles and gley (if present); depth to water table (if present), as well as resulting moisture regime. Soil identification and characteristics were described using Section 10 within Lee et al (1998). Where depth of bedrock was not known, depth to bedrock was assumed to be >120 cm. Regardless, wetland communities were ultimately based on wetland plants as per Ontario Wetland Evaluation System, with the soil information being considered supplementary. Within this report, soil information is provided as part of the ELC description of the relevant vegetation community.

3.3.8 Species at Risk

For the purposes of this report, Species at Risk (SAR) include species listed as *Endangered*, *Threatened* or *Special Concern* under Ontario's ESA. Prior to field work, existing SAR records were queried through the NHIC database. Habitat opportunities for SAR on the site were then assessed by comparing habitat preferences of species deemed to have potential to occur to current site conditions. The species noted during the NHIC search and others known through professional experience to have potential to occur, along with field survey results were considered in the assessment.

3.3.9 Significant Wildlife Habitat

A habitat suitability assessment for Significant Wildlife Habitat (SWH) characteristics was conducted using vegetation community information as well as field information gathering efforts in order to determine whether SWH is present, potentially present, or absent within the Subject Lands. Before this occurred a *Significant Wildlife Habitat Screening Table for Niagara Region* (Appendix A Part 3) was submitted to the Niagara Region at their request. This was accepted by the Region (Appendix A Part 4).

3.3.10 Incidental Wildlife Observations

Incidental observations of wildlife were recorded during field investigations. Incidental observations included direct sightings and indirect evidence such as nests, tracks, scat, and browse.

4. Existing Conditions

4.1 Physiography

The Subject Lands are located within the Lake Erie – Lake Ontario Ecoregion 7E (Crins, Gray, Uhlig, & Wester, 2009). This region extends from Windsor and Sarnia east of the Niagara Peninsula and Toronto, and contains shorelines of Lakes Huron, Erie, and Ontario. The underlying bedrock in this Ecoregion is Silurian and Devonian limestone. The topography of the ecoregionis flat and overlain by deep undulating deposits of ground moraine, except for the Niagara Escarpment from Burlington south to Queenstown. The predominant substrates in the ecoregion include Gray Brown Luvisols (60%) and Gleysols (37%).

Additional information can be found in *Killaly Street East, Port Colborne, ON Elite Developments Type of Document: Preliminary Geotechnical Investigation Report* (EXP, 2021) as well as this information:

Below the topsoil, fill material and native silty clay were encountered at all borehole locations, except Boreholes BH-01 and BH-19.

A layer of fill was encountered below the topsoil in each of the borehole locations, except Boreholes BH-01, BH-02, BH-03, BH-09, BH-10, and BH-19, extending to depths of 0.7 to 1.4 m. The fill consisted predominantly of silty clay with varying proportions of sand and trace fractions of gravel and rootlets, and was reddish brown, brown, dark brown, or grey. The fill was in a moist state, with moisture contents ranging from 13 to 30%

Native silty clay was encountered in all boreholes, except Boreholes BH-01, BH-17, BH-19, and BH-20, below the fill and/or topsoil extending to the bedrock surface. The silty clay contained trace to some sand and gravel, was brown, reddish brown or grey, and in a moist state, with moisture contents of the stratum ranging from 10 to 36%. SPT N values ranged from 7 to 22 blows per 305 mm penetration.

The bedrock comprises a sedimentary limestone classified as the Edgecliff Member of the Onondaga Formation. Auger refusal on the presumed limestone bedrock was encountered at all boreholes at depths ranging from 0.1 to 3.8 m below grade.

4.2 Vegetation Communities and Flora

The Subject Lands are largely comprised of culturally influenced land characterized as agricultural fields, cultural meadow, woodland, and thicket. Natural features within the lands include wetlands, deciduous forests, and drainage features. Ecological field investigations identified a total of 11 vegetation communities (excluding Anthropogenic lands, Hedgerows and purely Cultural (CU) areas) within the Subject Lands. These vegetation communities are illustrated on **Figure 2** and described below.

The vegetation and soils of natural features, as numbered in this report by Palmer for simplicity (e.g., A1, B2 etc.) is described here. There was not great variation amongst the Palmer soil samples taken; with most containing clay or silty clay as the main soil type. A water table was reached in only one sample and, and



no Of, Om or Oh (organic) soils were observed. Soil results were consistent with the EXP Geotechnical Investigation Report.

The method of delineation of natural features is explained in Section 3.2 and their significance is outlined in Section 5.

4.2.1 Ecological Land Classification

4.2.1.1 Forest Communities

Fresh – Moist Oak – Maple – Hickory Deciduous Forest (Oak Dominant) (FOD9a)

A4 Woodland

This small forest community was located in the southeastern portion of the Subject Lands on the 896 Killaly Street property (**Photo 1**). This community was noted to be somewhat disturbed as there were small trails that intersected the forest (used by the resident in the property). The canopy and subcanopy provided 75% cover and were comprised of frequent Bur Oak (*Quercus macrocarpa*), Red Oak (*Quercus rubra*), and Pin Oak (*Quercus palustris*), with occasional Basswood (*Tilia americana*), and Trembling Aspen (*Populus tremuloides*). At least one of the oaks was over a metre in diameter at breast height. The 30% cover of understory and included frequent hawthorn (*Craetegus* sp.) and Blue-beech (*Carpinus caroliniana*), along with occasional Green Ash (*Fraxinus pennsylvanica*) and Bitternut Hickory (*Carya cordiformis*). The groundcover varied in species composition though frequent May-apple (*Podophyllum peltatum*), Yellow Trout-lily (*Erythronium americanum*), Woodland Strawberry (*Fragaria vesca*), and goldenrod (*Solidago* sp.) were noted throughout the community.

The soils in this oak woodland consisted of a 20 cm loamy A layer, followed by a clay/silty clay dark brown layer becoming mid brown to at least 42 cm. No mottles were observed in the soil sample and no water table was reached. The moisture regime was thus at most a 4 (moderately moist) or was likely drier.



Document Path: G:\Shared drives\Projects 2020\20077 - Elite M.D. Developments\2007705 - Killaly Street Port Colborne\GIS\1_Work ace\MXD-Figures\2007705-2-2-Ecological Land Classification.mx

LEGEND

- Soil Sampling Location •
- Municipal Drain-Important/Marginal Fish Habitat¹
- •—• Surveyed - Woodland (Nov 18th,
- ----Surveyed Woodland (Sept 14th,
- ----- Surveyed Wetland (Sept 14th,
- Wetland²
- Other Wetland or Woodland Boundary³ ----





Properties of Elite Development (142.2

 Niagara Peninsula Conservation Authorty (NPCA)
 Land Information Ontario (LIO)
 All surveyed, LIO, and additional wetland and woodland features as shown on this map have been agreed upon between NPCA, Niagara Region, and Palmer (Sept 2022). Buffer widths and Ecology Corridor placement not reviewed nor confirmed by NPCA & Region

ELC CODES

Cultural Communities

ANTH: Anthropogenic AG: Agricultural HE: Hedgerow CUM1-1: Dry-Moist Old Field Meadow CUT1: Mineral Cultural Thicket CUW1: Mineral Cultural Woodland

Forest Communities

FOD2: Dry – Fresh Oak – Maple – Hickory Deciduous Forest

FOD4: Dry – Fresh Deciduous Forest FOD9: Fresh – Moist Oak – Maple – Hickory Deciduous Forest

Wetland Communities MAM2-2: Reed Canary Grass Mineral Meadow Marsh SWD: Deciduous Swamp SWD3-2: Silver Maple Mineral Deciduous Swamp SWT2: Mineral Thicket Swamp SWT2-9: Gray Dogwood Mineral Thicket Swamp SWT2-11: Southern Arrow-wood Mineral Thicket Swamp

0	100	200	300	400
		METRE SCALE		

North American Datum 1983 Universal Transverse Mercator Projection Zone 17

Scale: 1:7,000 Page Size: Tabloid (11 x 17 inches)

Drawn: SM Checked: RC Date: Aug 31, 2023



Source Notes: Base imagery (2018) provided by ESRI basemapping services.

CLIENT

Elite Developments

PROJECT

Killaly Street Port Colborne

TITLE

Ecological Land Classification

REF. NO.



2007705-2-3

Figure 2



Photo 1. A4 Fresh – Moist Oak – Maple – Hickory Deciduous Forest (FOD9a) (August 30, 2022)

(A1 and B1 Woodlands)

These communities were located in in the northwestern portion of the Subject Lands (**Photo 2**). These moist forests were noted to have similar species composition as the adjacent wetlands (Silver Maple Mineral Deciduous Swamp (SWD3-2)) though they were noted to be drier and were excluded from the MNRF's LIO wetland delineation (Non-Provincially Significant Wetland). The canopies similarly contained Silver Maple (*Acer saccharinum*), with occasional Shagbark Hickory, White Oak (*Quercus alba*), Swamp White Oak (*Quercus bicolor*), Red Oak Blue Beech (*Carpinus caroliniana*) and ash.



```
Photo 2. A1/B1 Fresh – Moist Oak – Maple – Hickory Deciduous Forest (FOD9) (July 5, 2021)
```

Dry-Fresh Deciduous Forest (FOD4)(B2 Woodland)

This community was located within the central portion of the Subject Lands west of Snider Road (**Photo 3**). The tree canopy cover was patchy and was dominated by Black Walnut (*Juglans cinerea*), however other species were present including Bitternut Hickory, and White Mulberry (*Morus alba*). The open understory (20% cover) included abundant Green Ash and occasional hawthorn. Bladdernut (*Staphylea trifolia*) was also present. The groundcover varied in species composition, including frequent avens, Garlic Mustard (*Alliaria petiolata*), Hairy Bittercress (*Cardamine hirsuta*), and goldenrod. Finally, a stand of Honey Locusts (*Gleditsia triacanthos*) was noted in the southern edge of the woodland (**Photo 4**).

CUW1b was adjacent to the CUW1a but was separated mapped as it had a lower tree cover and was excluded from the staked woodland.

Based on two samples, the soils in this woodland consisted of a 15 to 20 cm brown A layer, followed by a loamy silt B layer to 30 to 40 cm, at which point the augering was stopped as bedrock was reached. At third auger attempt hit bedrock at 15 cm. No mottles nor water table was reached. The moisture regime was assessed to be 1 (moderately fresh).



Photo 3. B2 Dry-Fresh Deciduous Forest (FOD4) dominated by Black Walnut (October 19, 2021)



Photo 4. Honey Locust Stand noted within the FOD4 community (April 27, 2022)

Dry – Fresh Oak – Maple – Hickory Deciduous Forest (FOD2) (A3)

This community was located in the northeastern portion of the Subject Lands (**Photo 5**). The canopy and subcanopy provided 75% cover and were dominated by Red Oak, with frequent Black Cherry (*Prunus serotina*), and occasional Sugar Maple (*Acer saccharum*). Some trees were mature, while others were young. The understory provided 45% cover and included Black Cherry saplings, with occasional Honeysuckle (*Lonicera* sp.) and Green Ash saplings. The groundcover included Woodland Strawberry, Red Raspberry (*Rubus idaeus*), and avens (*Geum* sp.)



The soils in this woodland consisted of a 20 cm dark brown A layer, followed by a heavy clay/silty clay warm brown layer to 50 cm, at which point the auger would not drill lower (due to bedrock, heavy clay or root). No mottles were observed in the soil sample and no water table was reached. The moisture regime was thought to be a 4 (moderately moist) or 3 (very fresh), if bedrock was > 120 cm depth or 1 (moderately fresh) if bedrock was at 50 cm.



Photo 5. A3 Dry – Fresh Oak – Maple – Hickory Deciduous Forest (FOD2) (October 19, 2021)

4.2.1.2 Wetland Communities

<u>Silver Maple Mineral Deciduous Swamp (SWD3-2) and SWD3-2 Gray Dogwood Mineral Thicket Swamp</u> (SWT2-9) (A1 and B1 wetlands)

Two natural features classified as an SWD3-2 community and a SWD3-2/SWT2-9 were observed in the northwestern portion of the Subject Lands (**Photo 6 and 7**). These wetlands are evaluated non-provincially significant wetlands. The canopy provided 70% cover and was dominated by Silver Maple (*Acer saccharinum*), with occasional Shagbark Hickory, White Oak (*Quercus alba*), Swamp White Oak (*Quercus bicolor*), Red Oak and ash. The understory provided 40% cover and included abundant Green Ash saplings with occasional Swamp White Oak saplings and European Buckthorn (*Rhamnus cathartica*). The groundcover was composed of abundant goldenrod, asters (*Aster sp.*), with frequent Poison Ivy (*Toxicodendron radicans*) and occasional Bladder Sedge (*Carex intumescens*).

A1 had an overall lower tree canopy, was noted to contain swamp thicket inclusions, and had more dead Green Ash trees in the canopy. The swamp thicket portions were dominated by Gray Dogwood (*Cornus racemosa*) along with abundant Green Ash saplings and occasional Red-osier Dogwood. The groundcover included by Reed-canary Grass (*Phalaris arundinacea*). A1 also contained numerous Northern Spicebush (*Lindera benzoin*) shrubs.



The differences between the A1/B1 wetlands and A1/B1woodlands were subtle in terms of both terrain and vegetation. The division has been made based on the evaluated wetland mapping and with the agreement of NPCA.

The soils in B1 swamp consisted of a 14 cm A layer, followed by a clay/silty clay B layer to 18 cm, at which point the auger would not drill lower (due to bedrock, heavy clay or root). Distinct mottles were observed in the B layer (i.e. approximately 16 cm) but no water table was reached. The moisture regime was assessed to be 6 (very moist), but theoretically could have been 0 (moderately dry) if the bedrock was at 18 cm depth. Lee et al note that 'a very small difference in soil depth within very shallow soils results in a large difference in the moisture retained for plant growth'. Based on the plants found in A1 and B1 we suspect that there may be fluctuating differences in soils and moistures in these communities due to fluctuating depth to bedrock.

The soils in A1 swamp consisted of a 5 cm dark brown A layer, followed by a very heavy clay B layer to 45 cm, at which point the augering was stopped as a moisture regime was determined. Distinct mottles were observed at approximately 25 cm depth, but no water table was reached. The moisture regime was assessed to be 6 (very moist).



Photo 6. Silver Maple Mineral Deciduous Swamp (SWD3-2) located on the northwestern portions of the Subject Lands (October 19, 2021)



Photo 7. SWD3-2/Gray Dogwood Mineral Thicket Swamp (SWT2-9) located in the northwestern portion of the Subject Lands (October 19, 2021)

Poplar Deciduous Swamp SWD (Part B3)

This community was located northwest of the Killaly St. East and Snider Road junction (**Photo 8**). The canopy provided 50% cover and was dominated by Trembling Aspen (*Populus tremuloides*), with occasional Bur and Pin Oak, Manitoba Maple (*Acer negundo*), and Norway Maple (*Acer platanoides*) as well as other woody species. Based on vegetation, the southern end of the swamp is wetter as there are a few large willow trees as well as a cluster of willow shrubs. The understory provided 20-40% cover and included abundant Manitoba Maple and Trembling Aspen saplings, as well as frequent Red Raspberry, and Blackberry (*Rubus occidentalis*). The groundcover included goldenrod, Poison Ivy and Reed Canary Grass and numerous other species found in disturbed semi-open areas.

Four soil samples were undertaken in the B3 area to determine whether this community was primarily a wetland or an upland, since the species present tended to be those that could be found in either community type or were a mix of upland and wetland species. Of the four soil samples taken, three resulted in a moisture regime of 6 (Lee et al., 1998), and another was indeterminate (probable gleys found high in the soil profile) and therefore it has been classed as a poplar wetland swamp. Soil samples found soils that had little litter, a short organic A layer, and were generally heavy clays or silty clays, with distinct mottles starting at 5 to 18 cm. A water table was not reached in any soil sample, however the soil samplings were not dug deep (25 to 40 cm) since a moisture regimes could usually be determined without sampling deeper, and soils were difficult to dig.

Palmer...



Photo 8. Mineral Deciduous Swamp – Trembling Aspen (SWD) (October 19, 2021)

Southern Arrow-wood Mineral Thicket Swamp (SWT2-11) (A2)

This thicket community was located in the northern portion of the Subject Property (**Photo 9**). The small swamp thicket community was dominated by Southern Arrowood (*Viburnum recognitum*) with abundant Red-osier Dogwood and occasional European Buckhorn, Silver Maple and Green Ash saplings.

The soils in this thicket swamp consisted of a 20 cm dark brown clay-loam A layer, followed by a heavy clay/silty clay B layer to 45 cm, at which point the augering was stopped as a moisture regime was determined. Distinct mottles were observed at approximately 25 cm depth, but no water table nor bedrock was reached. The moisture regime was assessed to be 6 (very moist).



Photo 9. Southern Arrow-wood Mineral Thicket Swamp (SWT2-11) located in the northern portion of the Subject Lands (October 19, 2021)

Mineral Thicket Swamp (SWT2) (A4 Wetland)

This community was located in the southeastern portion of the Subject Lands and was found within the 896 Killaly Street property, directly south of woodland A4 (**Photo 10**). A small dug pond, that was staked with NPCA was noted within this community (**Photo 11**). The swamp thicket community was composed of frequent willow shrubs, Spicebush (*Lindera benzoin*), and Green Ash saplings. The groundcover varied in species composition and included abundant Reed Canary Grass, with numerous other ground cover species including Red Raspberry (*Rubus ideaus*), Wild Carrot (*Daucus carota*), Tufted Vetch (*Vicia cracca*). Surrounding the pond, cattails (*Typha* sp.), Common Reed (*Phragmites* australis), bulrush (*Scirpus* sp.), Purple Loosestrife (*Lythrum salicaria*), and Curled Dock (*Rumex crispus*), were noted. Both upland and wetland species were observed in this community.

Two soil samples were conducted in this community – one in the middle and one at the edge. The soils in this thicket swamp consisted of a 18 to 25 cm deep rich brown loamy layer, followed by clay/silty clay layer to 40 to 50 cm, at which point the augering was stopped. No distinct mottles were observed in one sample, and mottles were observed in the other at approximately 20 cm depth. No water table nor bedrock was reached in either sample. The moisture regime was assessed to be 6 (very moist) in the soil sample with the mottles, but could be drier if bedrock closer to the surface than 120 cm. It is possible that the soils here are disturbed and variable due to past human activity.


Photo 10. Mineral Thicket Swamp (SWT2) located in the southwestern portion of the Subject Property, within the 896 Killaly Street property (August 30, 2022)



Photo 11. Dug Pond located within the Mineral Thicket Swamp (SWT2) community (August 30, 2022)

Thicket Swamp / Meadow Marsh (SWT/MAM) (B2 Wetland)

This small community was located within a large Cultural Woodland. It contained standing water in late March 2022 and mid September 2022 and is thought to contain water for most of the summer. Portions of the wetland contained wetland grasses, while the borders were primarily Red-osier Dogwood. It is thought that bedrock is close to the surface in this community.

Reed Canary Grass Mineral Meadow Marsh (MAM2-2a) (between B1 and A1)

This small linear community was located in the northwestern portion of the Subject Lands within a hydro corridor and between areas B1 and A1 (**Photo 12**). The meadow marsh was dominated by Reed-canary Grass with occasional Pussy Willow (*Salix discolor*) and Bitter Wintercress (*Barbarea vulgaris*).



Photo 12. Reed Canary Grass Mineral Meadow Marsh (MAM2-2) associated with a hydro corridor in the northwestern portion of the Subject Lands (October 19, 2021)

Reed Canary Grass Mineral Meadow Marsh (MAM2-2b) (Part B3)

This community was located in the southern portion of the Subject Lands and was associated with the Wignell Drain West Tributary (adjacent to Polygon 3) (**Photo 13**). The meadow marsh was dominated by Reed-canary Grass with occasional Stinging Nettle (*Urtica dioica*), Grass-leaved Goldenrod (*Euthamia graminifolia*), and cattails.



Photo 13. Reed Canary Grass Mineral Meadow Marsh (MAM2-2b) associated with the Wignell Drain West Tributary (October 19, 2021)

4.2.1.3 Cultural Communities

Dry-Fresh Deciduous Woodland (CUW1)

The more open edge of the Black Walnut forest was considered a Cultural Woodland (CUW1)

Mineral Cultural Thicket (CUT1a through CUT1d)

Four cultural thickets (CUT) were recorded on the Subject Lands; each had different vegetation characteristics.

CUT1a was adjacent to the Mineral Cultural Woodland (B2). This thicket community was a dense hawthorn and European Buckthorn thicket.

CUT1b was directly south of the FOD2 (A3) community (**Photo 14**). This community contained numerous well-maintained trails (mowed vegetation) intersecting the area. The thicket community consisted of about 80% shrub cover and contained Grey Dogwood, non-native Rosa sp. along with frequent Green Ash saplings and Staghorn Sumac, as well as occasional apple (*Malus* sp.), European Buckthorn, and Riverbank Grape (*Vitis riparia*).



Photo 12. Mineral Cultural Thicket (CUT1b) located in the northeastern portion of the Subject Lands (October 19, 2021)

The relatively deep upper layer of soil in this Cultural Thicket 1b changed gradually through the first 50 cm with some dark brown organics nearer the top, then changing to a clay/silty clay. At 50 cm fairly distinct mottles appeared and at 60 cm a water was present. At 60 cm the soils changed colour to a grey-beige, and below that to a mid-beige brown at 75 cm (still clay/silty clay with a few angular pebbles). Given the location of the mottles, the moisture regime was determined to be 4 (moderately moist).

CUT1c was associated with area B3 (**Photo 15**). The thicket community provided variable levels of shrub cover and contained abundant European Buckthorn, along with frequent dogwood (*Cornus* sp.).





Photo 13. Mineral Cultural Thicket (CUT1c) (October 19, 2021)

CUT1d was located within the 896 Killaly Street property and was the drier edge of A4 (**Photo 16**). The thicket community varied in species composition, but included scattered trees, Shagbark Hickory and Green Ash saplings, willow shrubs, Red Raspberry, Red-osier Dogwood, European Buckthorn, and abundant herbaceous cover.



Photo 14. Mineral Cultural Thicket (CUT1d) located in the southeastern portion of the Subject Lands (March 1, 2022)

Dry-Moist Old Field Meadow (CUM1-1)

Small patches of mineral cultural meadows were noted throughout the Subject Lands (**Photo 17**). Species noted within these communities included Common Milkweed, goldenrod, Common Teasel (*Dipsacus fullonum*), Common Lamb's-quarters (*Chenopodium album*), Butter-and-eggs (*Linaria vulgaris*), and barnyard grass (*Echinochloa* sp.).

Palmer...



Photo 15. Dry-Moist Old Field Meadow (CUM1-1) noted in small areas throughout the Subject Lands (August 30, 2022)

Agricultural (AG) and Hedgerow (HR)

Most of the Subject Lands (approximately 112 ha) are composed of agricultural lands (**Photo 18**). At the time of the 2021/2022 field investigations, these lands had been mostly plowed but not planted.

Several hedgerows were present in the Subject Lands. Species present were those found elsewhere on the property and often contained deciduous shrubs or tree species. Along the south portion of Snider Road, mature oaks lined both sides of the road allowance ; some of these trees were included in the B3 woodland feature.



Photo 16. Agricultural lands (AG) covering most of the Subject Lands (October 19, 2021)



Anthropogenic (ANTH)

Three areas of land were classed as anthropogenic: a) a group of abandoned farm buildings and associated planted trees, in the southwest part of the Subject Lands b) the paved remnants of a removed building on the north side of Killaly St. E., and c) a group of active farm buildings and associated garden in the southeast part of the Subject Lands.



4.2.2 Flora

A total of 110 species of vascular plants were recorded within the Subject Lands (**Appendix B**). Based on these findings, about half of the species (51%) are native to Ontario. The recorded presence of non-native species is indicative of past disturbance in the Subject Lands, typical of developed areas in southern Ontario (Morton & Venn, 1984). Oldham et al. (1995) indicate that in southern Ontario plant communities, non-native flora presence averages between 20 and 30%.

Most native plants are identified as S5 or S4 ranking, indicating that they are common within Ontario (Ministry of Natural Resources and Forestry, 2023). Honey Locust is ranked as S2? (the question mark means uncertain status). S2 are imperiled in Ontario; usually between 5-20 occurrences or with many individuals in fewer occurrences; often susceptible to extirpation. However, Honey Locust is frequently planted due to its drought tolerance and becomes naturalized. Because this species was observed in a disturbed landscape, we assume that these individuals are naturalized from planted stock.

Licorice Bedstraw (*Galium circaezans*) are listed as Uncommon, while Limestone Bittercress (*Cardamine douglassii*) and Honey Locust are listed as Rare in Niagara Region (Oldham M., 2010). The latter two were observed in the B2 woodland. No SAR flora was observed within the Subject Lands during the 2021-2022 field investigations.

4.3 Wildlife

4.3.1 Breeding Amphibians

Palmer conducted three amphibian surveys during the spring months (April, May, June) of 2022 at nine survey stations across the Subject Lands. A third survey was not completed for most locations because there was no water in these locations in 2021.

Four amphibian species were recorded: Spring Peeper (*Pseudacris crucifer*), Western Chorus Frog (*Pseudacris triseriata*), and American Toad (*Anaxyrus americanus*) were heard at the time of Palmer's 2022 calling surveys (**Table 2**) and Northern Leopard Frog (*Lithobates pipiens*) recorded incidentally.

Calling survey results are summarized in the table below. Additionally, some amphibian calls were heard during daytime surveys conducted by Palmer. On March 31, 2022, Palmer ecologists heard the calls of N. Leopard Frogs (code: 2-2) and W. Chorus Frogs (code: 2-10) in the wetland B2, and on the same date a chorus of W. Chorus Frogs in A4 pond.

Thus, calling amphibians were recorded in five general locations (**Figure 3**): four west of Snider Road at B1, B2, A2 and B3 and at only one east of Snider Road in the A4 pond. Generally small numbers of amphibians were recorded except that a chorus of Spring Peepers was recorded within the B3 area and approximately 10 Western Chorus frogs were recorded in B2 wetland. This latter wetland contained the only observation of a species that requires permanent water (N. Leopard Frog).



Document Path: G:\Shared drives\Projects 2020\20077 - Elite M.D. Developments\2007705 - Killaly Street Port Colborne\GIS\1_Workspace\MXD-Figures\2007705-3-1-Wildlife and Drainage Features.mxd





	April 12, 2022	May 18, 2022	June 23, 2022
Weather Conditions/ Location of Amphibians	11°C, 30% cloud cover, Beaufort Wind Scale No.0	11°C, light rain, Beaufort Wind Scale No. 2	25°C, 0% cloud cover, Beaufort Wind Scale No. 1
Feature B3	American Toad, Code: *1-1; Western Chorus Frog, Code: 1-1. Spring Peeper, Code: 3	No calls heard.	Not surveyed.
Feature B2	Spring Peeper, Code: 2-3 Western Chorus Frog, Code: 2-5.	No calls heard.	Not surveyed.
Pond in A4	Pond in A4 Spring Peeper, Code: 2-5 American Toad, Code: 2-3		No calls heard.
WD-2 (on Figure 3)	on Figure 3) No calls heard.		Not surveyed.
Feature B1	Western Chorus Frog, Code: 2-5	No calls heard.	Not surveyed.
Feature A1	No calls heard.	No calls heard.	Not surveyed.
Feature A2	Spring Peeper, Code: 2-3 American Toad, Code: 1-2 Western Chorus Frog, Code: 2-4	No calls heard.	Not surveyed.

Table 2. Breeding Amphibian Calling Survey Results (2022) (excludes additional incidental observations)

* First number = Code (1 non-overlapping calls; 2 overlapping calls; 3 chorus); Second number = approximate number heard

Nearby, but off-site amphibians included, a chorus of Spring Peeper, two Western Chorus Frog and one American Toad were heard off-site south of Killaly St. E and west of the Snider Road allowance. Also, a small off-site pond near Wignell Drain and east of 795 Main St. E contained at least four breeding Green Frogs (*Lithobates clamitans*) as well as egg masses.

4.3.1.1 Salamander Habitat Assessment

No salamander (eggs or individuals) were noted within the Subject Lands during the 2022 field investigations. No salamanders were observed under flipped logs and no vernal pools were observed in any part of the Subject Lands on any occasion.

4.3.2 Breeding Birds

A total of 48 breeding season bird species were observed – five of these were foraging on-site only. (**Appendix C**). The majority of birds observed were disturbance-tolerant species that are frequently found in rural areas (hedgerows, edges, gardens, fields etc.) and are common and widespread in southern Ontario. The five most abundant species in order of abundance were: Song Sparrow (*Melospiza melodia*), Red-winged Blackbird (*Agelaius phoeniceus*), American Robin (*Turdus americanus*), Savannah Sparrow (*Passerculus sandwichensis*), and American Goldfinch (*Cardeulis tristis*). Also common were Yellow Warbler (*Setophaga petechia*), Indigo Bunting (*Passerina cyanea*), and Gray Catbird (*Dumetella carolinensis*), all primarily shrubland birds. The fallow fields that were the dominant habitat at this site in 2021 supported large numbers of a few species of those listed above especially Song Sparrow and Savannah Sparrow. The numbers of both species were likely lower in 2022 as the fields had been plowed.



Note that Savannah Sparrow is considered an area-sensitive open-land species. Area-sensitive species are those which either require larger patches of habitat (whether grassland or forest) in which to breed or are more productive in larger patches of habitat. Despite being area-sensitive, Savannah Sparrow is a very common species in southern Ontario in both active and abandoned agricultural fields. Bobolink (*Dolichonyx oryzivorus*) is also area-sensitive; it is discussed in section 4.3.2.1.

Given the overall size of the Subject Lands relatively few forest birds were recorded. Even within the woodlands present, few species are forest-dependent species. This is likely in due to the small size of the wooslands and the regional agricultural context. Single territories of species such as Red-billed Woodpecker (*Melanerpes carolinus*), Eastern Wood-Pewee (*Contopus virens*) and Great-crested Flycatcher (*Myiarchus crinitus*) were observed in A1/B1. A few other forest species were observed in the treed portions of the B2 and B3. Only two territories of forest area-sensitive species (one each of American Redstart *Setophaga ruticilla* and White-breasted Nuthatch *Sitta carolinensis*) were observed across the whole of the Subject Lands – a very low number - additionally suggesting that the forests provide minimal habitat for forest birds.

Negligible wetland species were observed; Common Yellowthroat (*Geothlypis trichas*) and Tree Swallow (*Tachycineta* bicolor) were the only open wetland bird species observed in the B3 or elsewhere.

No provincially ranked S1 through S3 species, and no regionally rare species were observed. The source for regional rarity was the NPCA's Natural Areas Inventory (2010).

Fourteen species listed as regionally uncommon were observed (**Appendix C**). The definition of Uncommon is '*observed annually on many days at a few locations in small numbers*'.

4.3.2.1 Avian Species at Risk

Three breeding Species at Risk birds were observed on the Subject Lands (**Figure 3**). These were Eastern Wood-Pewee, Barn Swallow (*Hirundo rustica*) and Bobolink

One territory of the Special Concern Eastern Wood-Pewee was recorded in B1 woodland. This is still a common species found in deciduous and mixed woodlands of many types and sizes.

At least two active Barn Swallow nests were in the barn within the active farm in the southeastern portion of the Subject Lands, and a third nest was observed on a light fixture nearby. Several individuals were observed foraging over nearby fields; these are likely the same families. All of the other potentially suitable buildings on the Subject Lands which might be used for nesting were assessed and no further nesting was found. This species has recently been downgraded from Threatened to Special Concern. It is a species of rural landscapes that usually nests on buildings and forages over wetlands, meadow and fields.

One (Threatened) Bobolink was observed on May 31, 2022 in the hayfield in the in the southeastern portion of the Subject Lands. During the June 22, 2022 second survey this species was not observed because the hayfields had been cut. This species is still moderately common across southern Ontario in large old fields and hayfields.



Mitigation for nesting avian Species at Risk, if needed, is discussed under the Impacts and Mitigation section of this report.

There was an additional Species at Risk observed foraging over the Subject Lands. Five Threatened Chimney Swifts (*Chaetura pelagica*) were also observed foraging over the fallow fields. This species is an aerial insectivore and does not perch except at night or when at its nesting site. There is no suitable nesting for this species on-site (generally old large chimneys) and it likely nests in older structures within the town.

4.3.3 Snake Surveys

No evidence of snake activity was observed at any of the 12 snake board survey locations across the Subject Lands during the 2022 field investigations. Refer to **Figure 3** for the areas that were surveyed for snake habitat within the Subject Lands. Additionally, no snakes were observed incidentally during any of the 20 site visits.

4.3.4 Turtle Nesting Habitat

No turtles were observed during any of the 20 site visits. Negligible to no turtle habitat was observed; that is no sufficiently-deep open standing water was present. The exception could be Wignell Drain for which there is a small possibility that a turtle may travel through, and the pond in A4. The latter however is very small and relatively isolated. No potential nesting habitat was noted. Generally, turtles will nest in areas of loose substrates, relatively close to suitable living habitat, however the soils of the majority of the Subject Lands are heavy clay-based soils.

4.3.5 Incidental Wildlife Observations

The following incidental wildlife was recorded during the 2021 and 2022 field investigations:

- American Toad observed individual on Snider Rd
- White-tailed Deer (Odocoileus virginianus) tracks observed
- Red Squirrel (Sciurus vulgaris) individual heard calling
- Coyote (Canis latrans) several individuals heard calling
- Eastern Grey Squirrel (Sciurus carolinensis) Black and grey individuals observed
- Northern Short-tailed Shrew (*Blarina brevicauda*) nest observed under Snake Board #4
- Spicebush Swallowtail larvae on Spicebush in A4 wetland

4.4 Aquatic Habitat Assessment

4.4.1 Watercourses

The watercourses located within the Subject Lands compose a portion of the Wignell Drain subwatershed and are primarily managed as municipal drains. According to studies completed for the larger *Lake Erie North Shore Watershed Plan*, the upper branches of the Wignell Drain are considered Class F Drains (intermittent systems that are dry at least 3 months of the year), and the lower branches are considered Class B Drains (permanent systems that restrict in-water work during spring months). Within the Subject



Lands, both Class F and B Drains are considered present (NPCA, 2010) with Class F Drains identified upstream of the Snider Road allowance, and Class B Drains downstream. All sections of the main Wignell Drain network are considered important fish habitat (NPCA, 2010).

As discussed in Section 3.3.4, the watercourses traversing the Subject Lands were surveyed on March 18 and May 24, 2022. The following locations were recorded across the Wignell Drain network and are detailed on **Figure 3**.

<u>WD-1</u>

The WD-1 location represents the western tributary of the Wignell Drain which confluences with the eastern tributary (WD-2) approximately 225m south of Main Street East (**Figure 3**; **Photo 18 and 19**, March 18, 2022). The crossing at Main Street East consists of a large, corrugated steel pipe (CSP). Upstream of Main Street East, the WD-1 location appears to be a cattail-lined feature with a steep gradient. The channel area is shrouded in vegetation, and standing water was observed in March 2022, but was found dry by May 2022. Downstream of Main Street East the channel appears to be straightened with channel hardening (i.e., installation of rip-rap) evident on both banks. Cattails persist downstream, and adjacent riparian habitat include young and mature trees, and manicured lawn. Channel dimensions were approximately 0.15 m wetted width, 0.05 m wetted depth (March 2022), with bankfull measurements of 2.5 m l width, and 0.2 m depth.



Photo 18. 🌴

WD-1, upstream of Main Street East

Photo 19. 🌴

WD-1, downstream of Main Street East

<u>WD-2</u>

The WD-2 location represents the eastern tributary of the Wignell Drain, north of Main Street East (**Figure 3**; **Photo 20 and 21**). Unlike WD-1 this feature appeared to provide significantly more flow during March and May 2022. Additionally, the feature appears to be more well-defined than WD-1 and includes fast-flowing riffles and runs adjacent to the roadway. Within the channel, substrates were found to consist primarily of large gravel, sand, and smaller cobbles, with some rip rap interspersed. The watercourse is



flanked by cattails and other small herbaceous plants. Downstream of the road crossing, flows stagnant considerably as the channel area is obstructed by dense Common Reed (Phragmites australis). The crossing under Main Street East consists of small, open-bottomed box culvert. Channel dimensions were approximately 2.0 m wetted width, 0.15 m wetted depth (with 0.3 m pool depth) (March 2022), with bankfull measurements of 2.5 m width, and 0.35 m depth.



Photo 20. 乔

WD-2, upstream of Main Street East

WD-2, downstream of Main Street East

WD-3

The WD-3 location is located approximately 550 m downstream of the confluence of WD-1 and WD-2, located south of Main Street East (Figure 3; Photo 22 and 23). The WD-3 location includes a crossing of the Snider Road allowance, consisting of an old, partially damaged concrete culvert pipe, held in place by stone bricks and mortar. The watercourse areas located upstream and downstream of the culvert pipe are heavily influenced by the surrounding agricultural land use and appear to be straightened with uniform banks. Water depths appeared deeper in this portion of the watercourse, likely due to the highly incised nature of the straightened of this portion of the watercourse. This portion of the watercourse was found flowing in March and May 2022. Channel dimensions were approximately 2.5 m wetted width, 0.4 m wetted depth (March 2022), with bankfull measurements of 2.5-4.5 m width, 1.25 m depth. The water quality at this station was generally cloudy during the March and May 2022 field investigations, with slightly clearer water observed in May. On June 17, 2021 slow-moving to still water was present in the watercourse. On August 31, 2022, about 100 m downstream the channel of the watercourse was full and flowing with cloudy water. The active channel was heavily vegetated with overhanging grasses presented throughout the visible reach. Channel substrates appeared to be primarily sand and silts with some smaller and mid-size gravel interspersed. Riparian vegetation consisted primarily of Cultural Thicket vegetation including small trees and Reed Canary Grass.

As identified in the North Shore Watershed Plan, the WD-3 station generally marks the divide between Class F (upstream) and Class B (downstream) drains (NPCA, 2010). From Palmer's 2022 observations, this 2010 categorization generally remains true as upstream conditions are hydrologically disconnected due

to low flows and high channel roughness (i.e., dense vegetation that disrupts or holds flows), while downstream is hydrologically connected and generally allows fish passage between channel segments.



Photo 22. 🏠

WD-3, culvert and stream conditions in March 2022

WD-3, downstream of the culvert in May 2022.

WD-4

The WD-4 station exists along the northside of the Killaly Street East roadway where flow from the Wignell Drain and roadside ditches confluence. Similarly, to WD-3, flow is facilitated through an old, partially damaged concrete culvert. During the March 2022 site visit, flow was observed from the Wignell Drain, as well as from the roadside ditches to the east and west of the culvert. All channels in this area are relatively shallow with water appearing cloudy before entering the culvert. Riparian vegetation consists primarily of Cattails, with grasses and small trees further setback. Channel substrates were mostly obscured by the dense grasses that seem to cover most of the streambed. Channel dimensions for the main Wignell Drain were approximately 1.5 m wetted width, 0.35 m wetted depth, 4.5 m bankfull width, 0.75 m bankfull depth.





Photo 24. 🎓

Photo 25. 乔

WD-4, upstream of Killaly Street in March 2022

WD-4, Killaly Street culvert in March 2022.

4.4.2 Headwater Drainage Features

Headwater Drainage Features (HDFs) were surveyed on March 18 and May 24, 2022 to capture early and late spring flow conditions. No water was observed in any HDF in mid-June of the previous year (2021) during informal observations while on the Subject Lands, although no formal inventory was taken at this time. The various HDFs surveyed throughout the Subject Lands are identified on **Figure 3**.

<u>HDF-1</u>

The HDF-1 feature is approximately 425 m long and conveys flow from the woodland/wetland south of Main Street East eastwards to the drainage ditch located along the west side of the Snider Road allowance. Flow was observed during March 2022, and minimal flow and standing water observed in May 2022. Along its flow path the HDF-1 feature also conveys water towards the southern Arrow-wood Mineral Thicket Swamp located to the southwest of the intersection of Main Street East and Snider Road. The HDF-1 feature is generally identified as an agricultural swale and is highly uniformed due to historical channel straightening. Some minor channel braiding was observed due to dense overlying vegetation which disperses flow energy. The feature is generally shallow (>0.1 m) with silt and sand substrates from adjacent agricultural deposition.

<u>HDF-2</u>

The HDF-2 feature straddles the south boundary of the northwestern woodlots, gathering overland drainage. Overland flow is conveyed westerly towards Elizabeth Street. Riparian vegetation consists of woodland vegetation (mature trees, some herbaceous understorey) and agricultural fields. Substrates consist generally of sand and silts from adjacent agricultural deposition. During early spring significant quantities of standing water was noted along the HDF, and minor flow was noted at various intervals. Additionally, amphibians (western chorus frogs) were heard during the daytime adjacent to the HDF and noted utilizing the deeper standing water pools.

<u>HDF-3</u>

The HDF-3 feature consists of straightened depression which gathers some overflow from HDF-2 and conveys it southwards, parallel to Elizabeth Street. Standing water was observed during the March 2022 field investigation but was found dry in May 2022.

HDF-4

The HDF-4 feature was originally identified through aerial interpretation; however, was found dry during all 2022 field investigations. The feature was undefined with no evidence of riparian vegetation or perennial flows.



<u>HDF-5</u>

The HDF-5 feature gathers overland drainage from agricultural fields and direct flow westwards towards Elizabeth Street. The feature was found with minimal flow during March and was found dry by May 2022. The feature exists as a uniform depression.

<u>HDF-6</u>

The HDF-6 feature was originally identified through aerial interpretation; however, only minimal standing water was observed in March 2022, and was found dry by May 2022. The feature appears to be actively cultivated and no riparian vegetation or natural channel were evident. The feature did not span from the central woodland area to the Wignell Drain.

<u>HDF-7</u>

The HDF-7 feature was originally identified through aerial interpretation; however, was found dry during all 2022 field investigation. The feature exists as a uniformed depression meant to convey agricultural runoff, with no evidence of riparian vegetation or perennial flows.

<u>HDF-8</u>

The HDF-8 feature was originally identified through aerial interpretation; however, was found dry during all 2022 field investigation. The feature exists as a uniformed depression meant to convey agricultural runoff, with no evidence of riparian vegetation or perennial flows.

<u>HDF-9</u>

The HDF-9 feature was originally identified through aerial interpretation; however, was found dry during all 2022 field investigation. The feature exists as a uniformed depression meant to convey agricultural runoff, with no evidence of riparian vegetation or perennial flows.

<u>HDF-10</u>

The HDF-10 feature generally exists as a roadside ditch conveying flows southwards along Snider Road, south of Killaly Street East. The feature was found with standing water in March 2022 but was dry by May 2022. Riparian vegetation consists of short grasses, herbaceous plants, and small trees.

<u>HDF-11a</u>

The HDF-11a reach forms the northern half of the HDF-11 feature and is contained primarily within the SWT2 and CUT1d vegetation communities northwest of the intersection of Lorraine Road and Killaly Street East. The HDF-11a segment was found flowing in March 2022, and had several areas of standing water in May 2022. The feature collects diffuse drainage from the surrounding wetland area, as well as a small agricultural pond that exists at the north end of the SWT2 community. Riparian vegetation consisted of wetland plants, including cattails and bulrushes, as well as shrubs, and small and mature trees.



<u>HDF-11b</u>

The HDF-11b reach forms the southern half of the HDF-11 feature and conveys springtime drainage from the SWT2 and CUT1d vegetation communities across an open field towards Killaly Street East. The feature is undefined but included flowing water in March 2022 and standing pockets of water in May 2022. Riparian vegetation consists primarily of short grasses, and the feature appears to be disturbed from previous agricultural practices such as tilling or mowing.

<u>HDF-12</u>

The HDF-12 feature was originally identified through aerial interpretation; however, was found dry during all 2022 field investigation. The feature exists as an undefined depression which may convey agricultural storm runoff, with no evidence of riparian vegetation or perennial flows.

Drainage	S	Step 1		Step 3	Step 4	Management
Feature	Hydrology	Modifiers	Riparian	Fish Habitat	Terrestrial Habitat	Recommendation
HDF-1	Valued	Agriculture	Limited	Contributing Function	Valued	Mitigation
HDF-2	Valued	Agriculture	Important	Contributing Function	Important	Conservation
HDF-3	Valued	Agriculture	Limited	Contributing Function	Limited	Mitigation
HDF-4	Limited	Agriculture	Limited	Contributing Function	Limited	No Management Required
HDF-5	Valued	Agriculture	Limited	Contributing Function	Limited	Mitigation
HDF-6	Limited	Agriculture	Limited	Contributing Function	Limited	No Management Required
HDF-7	Limited	Agriculture	Limited	Contributing Function	Limited	No Management Required
HDF-8	Limited	Agriculture	Limited	Contributing Function	Limited	No Management Required
HDF-9	Limited	Agriculture	Limited	Contributing Function	Limited	No Management Required
HDF-10	Valued	Agriculture	Limited	Contributing Function	Limited	Mitigation
HDF-11a	Valued	None	Important	Contributing Function	Important	Conservation
HDF-11b	Valued	Agriculture	Limited	Contributing Function	Limited	Mitigation
HDF-12	Limited	Aariculture	Limited	Contributing Function	Limited	No Management

As outlined in **Table 3**, the majority of the HDFs identified within the Subject Lands are considered minor in nature, and do not provide a significant ecological or hydrologic benefit to the Wignell Drain subwatershed; as such, these features are identified by a management recommendation of either *Mitigation*, where some hydrologic function may need to be replicated, or *No Management* where no significant function was identified and these features may be removed from the landscape with no future consideration. A few other features, notably HDF-2 and the HDF-11a segments, were identified as providing more significant ecological benefit due to their placement within wetland or woodland communities, permanence of the landscape (i.e., standing water in late spring), and their potential ability to aid or support wildlife, in this case, amphibian species.

As highlighted above, HDFs identified for *Mitigation*, should be considered during future detail design phases of any development project, and their hydrologic function maintained to downstream systems within the Wignell Drain subwatershed. HDFs identified as *Conservation*, should be maintained on the landscape, preferably in their current location, or in a re-aligned form that maintains the ecological function they provide to the surrounding natural landscape (ex. HDF-2 proximity to woodlands may support Western Chorus Frog populations that utilize the saturated spring woodland for breeding purposes).

Dalmer

Required



4.4.3 Fish Habitat

From background review of the *Lake Erie North Shore Watershed Plan, all drains within the Wignell Subwatershed* are identified providing Type 2 (important) fish habitat (NPCA, 2010). These 2010 classifications are generally consistent with the observations of Palmer staff during the 2022 monitoring period. One exception may be that the western tributary WD-1 appears very limited in its ability to provide fish habitat and should be considered even Type 3 (marginal) habitat as it appeared dry in early spring (March) 2022.

Upstream of WD-3, the *Lake Erie North Shore Watershed Plan* identifies the portion of Wignell Subwatershed as being a Type F Drain. The DFO's *Guidance for Maintaining and Repairing Municipal Drains* document (DFO, 2017) indicates that Type or Class F Drains are intermittent features that may provide seasonal habitat opportunities for fish. Any in-water works, or maintenance of Type F drains is restricted during times when flow is present. Downstream of WD-3, the Lake *Erie North Shore Watershed Plan* identifies the portion of Wignell Subwatershed as being a Type B Drain. Type or Class B drains are considered permanently flowing features that may provide habitat for sensitive fish species (DFO, 2017). Any in-water works, or maintenance of Type B drains is generally restricted during spring months (DFO, 2017), which tends to align with warmwater timing restrictions that are common for species such as Northern Pike (*Esox lucius*) and Bass (*Micropterus sp.*).

Despite these augmentations to the Wignell Drain channel, a limited number of fish barriers were noted from the station locations located along roadways and publicly accessible areas. It is likely that fish may be able to access most portions of the watercourse.

4.5 Landscape Connectivity

Landscape connectivity is a concept that considers the degree of connected-ness of natural habitat when a landscape has been subject to some degree of human development. This is relevant to southern Ontario south of the Canadian Shield where the majority of land has been altered through agriculture and built structures including roads. A highly connected landscape is one where there is generally a higher percentage of natural cover and which has numerous natural corridors (sometimes river valleys) that connect or link larger natural areas, and has fewer large roads. Highly connected landscapes enable more species wildlife to persist, allows those species that are present to move from area to area more readily, and enables movement of plants (by seeds) more readily. A low connectivity landscape is the converse. It is worth remembering that the science of landscape connectivity is somewhat imprecise, and it is not clear which species use or require corridors, and under which circumstances.

The subject lands are situated within a landscape that is quite developed with relatively few natural features. Within the subject lands are small wetlands and woodlands, as described elsewhere in this report. Watercourses are mainly straightened and there are no river valleys.

To the west of the subject lands is developed Port Colborne, and to the north is a series of quarries. East and south are primarily agricultural lands interspersed with some natural habitat consisting of wetlands and deciduous woodlands. Larger areas of natural or semi-natural areas outside the subject lands are: to the immediate south (Nickel Beach Marsh Wetland PSW); about 2 km to the south east (Beaver Dam Creek



Wetland PSW); and about 3.5 km to the northeast is the Humberstone Muck Basin Swamp Forest Provincial Life Science Area of Natural and Scientific Interest / Humberstone Marsh PSW.

There are relatively few natural connections either between the smaller natural features on-site or the larger features listed above. Thus, the natural features of the subject lands are considered to be in a low connectively landscape context, although there are no large roads in the area. Some re-connections or linkages are proposed in later sections of this report.



5. Assessment of Significance

Based on the assessment of significance below and the delineation process with Niagara Region and NPCA, natural features have been delineated (**Figure 4**). With the addition of buffers (see Table 7), and new wildlife linkages a constraints map has been created (**Figure 5**).

5.1 Species at Risk

Prior to field investigations, a background review was completed for potential SAR habitat opportunities. The NHIC database, the Ontario Breeding Bird Atlas (OBBA), and the Ontario Reptile and Amphibian Atlas (ORAA) were screened for SAR records. Also, based on professional experience, it was determined that larger trees may present habitat opportunities for SAR bat species.

Based on available background information and the 2021 field investigations, the Subject Lands were assessed for potential SAR habitat opportunities. The assessment was conducted by comparing habitat preferences of species deemed to have potential to occur against current site conditions, as well as integrating field survey results. This SAR habitat assessment can be found in **Appendix D**, providing a detailed description of each species' habitat (including those deemed to not have potential habitat), as well as a discussion of habitat suitability within the Subject Lands, potential impacts, and mitigation, where applicable. Based on the rationale provided in **Appendix D**, the following 11 SAR have been identified as having potential within the Subject Lands:

Birds

- Chimney Swift (Chaetura pelagica) Threatened observed foraging only
- Red-Headed Woodpecker (Melanerpes erythrocephalus) Special Concern not present
- Eastern Wood-Pewee (Contopus virens) Special Concern Confirmed
- Barn Swallow (Hirundo rustica) Special Concern Confirmed
- Canada Warbler (Cardellina canadensis) Special Concern not present
- Bobolink (*Dolichonyx oryzivorus*) Threatened <u>Confirmed</u> but see impacts for further discussion

Flora

• Butternut (Juglans cinerea) - Endangered - not present

Mammals

- Eastern Small-footed Myotis (Myotis leibii) Endangered potential habitat
- Little Brown Myotis (Myotis lucifugus) Endangered potential habitat
- Northern Myotis (Myotis septentrionalis) Endangered potential habitat
- Tri-colored Bat (*Perimyotis subflavus*) Endangered potential habitat

Based on surveys, of the 11, four are present, and four may be present, as noted after each species' name above. Potential impacts to SAR are assessed in Section 7.



nt Path: G:\Shared drives\Projects 2020\20077 - Elite M.D. Developments\2007705 - Killaly Street Port Colborne\GIS\1_Workspace\MXD-Figures\2007705-4-1-Natural Heritage Features.mxd

LEGEND

```
Surveyed - Woodland (Nov 18<sup>th</sup>, 2021)
   • Surveyed Woodland (Sept 14<sup>th</sup>, 2022)
   ---- Surveyed Wetland (Sept 14<sup>th</sup>, 2022)
    ---- Evaluated Non -PSW Wetland<sup>2</sup>
    ---- Other Wetland or Woodland Boundary <sup>3</sup>
    Properties of Elite Development (142.2 ha)
   Natural Heritage Feature
    Wetland
   Woodland

    Niargara Peninsula Conservation Authorty (NPCA)
    Land Information Ontario (LIO)
    All surveyed and additional wetland and woodland features as shown on
this map have been agreed upon between NPCA, Niagara Region, and
Palmer (Sept 2022).

                                                           200
                                 METRE SCALE
  North American Datum 1983
Universal Transverse Mercator Projection Zone 17
  Scale: 1:5,500
Page Size: Tabloid (11 x 17 inches)
  Drawn: SM
Checked: RC
Date: Aug 31, 2023
                                                                       NORTH
   Source Notes: Base imagery (2018) provided by ESRI basemapping services.
CLIENT
                          Elite Developments
PROJECT
                    Killaly Street Port Colborne
TITLE
                       Natural Heritage
Features
                                            REF. NO.
                                                         2007705-4-3
  Palmer...
```

Figure 4

Municipal Drain-Important/Marginal Fish Habitat¹



Document Path: G:\Shared drives\Projects 2020\20077 - Eite M.D. Developments\2007705 - Killaly Street Port Colborne\GIS\1_Workspace\MXD-Figures\2007705-5-1-Natural Heritage Constraints and Development Limit.mxc





5.2 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) can be difficult to appropriately determine at the site-specific level, as the assessment must incorporate information from a wide geographic area and consider other factors such as regional resource patterns and landscape effects. To help with site level assessments, the MNRF has developed the *Significant Wildlife Habitat Criteria Schedules for Ecoregion7E* (Ontario Ministry of Natural Resources, 2015). With the exception of wintering deer yards, which could be, and often are, considered SWH, the detailed identification and designation of SWH has not been completed in Niagara Region or the Town of Port Colborne.

SWH is defined by the MNRF in the Significant Wildlife Habitat Technical Guide (Ontario Ministry of Natural Resources, 2000) and Natural Heritage Reference Manual (Ontario Ministry of Natural Resources, 2010) and includes the following categories:

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities or Specialized Habitats for Wildlife;
- Habitats of Species of Conservation Concern; and
- Animal Movement Corridors.

Criteria for the identification of these features are also provided in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E*. These criteria were used to provide a screening for wildlife habitat within the Study Area for potential SWH within and immediately adjacent to the proposed development footprint, as detailed in **Appendix E**.

The following were identified as Confirmed, Candidate or Potential SWH within the Subject Lands:

Seasonal Concentration of Animals

Bat Maternity Colonies (Potential)

The swamps and woodland communities have the potential to provide snag trees for bat habitat and thus are potential bat maternity colony SWH.

Landbird Migratory Stopover Areas (Potential)

A1/B1 woodlands, if considered together, are greater than 5 ha and are within 5 km of Lake Erie. All other smaller woodlots are within 5 km of Lake Erie and thus could also be considered potential SWH, even though they are less than 5 km in size. A regional study would be required to determine which woodlands are significant for migratory birds, however Palmer has considered A1/B1, B2, B3, A3 and A4 woodlands as potential SWH given their relative proximity (about 2 to 3 km) to Lake Erie.

Rare Vegetation Communities

Other Rare Vegetation Communities (Confirmed)

The Southern Arrow-wood Mineral Thicket Swamp (SWT2-11) community (same as Area A2) is designated an S3 rare vegetation community (Ministry of Natural Resources and Forestry, 2023) (**Figure 4**). An S3 rank indicates a plant is vulnerable due to its rarity, restricted range, and/or recent decline.

Habitat of Species of Conservation Concern

Special Concern Barn Swallow Habitat (Candidate)

Three Barn Swallow nests were observed in two buildings in the active farm area at 896 Killlaly St. E. Two inactive nests were present, and potentially more active nests were present (the building was not fully accessible). This species is listed as Special Concern provincially. The presence of three active nests could mean that the buildings are considered Candidate, but not Confirmed SWH due to two factors: a) a lack of understanding of how common the species is regionally and thus whether three nests should be considered significant and b) whether artificial structures should be considered SWH in any circumstance. In our experience, for other species human-created structures have not been considered SWH.

5.3 Woodlands

Table 4 provides an assessment of the significance of the woodlands within the Subject Lands, indicating which feature meets which Regional or City criteria. Based on this there are five Significant Woodlands on the Subject Lands (with A1 and B1 considered as one woodland) (**Figure 4**).

Palmer...

Table 4. Significant Woodland Assessment

Natural Feature Code	ELC	Size (ha)	Region Significant Woodland Policies	City Significant Woodland Policies
A4	Fresh – Moist Oak – Maple – Hickory Deciduous Forest (Oak Dominant) (FOD9a)	1.3	 Meets Criteria: Woodland is > 1 ha and of 'naturally occurring' mid-late successional trees 	<u>Does not meet Criteria</u> Mapped as Environmental Conservation Area
A1 + B1 (included together since only 20 m apart in one location)	Fresh – Moist Oak – Maple – Hickory Deciduous Forest (Oak Dominant) (FOD9) / Silver Maple Mineral Deciduous Swamp (SWD3-2) / Grey Dogwood Mineral Thicket Swamp (SWT2-9)	3.5 + 2.9 = 6.4	 Meets Criteria: Woodland is > 2 ha Woodland is > 1 ha and of 'naturally occurring' mid-late successional trees Woodland is > 0.5 ha and overlapping with Non-Provincially Significant Wetland 	<u>Meets Criteria:</u> • Woodland is > 2 ha Mapped as Environmental Conservation Area
A3	Dry – Fresh Oak – Maple – Hickory Deciduous Forest (FOD2)	2.2 (including off- site area)	 Meets Criteria: Woodland is > 2 ha Woodland > 1 ha and of 'naturally occurring' mid-late successional trees 	<u>Meets Criteria:</u> • Woodland is > 2 ha Mapped as Environmental Conservation Area
B2	Dry - Fresh Deciduous Forest (FOD4)	3.1	 Meets Criteria: Woodland is > 2 ha Woodland is > 1 ha and of 'naturally occurring' mid-late successional trees had a lower tree canopy cover and was excluded from woodland by Region 	<u>Meets Criteria:</u> • Woodland is > 2 ha Mapped as Environmental Conservation Area
В3	Deciduous Swamp (SWD)	3.1	 Meets Criteria: Woodland is > 2 ha Woodland is > 1 ha and abutting a permanent/intermittent watercourse 	Meets Criteria: • Woodland is > 2 ha Mapped as Environmental Protection Area due to being Hazard Lands

Palmer...



5.4 Wetlands

None of the wetlands on the Subject Lands are provincially significant wetlands. A1 and B1 are evaluated non-provincially significant wetlands, and the remainder are unevaluated (**Figure 4**). **Table 5** provides an assessment of the basic characteristics of the wetlands within the Subject Lands. The policies regarding wetlands are given below.

The Region states in Section 3.1.9.5.4

"When development or site alteration is proposed in or adjacent to any watercourse, provincially significant wetland, significant valleyland, or other wetland the applicant shall contact the Conservation Authority, at which time Conservation Authority staff will advise the applicant and the Region of the land use or regulatory policies that will apply.

Of the five wetlands on the Subject Lands all but the wetland in the interior of B2 are mapped on OP Schedule C2 as "Other and Non-Provincially Significant Wetlands". Thus, the Region generally defers to the NPCA for the protection of wetlands.

The City of Port Colborne 'promotes the protection and/or conservation and where appropriate, the restoration and enhancement of Natural Heritage Features (including wetlands) within and adjacent to its boundaries' and OP Section 4.1.1 policies states that

"development should maintain, enhance, or restore ecosystem health and integrity. First priority is to be given to avoiding negative environmental impacts. If negative impacts cannot be avoided, mitigation measures will be required".

The Niagara Region and Region Conservation Authority policy document Section 8.2.2.1 states that "*unless* otherwise stated in this Document, no development and/or site alteration shall be permitted within a wetland."

Based on the aforementioned policy and on-site discussions with Niagara Region NPCA, none of the wetlands are provincially significant, but are nonetheless protected primarily under the City and NPCA direction. Ontario Wetland Evaluation System assessment is not necessary as: it was not required under the terms of reference, and all wetlands are protected with sufficient buffers. A2 is significant as SWH. All wetlands contained one or more breeding amphibians.

According to EXP, the surface water creeks that they have been monitoring generally show a downward gradient which indicates that surface water recharges groundwater at these locations. This is consistent with the groundwater level measured in the nearby monitoring wells, and they are observing generally a downward gradient (recharging conditions) across the site, which suggests that the wetlands are primarily surface water-fed.

Table 5. Wetland Characteristics and Delineation

Wetland Feature	Natural Feature Code	Size (ha)	Delineation Method
Contiguous: Silver Maple Mineral Deciduous Swamp (SWD3-2) + Gray Dogwood Mineral Thicket Swamp + Reed Canary Grass Mineral Meadow Marsh (MAM2-2a)	A1 + B1 wetlands + marsh in between	4.8	Used existing mapping of Evaluated Non- Provincially Significant Wetlands, plus added meadow marsh situated in between.
Southern Arrow-wood Mineral Thicket Swamp (SWT2-11)	A2	0.5	Wetland staked by the NPCA with Region, and Palmer on September 14, 2022 (is also a SWH)
Poplar Deciduous Swamp (SWD) + Reed Canary Grass Mineral Meadow Marsh (MAM2-2b)	В3	5.0	Wetland partly staked by the NPCA with Region and Palmer on September 14, 2022 and remaining delineation discussed and agreed upon with Palmer, NPCA and Region using field observations and air photography
Mineral Thicket Swamp and Mineral Meadow Marsh (SWT/MAM)	Within B2	0.1	Palmer delineated using air photos (is situated wholly within a woodland feature)
Mineral Thicket Swamp (SWT2) (including pond)	A4 wetland	1.1	Delineation discussed and agreed upon with Palmer, NPCA and Region using field observations and air photography



5.5 Aquatic Habitat and Fish Habitat

5.5.1 Watercourses

The various portions of the Wignell Drain are captured through the Subject Lands on **Figure 3**. The upstream portions of the subwatershed within the Subject Lands (i.e., all channel segments upstream of WD-3; refer to **Figure 3**) tend to be intermittent and may be hydrologically disconnected during certain portions of the year. High channel roughness (i.e., dense in-channel vegetation) likely limits the movement of fish and other aquatic wildlife throughout the subwatershed. Downstream of WD-3 (refer to **Figure 3**), permanency of flows is slightly greater than upstream segments and hydrological connectivity is present to Killaly Street.

The watercourse segments (i.e., municipal drains) of the Wignell subwatershed, within the Subject Lands, generally lack robust riparian areas, are uniform in dimension providing homogenous habitat opportunities, and are heavily subjected to agricultural land use influence resulting in elevated levels of sedimentation and pollution. Habitat quality for fish and other aquatic wildlife is low in the upstream portion of the watershed where human land use impacts are greater, and moderate to low in the downstream portions of the watershed where land use includes some naturalized areas and wider riparian corridors.

Fish community composition would likely favour species that are tolerant to elevated levels of turbidity and pollution (from nutrient loading), and higher thermal ranges. From Palmer's experience, species that may utilize the drains within the Subject Lands include species such as Largemouth Bass (*Micropterus salmoides*), Common Carp (*Cyprinus carpio*), Pumpkinseed (*Lepomis gibbosus*), and several smaller cyprinids common to southern Ontario including Fathead Minnow (*Pimephales promelas*) and Bluntnose Minnow (*Pimephales notatus*).

Overall, the watercourse segments found within the Subject Lands provide limited aquatic habitat. Upstream habitats may dry out or have limited standing water during summer months. Temperature regimes for the watercourse network, in the absence of extended monitoring, are considered warmwater due to a combination of surface water inputs and lack of a treed canopy to provide thermal mitigation.

5.5.2 Headwater Drainage Features

As outlined in Section 4.4.2, no HDFs were identified as being significant (TRCA's *Protection*) from an ecological perspective. Despite this, two HDFs (HDF2 and 11a) of the Subject Lands were identified as providing important ecological functions and were identified as requiring *Conservation* status under the HDF guidelines prepared by the TRCA and CVC (2014). The remaining HDFs either conveyed some field runoff during the spring or were otherwise found dry by late spring. These latter features were identified as having a management recommendation of *Mitigation* to replicate some limited hydrologic function or *No Management* as they did not provide any hydrologic or ecologic function to the larger Wignell Drain subwatershed.



6. **Proposed Development**

The proposed development is considered a 'complete community' by Elite Developments and it includes a total of 2,242 units over an estimated 99.7 ha of developable area, excluding stormwater management areas of approximately 142 ha of total area. A wide range of housing types are proposed including single detached dwellings (46%), street/lane townhouse dwellings (31%) and condo townhouse dwellings (23%) (**Figure 6, Appendix F**). There is also 2.5 ha of commercial area. Multiple access points are proposed via neighbouring streets (i.e., Main Street E, Elizabeth St, Lorraine St, and Killaly St E). There are ten amenity parks (covering 4.7 ha) and six stormwater management blocks (8.9 ha) proposed within the development area.

The development surrounds the six natural areas described in this report, plus two undeveloped areas that are floodplain and watercourse only.

Most of the proposed development area will be raised in elevation. Thus, within most natural feature buffers there will be a grading for approximately two to three metres into the buffer in order to meet the existing grade. The buffers are mostly composed currently of agricultural fields, meadow, or shrub vegetation and thus the graded areas and the remainder of the buffer areas can be planted with native vegetation and ultimately improved.



the second second
A State
The state
and the second second
Real House
12
Farmer OF 19
··· /61
and the second

	Elite Developments
ource No Irthophoto Ipen Gove	tes: base imagery (2018) provided by South Western Ontario graphy Project (SWOOP). Contains information licensed under the rrnment Licence – Ontario.
ouroc N-	NORTH
)rawn: SM Checked: F Date: Aug (RC 31, 2023
cale: 1:7,0 age Size:	JUU Tabloid (11 x 17 inches)
iorth Amei Iniversal T	rean Jatum 1983 ransverse Mercator Projection Zone 17
Ĩ	METRE SCALE
2. Land l 3. All sur on this m Palmer (0	Information Ontario (LIO) veyed, LIO, and additional wetland and woodland features as showr tap have been agreed upon between NPCA, Niagara Region, and Sept 2022). 100 200 300 400
1. Niarga Odan de	ara Peninsula Conservation Authorty (NPCA) as updated by Tech.
	Properties of Elite Development (142.2 ha)
<u> </u>	Development Boundary
	Development Plan
Ŵ	ELC Community
	Floodplain ¹
Other Fe	atures:
	Ecology Corridor (20 m width)
Propose	<u>d Linkage</u>
	Significant Wildlife Habitat w/ 15m Buffer
Wildlife F	Feature:
	Wetlands w/Variable Buffer (30m except SWH)
	Other Wetland or Woodland Boundary ³
	Evaluated Non-PSW Wetland ²
	<u>reatures.</u> Surveyed Wetland (Sent 14 th 2022)
ALLLY	
	Significant Woodland w/ 10 m
••••	Surveyed Woodland (Sept 14 th 2022)
Woodlan	<u>Id Features:</u>
	Municipal Drain-Important/Marginal Fish Habitat
	Municipal Drain-Important/Marginal Fish Habitat ¹

Proposed Development



REF. NO. 2007705-6-2

Figure 6



7. Impact Assessment and Mitigation

7.1 Impacts

Potential impacts of the proposed development can be divided into two types: those primarily associated with the construction phase and those that are permanent. Many of these impacts can be mitigated – these details are discussed in the next section. Some mitigations may lead to overall enhancements.

Permanent potential or actual impacts include:

- Removal of natural vegetation and associated wildlife habitat;
- Removal or impacts to Species at Risk habitat;
- Removal or impacts to Significant Wildlife Habitat;
- Impacts to wetlands through changes in water inputs;
- Impacts to water quality through for example soil erosion, removal of vegetation etc.; and
- Changes to wildlife behaviour due to the introduction of artificial light, noise and pets;
- Reduction in wildlife connectivity.

Construction related impacts include:

- Potential for erosion and loss of soils; and
- Disturbance to wildlife including birds during vegetation removal.

7.1.1 Natural Habitat and Vegetation Removal

While no significant or identified natural areas will be removed, through the proposed development, some vegetation removal will occur (**Figure 6**). This will consist of the removal of agricultural lands or 'cultural' vegetation communities. Most of the land change will occur in currently agricultural lands and some 'anthropogenic' areas, as well as the following amounts of cultural vegetation communities:

- Cultural Woodland (CUW1 in northeast edge of B2) 0.11 ha;
- Cultural Thicket (parts of CUT1 a through d) 2.1 ha;
- Cultural Meadow (CUM1) 2.3 ha; and
- Hedgerows (HE) 0.7 ha
- Some vegetation removal at Stormwater Pond outlets

Some of these habitats, particularly CUT1b provide habitat for shrubland, edge and meadow wildlife species. This will be removed.

7.1.2 Species at Risk (SAR)

As noted in Section 5.1, there were four avian SAR observed in the subject lands and potential habitat for SAR bats. Several Threatened Chimney Swift were observed foraging over the fields on one occasion but were not nesting on the subject lands. It is thought that there will therefore be no impacts to Chimney Swift.



One Special Concern Eastern Wood-Pewee territory was recorded in the B1 wetland/woodland. It will not be affected by the proposed development as its habitat will be retained and it is not sensitive to nearby urbanization based on our professional experience.

Nesting Barn Swallows (three pairs) and Bobolink (one territory) will be affected by the proposed development plan. As candidate Significant Wildlife Habitat, mitigation for nesting Barn Swallows are discussed under Section 7.2.3. One Bobolink territory will be removed through the proposed development plan. Mitigation for this is given in Section 7.2.2.

Potential SAR bat habitat occurs on the subject lands in the form of woodlands and swamp forest. These habitats will be retained through the proposed development plan, and thus no bat habitat surveys nor mitigation are proposed. This was agreed to by the NPCA and Niagara Region.

7.1.3 Significant Wildlife Habitat (SWH)

Table 6 lists the SWH on the subject lands, whether impacts are anticipated, and whether mitigation is required. Additional details on the location of each was given in Section 5.2.

	1	1	1
SWH	Confirmed, Candidate or Potential *	Impacts Anticipated and Why	Mitigation Required
Bat Maternity Colonies	Potential	None since woodlands and swamp habitat will be retained.	No
Landbird Migratory Stopover Areas	Potential	None since all wooded areas listed in Section 5.2 will be retained.	No
Other Rare Vegetation Communities (Southern Arrow-wood Mineral Thicket Swamp)	Confirmed	None since vegetation community will be retained and will be buffered.	No
Special Concern Barn Swallow Habitat	Candidate	Nesting area in buildings to be removed.	Not clearly required, but suggest mitigation (see Section 7.2.3

Table 6. Impacts to Significant Wildlife Habitat

* as determined by Palmer

7.2 Mitigation and Enhancements

7.2.1 Mitigation by Design - Natural Heritage Feature Buffers

Based on the environmental constraints identified on **Figure 4** and the subsequent proposed Draft Plan of Subdivision (**Appendix F**), all development is proposed to remain outside of the existing natural heritage features of the Subject Lands consisting of significant woodlands and wetlands.



Additionally, these features are proposed to be protected from development with buffers based on the Region's, City's and NPCA policies (**Figure 5**). This section and Table 7 below provide a summary of the proposed buffers to the natural heritage features within the Subject Lands.

Natural Feature Type	Applicable Feature Number and Description	Niagara Region OP	City of Port Colborne OP	NPCA Policy Document	Comments and Proposed Buffer
Wetland (not- provincially significant or other wetland)	 B1 + A1 + marsh in between (Northwest Swamps and associated Reed Canary Grass strip A2, Southern Arrow-wood Swamp Thicket, (SWT2-11) B3 Wetland, Riparian Reed Canary Grass Marsh (MAM2- 2) + SWD Wetland within B2 SWT2 (Mineral Thicket Swamp) south of Polygon A4 	Within settlement areas, the width of an ecological appropriate buffer would be determined though an EIS and/or hydrologic evaluation at the time of an application for development or site alteration is made	50 metres, unless reduced buffers are determined by an EIS.	Not defined for non-PSW (30 m for PSW*a)	Proposed: • 30 m for all except • 15 m for A2
Municipal Drain	Wignell Drain West	Within settlement	15 m for	15 m if the	Proposed:
(Stream)/Fish	Tributary	areas, the width of an	stable top of	watercourse is	15 m from drain
Habitat* b	(historically	ecological appropriate	bank of	warmwater,	edge (since no
	straightened	buffer would be	Municipal	intermittent or	valley present)
	watercourse)	determined though an	drain	and Fish Habitat	
		EIS and/or hydrologic		is Important or	
		evaluation at the time		Marginal -	
		of an application for		reductions of	
		altoration is made		roquiromonto	
		andianon is made		will only bo	
				special	

Table 7. Proposed Buffers to Natural Heritage Features


Natural Feature Type	Applicable Feature Number and Description	Niagara Region OP	City of Port Colborne OP	NPCA Policy Document	Comments and Proposed Buffer
				circumstances based on a site- specific evaluation by NPCA staff.	
Floodplain	As mapped by NPCA and amended by Odan de Tech	NA	NA	None given	0
Significant Woodland	 B1 Northwest Silver Maple/Hickory Swamp plus A1 Northwest Silver Maple Spicebush Swamp/Thicket B2 Black Walnut Woodland B3 Trembling Aspen Woodland + SWD A3 East FODa A4 FOD9a 	Within settlement areas, the width of an ecological appropriate buffer would be determined though an EIS and/or hydrologic evaluation at the time of an application for development or site alteration is made	50 metres unless reduced buffers are determined by an EIS.	NA	 Proposed: 10 m for all woodlands (none contain highly sensitive fauna nor interior habitat; some are young and or disturbed)
Significant Wildlife Habitat	A2, Southern Arrow-wood Swamp Thicket, (SWT2-11)	Within settlement areas, the width of an ecological appropriate buffer would be determined though an EIS and/or hydrologic evaluation at the time of an application for development or site alteration is made	50 metres unless reduced buffers are determined by an EIS.	NA	 Proposed: 15 m (Sufficient to protect uncommon/rare shrub and small numbers of breeding amphibians)

*a PSW = provincially significant wetland

Thus, all identified natural features (wetlands, drain/fish habitat, significant woodlands and SWH) are retained and protected with appropriate buffers.



7.2.2 Fencing

It is recommended that natural features and their buffers are fenced to minimize human disturbance, or conversely to consider <u>fenced</u> trails within features if desired access to the features is desired. <u>Unfenced</u> trails in buffer areas will lead to greater levels of human disturbance of these natural areas since access to the features would be very easy. Should trails be placed in buffer areas, is it better than the feature boundary be fenced (excluding the buffer), to stop the creation of informal trails and disturbance (garbage dumping informal trail creation, wildlife disturbance etc.) within the feature.

7.2.3 Species at Risk

Bobolink are a Threatened grassland species; one territory of this species was observed in the hayfield at 896 Killaly St. E. If this habitat is removed, habitat compensation would have to occur elsewhere in accordance with Ontario Regulation 242/08 Section 23. This regulation requires the enhancement or creation of a similar area of grassland in another location with specific conditions. It may be helpful to resurvey the field a year prior to vegetation removal in order to i) determine if the species is still present (which may or may not affect compensation requirements) and ii) precisely determine the area of habitat to be removed. Compensation occurs on an area basis, not a number-of-territories basis.

Conversely compensation can occur through a provincial Compensation Fund (O. Reg 829/21 Section 90).

Potential Endangered Bat habitat was considered occur in the forests and swamps within the subject lands. Given that these habitats are being retained, it is proposed that no mitigation is required.

7.2.4 Significant Wildlife Habitat

During the 2022 field investigations, approximately three Barn Swallow nests were recorded in two buildings at the farm at 896 Killaly Street East. Several individuals were observed flying around this area and foraging elsewhere on the subject lands. The proposed development will result in the removal of these nesting. As noted earlier, it is uncertain if this number of nests should be considered during SWH, given the lack of regional context. However, in order to take a conservative approach, we recommend the installation of a replacement nesting structure in the nearby wetland buffer. When the species was listed as Threatened, these artificial nesting structures were used as compensation for the removal of nesting sites. Palmer recommends a nesting structure that is somewhat square and has 'sides' that come down two-thirds of the way towards the ground. Many structures are missing sides, and we suspect that this is one reason they are often not used.

Note that, as with almost all nesting birds, active Barn Swallow nests cannot be disturbed or removed during the nesting season (see Section 7.2.6).

7.2.5 Wildlife Connectivity

There is little natural connectivity present now in the subject lands although some wildlife can readily cross agricultural fields. Many of the wildlife species recorded or likely to be present are also able to make their way through residential environments (e.g. Northern Raccoon, Striped Skunk, Grey Squirrel and birds which can fly etc.).



There are two proposed wildlife/plant corridors (i.e. connectors or linkages) in the study area. These linkages are to connect the natural areas either within the subject lands or to areas off-site. They may not only maintain, but have the potential to increase, wildlife connectivity within the subject lands. Their approximate locations are shown on Figure 5 (between white dashed lines) and from west to east they are:

1 – A linkage between the Welland Canal South Wetland Complex on-site and another portion of this wetland that is off-site and west of Elizabeth St. Also, if and when this road is re-built, it is recommended that a wildlife underpass be installed under Elizabeth St. at the south end of this linkage. There is no specific wildlife focus for this linkage other than small to medium wildlife species generally.

2– A linkage southward from A4 feature towards the wetlands and floodplain of areas to the south of Killaly St. East. Although there is currently an agricultural field south of Killaly St. E at this location, it is in a location where the floodplain is close to the road. If this area (south of the road) were to be developed, there would be a natural connection from the subject lands through to the larger natural areas associated with Nickel Beach Marsh Wetland PSW. As with linkage 1, at such time as this road is re-built, it is recommended that a wildlife underpass be installed under Killaly St. E. to better connect these areas.

Each linkage is proposed to be 20 m wide. Trails for people may be proposed within these linkages. If trails are placed here, then at the ends of the linkages, care should be taken to guide people into residential areas and <u>not</u> into natural features where informal trails would create disturbance. Wildlife-permeable, but people-discouraging fencing might be an option in this circumstance.

It is assumed that linkages would be planted at a minimum with some woody species that are native to the region and that they will not consist of cut, maintained nor landscaped habitat.

7.2.6 Aquatic Habitat

7.2.6.1 Wignell Drain West Tributary

During the construction phase of the development there is potential for erosion and off-site transport of sediment to be directed to the watercourse. Therefore, to avoid potential impacts to the feature the project will implement Best Practices related to Erosion Sediment Control (ESC) measures, including a comprehensive ESC plan. These measures will be used by the contractor and should meet guidelines as outlined in the *Erosion and Sediment Control Guideline for Urban Construction* (Greater Golden Horseshoe Conservation Authorities, 2006), or equivalent standards. With appropriate ESC measures and compensation no negative impacts to the watercourse or its ecological functions are anticipated.

With regards to other construction substances (i.e., fuel, oil, hydraulic fluid, etc.) it is recommended that a spill kit and plan be implemented by the proponent or contractor to address any release of hydrocarbons to the surrounding environment and prevent them from being drawn downstream into the watercourses. All machinery or equipment is recommended to be re-fueled or serviced at least 30 m from any watercourse



7.2.6.2 Headwater Drainage Features

As outlined in Section 4.4.2., HDFs identified for *Mitigation*, should be considered during future detail design phases of any development project, and their hydrologic function maintained to downstream systems within the Wignell Drain subwatershed. Maintenance of hydrologic functions may be addressed through stormwater management or Low Impact Development (LID) designs generated at the Site Plan or detailed design levels.

HDFs identified as *Conservation*, should be maintained on the landscape, preferably in their current location, or in a re-aligned form that maintains the ecological functions they provide to the surrounding natural landscape (ex. HDF-2 proximity to woodlands may support Western Chorus Frog populations that utilize the saturated spring woodland for breeding purposes). Should conservation HDFs require realignment or relocation, proper mitigations are to be addressed through LIDs or natural channel design analysis and modeling at the Site Plan or detailed design levels.

7.2.7 Wildlife Protection

To avoid and mitigate impacts to breeding birds and ensure compliance with the federal *Migratory Birds Convention Act* and provincial *Fish and Wildlife Conservation Act*, removal of vegetation should be completed outside of the nesting bird season; i.e. approximately the last week of March to late August.

However, development timing may require clearing within that window. Should this prove to be the case, shortly before vegetation clearing a qualified biologist should complete a search for actively used nests within the areas of vegetation proposed for removal to ensure that there are no conflicts with these Acts. This survey does not focus on a search for nests, but instead uses a variety of information (time of year, habitat present, bird song, bird behaviour etc.) to determine if birds are nesting.

If nesting activity is detected, clearing activities should be delayed (potentially weeks or months) until it can be determined that the birds no longer have eggs or young in the nest.

7.2.8 Enhancement Plantings

In addition to plantings within the new linkages, two other types of areas are recommended for restoration plantings. These are buffer areas and floodplain areas. Both of these types of areas, if planted and left undisturbed, would both protect the existing natural features and further enhance them.

A couple of considerations for restoration plantings are:

- Trails within restored areas lessens the protection and enhancement functions, while increasing recreation and exercise potential (see also sections 7.2.1 and 7.2.4);
- Fencing locations are important;
- The large floodplain area at the south end of the property south of Killaly St. E may be useful for Bobolink habitat compensation, in which case it would not be planted with woody species, but with specific grasses (see Section 7.2.4 of this report for relevant regulation);





- Woody species present in the region, and not highly disease susceptible, should be used for restoration purposes; some examples are:
 - Eastern White Pine (*Pinus strobus*)
 - Red or Silver Maple (Acer rubrum or saccharinum)
 - o Bitternut or Shagbark Hickory (Carya cordiformis or ovata)
 - American Beech (Fagus grandifolia)
 - Trembling Aspen (*Populus tremuloides*)
 - White, Red or Swamp White, Bur or Pin Oaks (*Quercus alba, rubra, bicolor, macrocarpa* or *palustris*)
 - American Basswood (*Tilia americana*)
 - Grey or Red-osier Dogwood (Cornus racemosa or sericea)
 - o Blue-beech (Carpinus caroliniana)
 - American Bladdernut (Staphylea trifolia)
 - Northern Spicebush (*Lindera benzoin*)
 - Chokecherry (Prunus virginiana)



8. Policy Conformity

Table 8 outlines how the proposed development conforms to natural heritage policy.

Table 8. Policy Conformity

Policy Document	Policy Intent/Objective	Implications and Policy Conformity
Migratory Birds Convention Act	<i>The Migratory Birds Convention Act</i> (MBCA), 1994 and Migratory Birds Regulations (MBR), 2014 protect most species of migratory birds and their nests and eggs anywhere they are found in Canada.	To ensure the protection of migratory birds, their eggs and their nests, vegetation removal will be completed outside of the breeding bird season (late March to late August) or a site inspection for nesting bird activity should be completed immediately prior to vegetation removal to ensure no nesting (if nesting vegetation clearing is delayed).
Endangered Species Act (ESA)	Species designated as Endangered or Threatened by the Committee on the Status of Species at Risk in Ontario (COSSARO) are listed as Species at Risk in Ontario (SARO). These species at risk (SAR) and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation and migration) are afforded legal protection under the <i>Endangered</i> <i>Species Act</i> (ESA).	Threatened Bobolink habitat is proposed for removal. This requires 'compensation' through O. Reg. 242/08.
Provincial Policy Statement	The Provincial Policy Statement (PPS) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (Ontario Ministry of Municipal Affairs and Housing, 2020). Section 2.1 of the PPS defines ten natural heritage features (NHF) and adjacent lands and provides planning policies for each.	 Within the Subject Lands, the following PPS natural heritage features have been identified: Significant Woodlands Potential and confirmed Significant Wildlife Habitat Habitat of Threatened and Endangered Species Fish Habitat No impacts are anticipated to the functions of these features, except Habitat of Endangered Species (Bobolink) which are covered through the ESA.



Niagara Region Official Plan	In accordance with policies of the OP, development or site alteration is not permitted within PSW, Significant Coastal Wetlands, or Significant Woodlands. Development and site alteration shall not be permitted in other woodlands, Significant Valleylands, Significant Wildlife Habitat, or Areas of Natural and Scientific Interest unless it has been demonstrated through an EIS that there will be no negative impacts to the natural features or their ecological functions. Discuss and make recommendations regarding ecological linkages.	Significant Woodlands, Confirmed and Potential Significant Wildlife Habitat, all retained and protected with buffers. Protection of Other Wetlands and Fish Habitat is generally deferred to other agencies. Linkages have been discussed and two linkages are proposed.
City of Port Colborne Official Plan	The City's OP outlines Natural Features on Schedule B1 and B2 and depicts the Subject Lands to contain Natural Hazard Lands, Significant Woodlands, Non- Provincially Significant Woodlands, Fish Habitat, and Streams. Natural Hazard Lands, Significant Natural Features, and fish habitat which are protected from development.	 Within the Subject Lands the following City features are present and protected through proposed plan: Natural Hazard Lands Non-PSW wetlands Confirmed and Potential Significant Wildlife Habitat Significant Woodlands Streams and Fish Habitat. Habitat of Threatened Species is covered through the ESA. There are no existing Environmental Corridors or Linkages, but they are proposed.
Niagara Peninsula Conservation Authority	Ontario Regulation 155/06 - Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation. Through this regulation, NPCA regulates activities in natural and hazardous areas (e.g., areas in and near rivers, streams, floodplains, wetlands, and slopes and shorelines).	The municipal drain (watercourse), non-PSW wetlands, and natural hazard features on the Subject Lands are protected through the proposed development plan. They are regulated by the NPCA, thus a permit under O. Reg. 155/06 is expected to be required, unless the newly passed Bill 23 changes this requirement.

9. Conclusion

The findings of our study are the result of a background review, field investigations and an analysis of data using a scientific understanding of the ecology of the area, as well as the current natural heritage policy requirements. We have evaluated the environmental sensitivities, constraints and development opportunities of the Subject Lands, which are described in this report.

The main natural features on the Subject Lands are:

- Significant Woodlands (5)
- Wetland evaluated non-provincially significant (1), and unevaluated (4)
- Species at Risk habitat Bobolink habitat (1 area)
- Significant Wildlife Habitat Southern Arrow-wood Mineral Thicket Swamp, Rare Vegetation Community) (1 area)
- Candidate or Potential or Significant Wildlife Habitat Bat Maternity Colonies, Landbird Migratory Stopover Areas, and Special Concern Barn Swallow habitat,
- Wignell Drain containing fish habitat

The floodplain also forms a major environmental constraint.

The natural features are proposed to be protected from development with buffers based on the Region's, City's and NPCA policies. Either a 30 metre or 15 m (area A2) buffer is proposed for wetlands within the Subject Lands, 15 m from the municipal drain/fish habitat, 10 m from all Significant Woodlands, and 15 m from the confirmed SWH.

A summary of potential impacts and recommended mitigation measures are outlined below.

Vegetation Removal and Feature Protection

• While no significant or identified natural areas will be removed through the proposed development, some vegetation removal will occur. Proposed mitigation includes vegetation removal timing windows; and considered placement of fences surrounding natural features to prevent disturbance.

Species At Risk

• Threatened Bobolink (one territory): habitat compensation would have to occur in accordance with Ontario Regulation 242/08 Section 23.2 or the Compensation Fund.

Significant Wildlife Habitat

• Candidate SWH Special Concern Barn Swallows (three pairs) habitat will be removed. Proposed mitigation is installation of a replacement nesting structure in the nearby wetland buffer.

Additionally, there are two proposed wildlife/plant corridors (i.e. connectors or linkages) in the study area that will connect the natural areas either within the subject lands or to areas off-site. These corridors may have the potential to increase (as opposed to merely maintain) wildlife connectivity within the subject lands. Enhancement plantings are proposed for both the corridors as well as buffer and floodplain areas.



Based on the results of the EIS it is our professional opinion that the proposed Draft Plan of Subdivision is environmentally feasible and would result in negligible negative impacts to the natural heritage features provided that the recommended mitigation measures described in this report are implemented.



10. Certification

This report was prepared, reviewed and approved by the undersigned:

Prepared By:

Manuela Vernaza, B.Sc. Junior Ecologist

Prepared By:

Joel Davey, B.BRM, MES, CISEC Aquatic Ecologist

Prepared and Reviewed By:

withand

Rosalind Chaundy, M.Sc.F. Senior Ecologist

Approved By:

Janae

Dirk Janas, B.Sc. Principal, Ecologist



11. References

- Bird Studies Canada. (2009). Marsh Monitoring Program Participant's Handbook for Surveying Amphibians.
- Bird Studies Canada. (2023). *Atlas of the Breeding Birds of Ontario*. Retrieved from Atlas of the Breeding Birds of Ontario: http://www.birdsontario.org/atlas/index.jsp?lang=en
- Black, J. &. (2010). Birds of the Niagara Region In. Natural Areas Inventory 2006- 2009 (Section 11), Volume 2. Ontario, Canada.
- City of Port Colborne. (2013). City of Port Colborne Official Plan. Retrieved from https://www.portcolborne.ca/en/business-and-development/resources/Documents/Planning/2020-Updated-Official-Plan-COMPLETE.pdf
- Crins, W. J., Gray, P. A., Uhlig, P. W., & Wester, M. C. (2009). *The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions*. Peterborough, Ontario: Ontario Ministry of Natural Resources. Retrieved from https://www.ontario.ca/page/ecosystems-ontario-part-1-ecozones-and-ecoregions
- EXP. (2021). Killaly Street East, Port Colborne, ON Elite Developments Type of Document: Preliminary Geotechnical Investigation Report. Ontario, Canada.
- Fisheries and Oceans Canada. (2023). *Aquatic Species at Risk Map*. Retrieved from Fisheries and Oceans Canada: http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html
- Government of Canada. (1994). Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22). Retrieved from http://laws-lois.justice.gc.ca/eng/acts/m-7.01/
- Government of Canada. (2018). *Beneficial Management Practices Avoiding Harm to Migratory Birds*. Retrieved from canada.ca: https://www.canada.ca/en/environment-climatechange/services/avoiding-harm-migratory-birds/beneficial-management-practices.html
- Government of Ontario. (2007). Endangered Species Act, 2007, S.O. 2007, c. 6. Retrieved from https://www.ontario.ca/laws/statute/07e06
- Government of Ontario. (2023). *Land Information Ontario*. Retrieved from ontario.ca: https://www.ontario.ca/page/land-information-ontario
- Greater Golden Horseshoe Conservation Authorities. (2006). *Erosion and Sediment Control Guidelines for Urban Construction*. Retrieved from www.trca.on.ca/dotAsset/40035.pdf
- Lee, H. T., Bakowsky, W. D., Riley, J., Bowles, J., Puddister, M., Uhlig, P., & McMurray, S. (1998). Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch.
- Ministry of Natural Resources and Forestry. (2018). *Natural Heritage Information Request Guide*. Ministry of Natural Resources and Forestry.
- Ministry of Natural Resources and Forestry. (2023). *Natural Heritage Information Centre Species Lists*. Retrieved from Ministry of Natural Resources and Forestry: https://www.ontario.ca/page/getnatural-heritage-information
- Morton, J. K., & Venn, J. M. (1984). *The Flora of Manitoulin Island. 2nd Ed. Biology Series No. 28.* Waterloo, Ontario: University of Waterloo.
- Niagara Peninsula Conservation Authority. (2006). *Twenty Mile Creek Watershed Plan.* Retrieved from Niagara Peninsula Conservation Authority: https://npca.ca/images/uploads/common/NPCA-Watershed-Plan-20Mile-Creek.pdf
- Niagara Peninsula Conservation Authority. (2020). *NPCA Policy Document: Policies for the Administration of Ontario Regulation 155/06 and the Planning Act.* Retrieved from npca.ca:



https://npca.ca/images/uploads/common/NPCA_Policy_Document_2018_%28May_2020_Office_ Consolidation%29.pdf

Niagara Region. (2022). Niagara Official Plan. Retrieved from niagararegion.ca:

https://www.niagararegion.ca/official-plan/pdf/proposed-plan2/by-law-and-consolidated-plan.pdf NPCA. (2010). 2010 Annual Report. Ontario, Canada.

- NPCA. (2022, November). NPCA Policy Document: Policies for Planning and Development in the Watersheds of the Niagara Peninsula Conservation Authority (Office Consolidation). Ontario, Canada.
- Oldham, M. (2010). Checklist of the Vascular Plants of Niagara Regional Municipality Ontario. Natural Areas Inventory 2006-2009. Volume 1 & 2. Niagara Peninsula Conservation Authority (NPCA).
- Oldham, M. J., & Brinker, S. R. (2009). *Rare Vascular Plants of Ontario, Fourth Edition.* Peterborough, Ontario: Natural Heritage Information Centre, Ministry of Natural Resources.
- Oldham, M. J., Bakowsky, W. D., & Sutherland, D. A. (1995). *Floristic Quality Assessment System for Southern Ontario*. Peterborough, ON: Natural Heritage Information Centre, Ontario Ministry of Natural Resources.
- Ontario Ministry of Municipal Affairs and Housing. (2020). *Provincial Policy Statement, 2020.* Toronto, ON. doi:ISBN 978-1-4606-3522-3
- Ontario Ministry of Natural Resources. (2000). Significant Wildlife Habitat Technical Guide. Peterborough: Queen's printer for Ontario. Retrieved from https://www.ontario.ca/document/guide-significantwildlife-habitat
- Ontario Ministry of Natural Resources. (2010). *Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.* Toronto: Queen's Printer for Ontario. Retrieved from

http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the %20Provincial%20Policy%20Statement%20MNR%202010.pdf

Ontario Ministry of Natural Resources. (2013). *Reptile and Amphibian Exclusion Fencing: Best Practices, Version 1.0. Species at Risk Branch Technical Note.* Retrieved from

https://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_tx_rptl_amp_fnc_en.pdf Ontario Ministry of Natural Resources. (2015). *Significant Wildlife Habitat Criteria Schedules For*

Ecoregion 6E. Peterborough: Regional Operations Division, Southern Region Resources Section.

Stanfield, L., Del Giudice, L., Bearss, E., & Morodvanschi, D. (2013). Ontario Stream Assessment Protocol Section 4 Module 10 - Assessing Headwater Drainage Features.

Toronto and Region Conservation Authority and Credit Valley Conservation. (2014). *Evaluation, Classification and Management of Headwater Drainage Features Guidelines.* Toronto.





NPCA and Niagara Region Correspondence

rosalind.chaundy@pecg.ca

From:	Boudens, Adam <adam.boudens@niagararegion.ca></adam.boudens@niagararegion.ca>
Sent:	February 10, 2022 4:01 PM
То:	rosalind.chaundy@pecg.ca
Cc:	'Rachita Gupta'; Lampman, Cara
Subject:	RE: Killaly to Main - Elite properties Woodland Delineation
Attachments:	2007705-4-2-Woodland Delineation November, 2021.pdf

Hi Rosalind,

I've had a chance to review the attached document illustrating the locations of the woodland staking that we completed in November 2021 and offer no objections. As discussed, we can revisit the other natural areas that we didn't get a chance to stake this coming spring/summer.

Thanks, Adam

Adam Boudens Senior Environmental Planner/Ecologist

Planning and Development Services, Niagara Region 1815 Sir Isaac Brock Way, P.O. Box 1042 Thorold, ON L2V 4T7 Phone: **905-980-6000 ext. 3770** Toll-free: 1-800-263-7215 Adam.Boudens@niagararegion.ca

From: rosalind.chaundy@pecg.ca <rosalind.chaundy@pecg.ca>
Sent: Wednesday, February 9, 2022 5:09 PM
To: Boudens, Adam <Adam.Boudens@niagararegion.ca>
Cc: 'Rachita Gupta' <r.gupta@elitemdgroup.com>
Subject: Killaly to Main - Elite properties Woodland Delineation

CAUTION EXTERNAL EMAIL: This email originated from outside of the Niagara Region email system. Use caution when clicking links or opening attachments unless you recognize the sender and know the content is safe.

Hello Adam,

I hope that the New Year is treating you well.

I have put together a map for you that uses the staking we did back in November on the Elite properties between Killaly St. E and Mian St. E and east of Snider.

I put it on an air photo and also indicated the areas that we didn't stake, but agreed upon.

Let me know if this is acceptable and is as you remembered.

All the best,

Rosalind

Rosalind Chaundy, M.Sc.F. Senior Ecologist



| c (647) 927 0519 | e <u>rosalind.chaundy@pecg.ca</u>

The Regional Municipality of Niagara Confidentiality Notice The information contained in this communication including any attachments may be confidential, is intended only for the use of the recipient(s) named above, and may be legally privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, disclosure, or copying of this communication, or any of its contents, is strictly prohibited. If you have received this communication in error, please re-send this communication to the sender and permanently delete the original and any copy of it from your computer system. Thank you.



74 Berkeley Street, Toronto, ON M5A 2W7 Tel: 647-795-8153 | www.pecg.ca

March 29, 2022

Sarah Mastroianni Niagara Peninsula Conservation Authority (NPCA) 250 Thorold Road West, 3rd Floor Welland, ON, L3C 3W2

Kirsten McCauley Senior Planner Niagara Region 1815 Sir Isaac Brock Way P.O. Box 1042 Thorold, ON L2V 4T7 Canada

Dear Ms. Mastroianni and Ms. McCauley:

Re: Revised Terms of Reference for two Environmental Impact Studies (EISs) for the Elite Development Properties East of Port Colborne (mainly north of Killaly Street East between Elizabeth St. and Lorraine Road)

1. Introduction

Palmer is pleased to provide the following Revised Terms of Reference (TOR) to inform the preparation of two Environmental Impact Studies (EISs) for the nine properties located north of Killaly Street East, in the City of Port Colborne, Niagara Region (see **Figure 1**). It is Palmer's understanding that the proponent plans to make a submission for a residential development to include single homes and townhouses on the properties. A similar EIS will be prepared for each sub-parcel (west and east of Snider Road according to the terms described here).

Following a review of regulatory agency mapping and background information, and 2021 field season, in terms of natural features, Palmer has identified the following features in this area:

- A watercourse (Wignell Drain) and associated floodplain;
- Headwater drainage features;
- Several wetlands;
- A small wetland Significant Wildlife Habitat; and
- Several woodlands or partially treed areas.

There are no mapped Life Science Areas of Natural Scientific Interest, provincially significant wetlands, nor known valleylands within the site. Much of the study area is regulated by the Niagara Peninsula



Conservation Authority (NPCA), and the NPCA's Natural Areas Inventory documents will be used as a reference.

The main purpose of an EIS will be to identify the existing natural heritage features and their ecological functions, determine appropriate buffer and setbacks, and where applicable, provide mitigation measures to address potential impacts associated with the proposed development.

2. Scope of Work

An EIS is required to demonstrate that there will be no negative impacts to the natural features and their ecological functions from the proposed development. As such, Palmer's proposed scope of work consists of a comprehensive field survey program, Species at Risk Habitat and Significant Wildlife Habitat assessments, and the creation of an EIS as outlined below. The field investigation program is a result of discussion following the submission of an original Terms of Reference (dated August 24, 2021) and a March 1, 2022, meeting between Palmer, NPCA, Niagara Region and the landowners.

Task 1 – Background Review

This task will comprise a desktop review of available ecological records within and adjacent to the subject property. Natural heritage mapping and associated environmental policies at the provincial, regional and local levels will be reviewed, and summarized where appropriate for reporting. Palmer will also reference a Subwatershed Study which is underway in the larger Lens Wignell Subwatershed area.

Task 2: Field Investigations

The objective of the field investigations is to provide site-specific information to characterize natural features and functions, and to assess presence of habitat for rare or at-risk species. The following field investigations either were completed in 2021 or are proposed for the 2022:

- Headwater Drainage Feature (HDF) and Watercourse Assessments
 - HDF assessments will occur over three visits; (late March and late April/early May 2022; June 2021).
 - Characteristics of the Wignell Drain will be recorded at the same time as the HDF surveys
 - We have assumed no electro-fishing is required based on agency discussions given that there is no plan to re-align the Drain.
- Salamander Habitat Assessment
 - Surveys for vernal pools will occur in potentially suitable habitat (mid-aged to mature woodlands); and should pools occur, presence or absence of salamander eggs will noted.
 - Where logs are present, under-log surveys for salamander will occur in potentially suitable habitat.



- Amphibian Breeding Surveys
 - Nocturnal amphibian surveys for calling surveys generally occur over three periods in the spring to record species that call at different times of the year. Thus, two surveys in early season (late March/early April) and mid-season late April/May surveys are required in order to meet NPCA requirements.
 - These surveys will occur on two dates on calm, relatively warm evenings during those time periods.
 - A third survey would have occurred in June 2021 however no standing water was present in wetlands or pools at this time.
- Three-season Floral Inventory
 - Floral surveys will be conducted over three seasons: spring (approximately late April early May), mid-season (June), and in fall (September to October);
 - Some of these surveys occurred in 2021 and others will occur in 2022
- Ecological Land Classification
 - A description and delineation of on-site vegetation communities will be summarized and mapped per the Ecological Land Classification for Southern Ontario protocols (Lee et al 1998)
- Wetland Photo Log
 - Photographs will be taken of wetlands in order to be submitted to NPCA as part of a Photo Log prior to wetland delineation.
- Wetland and Woodland Delineation with NPCA and Niagara Region
 - A day of woodland feature delineation (staking and surveying) occurred in the fall of 2021; most woodlands were staked and surveyed on this day.
 - A second day of feature delineation will occur in 2022 (likely in June) in order to delineate wetlands and the remaining woodlands.
- Turtle Nesting Habitat
 - Observations noting habitat that may be suitable for turtle nesting will be made while on site for other field investigations.
 - An analysis of turtle habitat will be made to describe the presence or absence of turtle habitat used at most other times of the turtle life-cycle.
- Soil Sampling
 - Soil characterization of the larger ELC communities will be recorded and used to enhance the ELC descriptions.
 - Soil notes will be appended to the EIS report.
- Snake Surveys
 - Snake coverboard surveys will occur between April and mid July 2022; later season checks may also occur.
 - Coverboards (weathered wood boards) will be placed in suitable locations (thickets, forest gaps and meadows) early in the year.



- Coverboards will be checked (lifted to examine underneath) a minimum of five times through the survey period for the presence of snakes
- Incidental observations and visual searches will also be made in selected area, and where appropriate, lifting natural materials (logs or stones) to look for snakes using these objects as cover will also occur.
- Breeding Bird Surveys
 - Two breeding bird survey were conducted in 2021 accordance with standard field protocol.
- Incidental Wildlife Observations:
 - All incidental observations of wildlife will be recorded during Palmer's site visits.
- Species at Risk (SAR) Habitat Screening/Assessment and Significant Wildlife Habitat Assessment:
 - A SAR screening for potential habitat opportunities or occurrences on the subject property will be conducted through a preliminary desktop habitat assessment. This will be followed by a SAR assessment of those species with potential to occur.
 - The Significant Wildlife Habitat Screening Table for Niagara Region has been examined and taken into consideration regarding field studies. A Significant Wildlife Habitat (SWH) Assessment will occur using a combination of desktop sources, professional experience, and field survey observations, which will result in the confirmation of as many SWH as possible. SAR and SWH assessment tables will form part of the reporting.
 - An early submission of the potential (or known SWH) will be made to Niagara Region

Task 4 – Impact Assessment and EIS Reporting

The following components will be addressed as part of the EIS:

- Documentation of existing conditions and associated constraints and opportunities (constraints mapping).
- Review and summary of applicable environmental policies and regulatory requirements.
- Confirmation of the development limits and appropriate setbacks.
- Impact assessment in relation to the proposed development.
- Identification of appropriate mitigation measures; and
- Project conformity with applicable environmental policies and regulatory requirements.

An impact assessment of the proposed development will be completed in the context of the ecological constraints and applicable environmental policies. An analysis of the background and field data will be completed in order to determine the ecological functions, significance, and sensitivity of the natural heritage features found on and directly adjacent to the subject property. This will include delineation or confirmation of information already available for vegetation community boundaries, buffers/setbacks, identifying significant ecological features, such as potential or confirmed habitat for SAR and Significant Wildlife Habitat. The above information will be used to identify / confirm the proposed development limits. Palmer will provide specific recommendations as needed.



Additional analysis and discussions will occur regarding two aspects of the EIS. Palmer will discuss the ecohydrology of the wetlands with hydrogeological members of the team (both within Palmer and at EXP). This will be done in order to understand the surface and groundwater inputs to the wetlands and to ensure that wetlands are not affected by proposed development.

Additionally, Palmer will communicate with the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) regarding the potential inclusion of the on-site wetlands to the Nickel Beach Marsh provincially significant wetland (PSW).

3. Closure

We trust that this proposed TOR for the preparation of two EISs for the mapped area in the City of Port Colborne fulfills the NPCA, City and Region requirements. Please feel free to contact me at 647-927-0519 or rosalind.chaundy@pecg.ca should you have any questions regarding this letter.

Yours truly,



Rutichay

Rosalind Chaundy, M.Sc.F Senior Ecologist

Cc David Schulz Planner City of Port Colborne

Theresa Bukovics Niagara Peninsula Conservation Authority

David Deluce Niagara Peninsula Conservation Authority

Adam Boudens, Niagara Region





rosalind.chaundy@pecg.ca

From:	Sarah Mastroianni <smastroianni@npca.ca></smastroianni@npca.ca>
Sent:	May 5, 2022 7:09 PM
То:	rosalind.chaundy@pecg.ca
Cc:	'Lampman, Cara'; 'Boudens, Adam'; 'David Schulz'; 'Dirk Janas'; 'Rachita Gupta'; 'Marko Juricic'; 'Trina Sillano'; 'David Cogliano'; David Deluce
Subject:	RE: Natural Heritage EIS Terms of Reference - Elite Dev. Port Colborne
Attachments:	Palmer EIS Revised ToR Elite Killaly St E Port Colborne properties Mar 2022.pdf
Flag Status:	Flagged

Good Evening Rosalind,

Thank you for the submitted Revised ToR for the above noted file.

Generally, NPCA staff are in support of the proposed TOR provided the following comments are considered.

- 1. According to the HDFA, fish community sampling is generally undertaken. NPCA offer no objections if the applicant does not electrofish the watercourse provided fish presence is assumed in the assessment and incorporated in the development setbacks. However, if fish presence is not to be assumed, NPCA staff will request that a fish community survey to be conducted in accordance with the HDFA.
- 2. To ensure that appropriate protocols (where applicable) are used, and timing windows are adhered to, please ensure that all survey protocols and field survey dates are provided in the Environmental Impact Study.
- 3. NPCA staff are supportive of a June site visit to delineate features.

We understand and have been circulated on a ToR for a future subwatershed study in this area for the Wignell Drain. Please be advised that we are currently reviewing that document and note that the comments above pertain to the ToR for the secondary plan area as noted in the attached document. We will provide separate comments on the ToR for the subwatershed study in the near future.

Please let me know if you have any questions.

Sarah Mastroianni Manager, Planning and Permits Niagara Peninsula Conservation Authority (NPCA) 250 Thorold Road West, 3rd Floor | Welland, ON L3C 3W2 Tel: 905-788-3135 | extension 249 <u>smastroianni@npca.ca</u> www.npca.ca

NPCA Watershed Explorer

Due to the COVID-19 pandemic, the NPCA has taken measures to protect staff and public while providing continuity of services. The NPCA main office is open by appointment only with limited staff, please refer to the <u>Staff Directory</u> and reach out to the staff member you wish to speak or meet with directly.

Updates regarding NPCA operations and activities can be found at <u>Get Involved NPCA Portal</u>, or on social media at <u>facebook.com/NPCAOntario</u> & <u>twitter.com/NPCA Ontario</u>.

For more information on Permits, Planning and Forestry please go to the Permits & Planning webpage at <u>https://npca.ca/administration/permits</u>.

For mapping on features regulated by the NPCA please go to our GIS webpage at <u>https://gis-npca-camaps.opendata.arcgis.com/</u> and utilize our Watershed Explorer App or GIS viewer.

To send NPCA staff information regarding a potential violation of Ontario Regulation 155/06 please go to the NPCA Enforcement and Compliance webpage at https://npca.ca/administration/enforcement-compliance.

From: rosalind.chaundy@pecg.ca <rosalind.chaundy@pecg.ca>
Sent: Thursday, April 21, 2022 12:25 PM
To: Sarah Mastroianni <smastroianni@npca.ca>
Cc: 'Lampman, Cara' <Cara.Lampman@niagararegion.ca>; 'Boudens, Adam' <Adam.Boudens@niagararegion.ca>; 'David
Schulz' <David.Schulz@portcolborne.ca>; 'Dirk Janas' <dirk.janas@pecg.ca>; 'Rachita Gupta'
<r.gupta@elitemdgroup.com>; 'Marko Juricic' <marko@brooklyncontract.com>; Theresa Bukovics
<tbukovics@npca.ca>; 'Trina Sillano' <tsillano@tercot.com>; 'David Cogliano' <dcogliano@tercot.com>
Subject: RE: Natural Heritage EIS Terms of Reference - Elite Dev. Port Colborne

Hello Sarah and All,

Please find attached the Revised Terms of Reference (ToR) for the Environmental Impact Study for the Elite lands east of Port Colborne (see the ToR for a map of the lands).

The revision is based on the March 1, 2022 meeting and your 'blue' comments below.

All the best, Rosalind

Rosalind Chaundy, M.Sc.F. Senior Ecologist

| c (647) 927 0519 | e rosalind.chaundy@pecg.ca

Vacation Notice: I will be away on vacation the week of May 2 through 6th.

From: Sarah Mastroianni <smastroianni@npca.ca>

Sent: March 1, 2022 7:37 PM

To: rosalind.chaundy@pecg.ca

Cc: 'Lampman, Cara' <Cara.Lampman@niagararegion.ca>; 'Boudens, Adam' <Adam.Boudens@niagararegion.ca>; 'McCauley, Kirsten' <Kirsten.Mccauley@niagararegion.ca>; 'David Schulz' <David.Schulz@portcolborne.ca>; 'Dirk Janas' <dirk.janas@pecg.ca>; 'Rachita Gupta' <r.gupta@elitemdgroup.com>; 'Marko Juricic' <marko@brooklyncontract.com>; drago@odandetech.com; Theresa Bukovics <tbukovics@npca.ca>

Subject: RE: Natural Heritage EIS Terms of Reference - Elite Dev. Port Colborne

Good Evening Rosalind,

Thank you for setting up the meeting today. It was very helpful to gain an understanding of the timelines and process associated with this proposal. NPCA staff are encouraged to learn that a Terms of Reference will be circulated shortly

for a future subwatershed study for this area. NPCA staff provided comments on the requirements of the TOR for the Subwatershed Study last year and are looking forward to reviewing the work.

Please see NPCA's comments in blue to the revised TOR for the EIS work proposed to be done through the secondary plan process. These comments were discussed during our meeting today.

If you have any further questions, please let us know.

Sarah Mastroianni Manager, Planning and Development Niagara Peninsula Conservation Authority (NPCA) 250 Thorold Road West, 3rd Floor | Welland, ON L3C 3W2 Tel: 905-788-3135 | extension 249 smastroianni@npca.ca www.npca.ca

NPCA Watershed Explorer

Due to the COVID-19 pandemic, the NPCA has taken measures to protect staff and public while providing continuity of services. The NPCA main office is open by appointment only with limited staff, please refer to the <u>Staff Directory</u> and reach out to the staff member you wish to speak or meet with directly.

Updates regarding NPCA operations and activities can be found at <u>Get Involved NPCA Portal</u>, or on social media at <u>facebook.com/NPCAOntario</u> & <u>twitter.com/NPCA_Ontario</u>.

For more information on Permits, Planning and Forestry please go to the Permits & Planning webpage at <u>https://npca.ca/administration/permits</u>.

For mapping on features regulated by the NPCA please go to our GIS webpage at <u>https://gis-npca-camaps.opendata.arcgis.com/</u> and utilize our Watershed Explorer App or GIS viewer.

To send NPCA staff information regarding a potential violation of Ontario Regulation 155/06 please go to the NPCA Enforcement and Compliance webpage at https://npca.ca/administration/enforcement-compliance.

From: rosalind.chaundy@pecg.ca

Sent: Friday, January 14, 2022 5:51 PM

To: Sarah Mastroianni < smastroianni@npca.ca>

Cc: 'Lampman, Cara' <<u>Cara.Lampman@niagararegion.ca</u>>; 'Boudens, Adam' <<u>Adam.Boudens@niagararegion.ca</u>>; 'McCauley, Kirsten' <<u>Kirsten.Mccauley@niagararegion.ca</u>>; 'David Schulz' <<u>David.Schulz@portcolborne.ca</u>>; 'Dirk Janas' <<u>dirk.janas@pecg.ca</u>>; 'Rachita Gupta' <<u>r.gupta@elitemdgroup.com</u>>; 'Marko Juricic' <<u>marko@brooklyncontract.com</u>>; <u>drago@odandetech.com</u>

Subject: FW: Natural Heritage EIS Terms of Reference - Elite Dev. Port Colborne

Hello Sarah,

Thank you so much for your comments to our EIS Terms of Reference (EIS ToR) that you sent to us in October. We have thought about them and have the following responses:

1) Our responses are shown below in red. Note that we have previously replied to the Region's comments which are lower in the email (our responses to those however are not shown here).

- 2) Could we set up a meeting time with yourselves, the Region, and City, to discuss the EIS ToR, as both you and the Region have requested. Please let us know some times that work for you.
- 3) Could we also include in the meeting a discussion of the associated Subwatershed Study ToR (SWS ToR), or set up a different time to discuss with the appropriate parties?

Thank you so much,

Rosalind PS Palmer and Regional staff did stake and survey the woodland features in November of 2021.

Rosalind Chaundy, M.Sc.F. Senior Ecologist

c (647) 927 0519 **e** <u>rosalind.chaundy@pecg.ca</u>

From: Sarah Mastroianni <<u>smastroianni@npca.ca</u>>
Sent: October 22, 2021 11:29 AM
To: rosalind.chaundy@pecg.ca; David Schulz <<u>David.Schulz@portcolborne.ca</u>>
Cc: Lampman, Cara <<u>Cara.Lampman@niagararegion.ca</u>>; Boudens, Adam <<u>Adam.Boudens@niagararegion.ca</u>>;
McCauley, Kirsten <<u>Kirsten.Mccauley@niagararegion.ca</u>>
Subject: RE: Natural Heritage Terms of Reference - Elite Dev. Port Colborne

Good Morning,

Please see NPCA's comments on the Terms of Reference submitted.

NPCA staff understand that there is also work presently being completed on a future Sub-Watershed Study for this area. NPCA staff provided requirements for that Study in August of this year. The data and information collected within a Sub-watershed study provides important background information which help guide all future EIS work done for an area. As the Sub-watershed study has not been completed, the EIS at this stage is seen as premature. However, to assist with the project, NPCA staff have reviewed the Terms of Reference submitted for the EIS work proposed. Those details are noted below. To be clear, the NPCA will require that a Sub-Watershed Study (SWS) be reviewed and approved by this office prior to the final approval of the EIS work.

NPCA staff echo the Region of Niagara's comments with respect to the timing of all of the required environmental work. Staff would like the opportunity to understand the timing/sequencing of these studies and how they will align together. A meeting with the Consultants, Region of Niagara, City of Port Colborne and NPCA is welcomed to discuss the above. Lastly, we highly recommend that there be one main point of contact (typically from the Municipality) that all future information be funnelled through to ensure all commenting parties are receiving and reviewing the same and most up to date information.

We agree that a meeting between all parties would be helpful. We could discuss scope and timing. Additionally, we understand your comments regarding timing of the EIS versus the SWS. Perhaps we can further discuss this at a meeting. Please let us know who you would like us to use as your prime point of contact.

NPCA staff have reviewed mapping and conducted cursory air photo interpretation of the subject property as well as reviewed other desktop tools and data. The following features were noted to be present on the site or within the area of influence of the site:

- Unevaluated wetlands;
- Watercourses;
- Headwater Drainage Features;
- Type II Fish Habitat;
- Locally Significant Wetland (LSW) Welland Canal South Wetland Complex;

- Provincially Significant Wetland (PSW), Nickel Beach Marsh Wetland Complex (located within 750m of the site)
- Floodplain lands associated with the Wignell Drain

It should be noted that through the environmental work being completed for these sites, additional features may also be identified.

 Natural Areas Inventories mapping identifies potential wetland indicator communities (thicket swamp and meadow marsh) on subject lands that have not been identified in the ToR. NPCA staff require a qualified professional be retained to identify presence of the wetland(s) and delineate the boundaries of the wetland feature(s) present on the property during the growing season to ensure that all necessary features are identified. Although the growing season generally known as the "leaf on season" varies year to year, it is approximately between May to mid-October in the NPCA watershed.

Wetlands will be delineated by an OWES certified ecologist, during the growing season.

2. Once all wetland features have been delineated by a qualified professional, NPCA staff shall complete a site visit to verify the wetland boundaries. Once completed and confirmed, these boundaries shall be surveyed by an Ontario Land Surveyor and added to all mapping. These surveyed boundaries will become the limit of the wetland feature which may be used to inform future development constraints on the site.

Acknowledged.

3. Given the level of information presented in the ToR, NPCA staff have determined that a site visit to verify wetland staking would be best conducted in Spring 2022; rather than 2021. Please ensure ELC mapping as well as a photo log of wetland features is submitted to NPCA prior to the 2022 site visit for review.

Acknowledged. We will set a date closer to the appropriate wetland staking time in 2022. We will send ELC mapping and photos prior to the visit.

4. After wetland boundaries have been delineated and verified, NPCA staff request the applicant to complete and submit an OWES evaluation of the unevaluated wetlands and the Welland Canals South Wetland (LSW) to Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) to determine whether the unevaluated wetlands and LSW are subject to complexing (included into the PSW) as Nickel Beach Marsh Wetland Complex (PSW) is found to be within 750m south of the subject lands. Further, the applicant will need to demonstrate through correspondence that MNDMNRF has signed off with any determination.

We propose the following regarding wetland evaluation. The two swamp units in the northwestern portion of the properties are already evaluated as non-provincially significant wetlands (PSW), thus they do not require evaluation. Two other unevaluated wetland areas have been recorded on the properties. Palmer proposes to discuss and assess the significance of these two units in relation to the nearby Nickle/Nickel Beach PSW, but does not propose to undertake an OWES evaluation on these units. An OWES evaluation is a comprehensive process that generally requires access to neighbouring lands, and is a multi-step evaluation that is not suitable for small relatively isolated units. There is no provincial policy that requires OWES evaluation of all wetlands prior to development.

Once baseline characterization of the unevaluated wetlands is carried out and wetlands within the study area have been delineated using the protocols established by OWES, NPCA staff will require that correspondence be provided from the Ministry of Northern Development, Mines, Natural Resources and Forestry to determine whether unevaluated wetlands are to be complexed with the Nickel Beach Wetland Complex (PSW). Following the completion of wetland boundary delineation, NPCA staff will require written correspondence from the MNDMNRF indicating their approval of any boundary adjustments to evaluated wetland polygons within the study area.

5. NPCA staff note the ToR identified two botanical surveys were conducted, one on June 17 and one on July 1. NPCA staff are not satisfied with two botanical surveys and request a three-season botanical inventory (spring: May to early June, summer: mid-June to August, and fall: September to October, dependent on frost) to be completed in order and to characterize baseline conditions of features and their form and functions in the study area.

Palmer have conducted Summer and Fall 2021 inventories and will conduct spring botanical surveys in 2022.

The ToR identified two botanical surveys that were carried out during the summer season (June 17 and July 1, 2021). NPCA staff acknowledge in the updated ToR that Palmer will conduct a spring botanical survey. Additional to the spring botanical survey, NPCA staff request a fall botanical survey to be carried out during Sept-Oct (depending on frost) to ensure appropriate baseline characterization of the study area.

6. NPCA staff have identified wetland and forested habitat present on the site, these features indicate candidate salamander breeding habitat and/or movement corridors may be present within the study area. NPCA staff request an assessment of salamander habitat be conducted according to the appropriate survey protocol and timing windows.

Palmer will assess the potential for salamander breeding habitat that will include a spring survey for vernal pools and, if present, their characteristics regarding suitability for salamanders (spring 2022)

If suitable habitat is present, NPCA staff request salamander surveys to be carried out according to the appropriate survey protocol and timing windows. Please identify, which protocol and survey method(s) will be used.

7. To characterize baseline conditions for all wetlands and watercourses/HDFs on the subject lands, NPCA staff request amphibian surveys be completed in adherence to the Marsh Monitoring Protocol (2008). NPCA staff request three surveys to span the early, mid and late breeding periods.

Amphibian surveys were not undertaken in the late (3rd) breeding period in 2021 as there was no suitable breeding habitat present (no waterbodies, wetlands with standing water, vernal pools etc.) at that time. We will undertake early and mid season amphibian surveys in 2022 (unless the first survey indicates that there will be no habitat during the second survey period)

NPCA staff request that the Marsh Monitoring survey protocol be followed in order to demonstrate baseline characterization of conditions on subject lands and ensure no negative impact to the hydrological and ecological function of water features in the study area. Should dry conditions be observed during the first survey, NPCA staff are not satisfied with the assumption that no habitat may be present during the second survey window. Site conditions during the appropriate survey window must be documented to demonstrate why surveys were not completed.

 To properly characterize the ecological and hydrological form and function of NPCA regulated features on site, NPCA staff request appropriate turtle habitat studies be completed according to the appropriate survey protocol and timing windows.

Based on several field visits in 2021, our observations show that there is negligible to no turtle habitat in the study area (no waterbodies, wetlands with standing water etc.). We suggest that this type of survey is not necessary.

Based on the information provided to NPCA staff for review, NPCA staff are not satisfied that the applicant has demonstrated no negative impact to the ecological form and function of water features (wetlands and watercourse) for resident turtles. Please provide information regarding timing of field visits, survey methodology, and protocol that was followed to clarify the justification for omitting turtle surveys from the EIS.

 NPCA staff are in support of the Regions comments for snake and bat surveys. To ensure no negative impact to the ecological form and function of regulated water features, NPCA staff requests snake and bat surveys include wetland and watercourse features.

Palmer will undertake snake surveys (in addition to incidental observations) by using the snake board survey method. We will check these a number of times (TBD) through-out the warm seasons.

All potential bat habitat will be in areas that will be proposed for retention, thus we suggest that bat surveys are not necessary. While on site, Region staff (Adam Boudens) tentatively agreed to this position.

NPCA staff support the use of incidental observations and artificial cover objects for surveying for resident snakes on subject lands. Please follow the appropriate protocol and timing windows in MNRF, 2016 Survey Protocol for Ontario's Species at Risk Snakes.

Considering the new information that potential bat habitat is proposed to be retained, NPCA offer no objections. Should potential forested wetlands be proposed for removal, bat surveys would be required.

10. Please include ELC data sheets as an Appendix to the EIS. Please ensure that representative soil samples are included for each ELC polygon.

ELC data sheets can be added as an Appendix to the EIS. Soil description based on sampling will occur for the main ELC units.

11. NPCA request that an assessment of the watercourse(s) and headwater drainage features present on the subject lands be conducted to characterize the form and function of these features and that the appropriate protocols are followed for the feature (i.e. HDFs assessed as HDFs and watercourses assessed as watercourses). This assessment should characterize flow regime, temperature regime and assess habitat within the watercourse/HDF as well as connection with off site watercourses/HDFs.

Palmer will characterize the one watercourse (Wignell Drain), the one known HDF leading into the drain, and any others should they be present, with appropriate studies.

12. NPCA request aquatic surveys be conducted to ensure no negative impacts to the ecological and hydrological form and function of the watercourse. Please ensure adherence to survey protocols and timing windows.

Ditto 11.

13. Water balance studies are requested to assist in the characterization of the hydrology and ecohydrology of the wetland features (including vernal pools) present within the area of interference of wetlands located within the study area. Water balance studies should also be completed for watercourses (including Headwater Drainage Features).

Palmer will discuss this with the landowner and scope this with you at a future meeting.

14. The future environmental work should explore any enhancement opportunities to local hydrology and ecology as part of the studies undertaken.

Enhancement opportunities will be discussed with the landowner and proposed in the EIS.

Lastly, as the area may contain Species at Risk, which are protected under the *Endangered Species Act*, NPCA staff suggest contacting the Ontario Ministry of Environment, Conservation and Parks at <u>SAROntario@ontario.ca</u> to ensure compliance with the Endangered Species Act.

We will survey for Species at Risk, be in compliance with the Endangered Species Act, and contact the MECP where required.

Please let me know if there are any questions.

Thank you.

Sarah Mastroianni Manager, Planning and Development Niagara Peninsula Conservation Authority (NPCA) 250 Thorold Road West, 3rd Floor | Welland, ON L3C 3W2 Tel: 905-788-3135 | extension 249 smastroianni@npca.ca www.npca.ca

NPCA Watershed Explorer

Due to the COVID-19 pandemic, the NPCA has taken measures to protect staff and public while providing continuity of services. The NPCA main office is open by appointment only with limited staff, please refer to the <u>Staff Directory</u> and reach out to the staff member you wish to speak or meet with directly.

Updates regarding NPCA operations and activities can be found at <u>Get Involved NPCA Portal</u>, or on social media at <u>facebook.com/NPCAOntario</u> & <u>twitter.com/NPCA_Ontario</u>.

For more information on Permits, Planning and Forestry please go to the Permits & Planning webpage at <u>https://npca.ca/administration/permits</u>.

For mapping on features regulated by the NPCA please go to our GIS webpage at <u>https://gis-npca-camaps.opendata.arcgis.com/</u> and utilize our Watershed Explorer App or GIS viewer.

To send NPCA staff information regarding a potential violation of Ontario Regulation 155/06 please go to the NPCA Enforcement and Compliance webpage at https://npca.ca/administration/enforcement-compliance.

From: McCauley, Kirsten <<u>Kirsten.Mccauley@niagararegion.ca</u>>
Sent: Monday, October 4, 2021 4:16 PM
To: rosalind.chaundy@pecg.ca
Cc: Sarah Mastroianni <<u>smastroianni@npca.ca</u>>; Lampman, Cara <<u>Cara.Lampman@niagararegion.ca</u>>; Boudens, Adam
<<u>Adam.Boudens@niagararegion.ca</u>>; David Schulz <<u>David.Schulz@portcolborne.ca</u>>
Subject: Natural Heritage Terms of Reference - Elite Dev. Port Colborne

Hi Rosalind,

Thank you for submitting the draft TOR for a set of Environmental Impact Studies prepared by Palmer, dated August 24, 2021 for the subject properties owned by Elite Development in the City of Port Colborne (mainly north of Killaly Street East between Elizabeth St. and Lorraine Road).

Regional Planning staff understand that Palmer is working with Weston (as the overall consultant), who is coordinating the work for the Killaly Secondary Plan. The Region and NPCA have also received inquiries from another consultant preparing a TOR for a Subwatershed Study (SWS) for the same plan area. Typically a SWS is commenced in advance and the information from the SWS is then used to inform the EIS. It is important for the Region and NPCA to understand the timing and alignment of these studies to ensure that work is coordinated appropriately.

With the above in mind, Regional Environmental Planning staff have reviewed the Environmental Impact Study (EIS) Terms of Reference (TOR) and provide the following comments:

Staff require a TOR review fee for this application in the amount of **\$405**. Please direct the client to make payment online.

Online:

Please use the following link: <u>https://niagararegion.ca/business/payments/default.aspx</u>

Using this link, please select "Planning Fees and Private Septic Permit Fees" and fill out the required sections. "Killaly Street, Port Colborne, Properties owned by Elite Development" should be used as the property address. If you include an email address, you will receive an emailed credit card receipt

directly from Moneris. Please forward this receipt/proof of payment by replying to all of the recipients of this message.

Should you have any questions regarding the above payment process, please do not hesitate to contact myself or the Program Assistants at <u>devtplanningapplications@niagararegion.ca</u>.

The following are our TOR review comments:

While the TOR is generally acceptable, we offer the following comments for your consideration:

- 1) The EIS must conform to and address the results of the Subwatershed Study that has not yet been completed for the subject area in which these subject properties are located. As such, the completion of an EIS is premature until the Subwatershed Study is reviewed and approved by the Region and all applicable agencies. That said, Regional staff have no objection to the commencement of natural heritage surveys provided the applicant acknowledges that new and/or updated surveys may be required when the results of the Subwatershed Study are circulated. Staff note that the shelf life of ecological studies is generally 5 years.
- 2) In the future, please include the Species at Risk (SAR) and Significant Wildlife Habitat (SWH) screenings in TOR submissions. Attached is a SWH screening table which we prefer is used during TOR development. This will assist staff with scoping of field surveys. For example, if the screenings indicate potential for SAR snakes or SWH for snakes, incidental snake observations would not typically be acceptable due to their reclusive nature. Rather, snake surveys according to accepted protocols should be used (e.g., Survey Protocol for Ontario's SAR Snakes and/or Milksnake Protocol). Staff are happy to review both the SAR and SWH screenings when completed to ensure adequate surveys are conducted to evaluate candidate SAR and SWH.
- 3) Bat surveys are not currently proposed in the TOR but should be completed if the wooded area exhibits habitat potential.
- 4) Staff request that a three-season botanical inventory be conducted for all subject properties (Spring, Summer and Fall).
- 5) The TOR notes that only 2 Amphibian surveys are necessary as there was no standing water on the site except within the watercourse in the month of June. Staff offer no objection provided appropriate survey protocols are followed and justification is included in the final Report.
- 6) A Headwater Drainage Feature Assessment (HDFA) is proposed in the TOR. Staff note that HDFA assessments are typically undertaken when non-permanently flowing drainage features are present on a site. For any larger watercourses exhibiting permanent flow, surveys following Ontario Stream Assessment Protocol (OSAP) should be undertaken. The final Report will be required to include detailed ecological and hydrologic assessments of all watercourses and water features on site to determine classifications and management recommendations.
- 7) If S1-S3 species are found on site or within adjacent lands, their locations and habitat extent must also be mapped and included within the final EIS to ensure no negative impact to the species or its habitat.
- 8) A high level/general water balance will be required to demonstrate no hydrological impacts to the wetlands and no net loss to productive capacity for fish habitat. The EIS should describe the pre-development surface water drainage patterns, and assess potential impacts to the wetlands and fish habitat. Supporting field investigations may be required to support the EIS (e.g., topography survey, hydrogeological assessment to determine spring high groundwater table, etc.).

- 9) If additional wetlands are identified within the subject lands, an OWES evaluation should be completed and submitted to the Ministry of Northern Development, Mines, Natural Resources and Forestry for review. All correspondence should be appended to the EIS.
- 10)Potential for corridors and linkages should be comprehensively assessed and mapped for the subject properties if appropriate.
- 11)Significant Woodland boundaries must be staked in the field with Regional Environmental Planning staff. Please contact Adam Boudens, Senior Environmental Planner, <u>adam.boudens@niagararegion.ca</u> to schedule a site visit.
- 12) The description of the proposed development should include whether any servicing, infrastructure or stormwater facilities are anticipated. The proposed development envelope (which includes buildings, driveway/access, all grading, servicing, accessory structures, and all amenity space) should be included as an overlay to all natural heritage features on site with the most recent available orthoimagery as the base layer.
- 13)Please include all field survey data sheets as an appendix in the EIS.

Please note that the Niagara Peninsula Conservation Authority (NPCA) continues to be responsible for the review and comment on planning applications related to hazard lands and their regulated features. As such, the NPCA should be consulted with respect to the TOR and their comments read in conjunction

The above comments are provided in effort to ensure that the development application will include all information needed to address the Core Natural Heritage System (CNHS) policies of the Region's Official Plan (ROP). Staff will review the completed EIS against the requirements in the proposed TOR and outlined above. Should Palmer be of the opinion that one or more of the requirements outlined above should not be included within the EIS scope; Regional staff may entertain a reduced scope if sufficient rationale is provided. Should the comments above be acceptable, staff will accept Palmer's proposed TOR along with this letter as the final EIS TOR, with both appended to the final Report.

There is no need to submit a revised TOR. Please just include all relevant agency correspondence as an appendix in the EIS.

Please let me know if you have any questions or wish to discuss further.

Thanks, Kirsten

Kirsten McCauley, MCIP, RPP

Senior Planner – Secondary Plans, Long Range Planning Planning and Development Services, Niagara Region 1815 Sir Isaac Brock Way, P.O. Box 1042 Thorold, ON L2V 4T7 Phone: 905-980-6000 ext. 3532 Email: <u>kirsten.mccauley@niagararegion.ca</u> The Regional Municipality of Niagara Confidentiality Notice The information contained in this communication including any attachments may be confidential, is intended only for the use of the recipient(s) named above, and may be legally privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, disclosure, or copying of this communication, or any of its contents, is strictly prohibited. If you have received this communication in error, please re-send this communication to the sender and permanently delete the original and any copy of it from your computer system. Thank you.

Due to the COVID-19 pandemic, the NPCA has taken measures to protect staff and public while providing continuity of services. The NPCA main office is open by appointment only with limited staff, please refer to the <u>Staff Directory</u> and reach out to the staff member you wish to speak or meet with directly. Our Conservation Areas are currently open, but may have modified amenities and/or regulations.

Updates regarding NPCA operations and activities can be found at <u>Get Involved NPCA Portal</u>, or on social media at <u>NPCA's Facebook Page</u> & <u>NPCA's Twitter page</u>.

The information contained in this communication, including any attachment(s), may be confidential, is intended only for the use of the recipient(s) named above. If the reader of this message is not the intended recipient, you are hereby notified that any disclosure of this communication, or any of its contents, is prohibited. If you have received this communication in error, please notify the sender and permanently delete the original and any copy from your computer system. Thank-you. Niagara Peninsula Conservation Authority.

Significant Wildlife Habitat Screening Table for Niagara Region - Port Colborne Elite Developments and Tercot Properties

The following table has been developed based on the categories provided in the Ministry of Natural Resources and Forestry (MNRF)'s Significant Wildlife Habitat Technical Guide (2000) with consideration for the MNRF's SWH Ecoregion 7E Criterion Schedule (2015), and the Region of Niagara's biophysical context. These categories should be revised or refined based on subsequent updates to these guidance sources.

Significant Wildlife Habitat (SWH) Type	Known or Candidate SWH present or adjacent to site?	Rationale (Habitat Presence or Absence)	Field studies required?	
Seasonal Concentration Areas				
Deer Yarding Areas (as identified by MNRF)	No	Deer Yarding Areas not mapped within or adjacent to Study Area.	No	
Deer Winter Congregation Areas (as identified by MNRF)	No	Deer Winter Congregation Areas not mapped within or adjacent to Study Area.	No	
Colonial Bird Nesting Habitat: – Tree/shrub – Cliff/bank – Ground	No	 The swamp communities are not adjacent or near open water to provide suitable habitat. There are no eroding banks, sandy hills, borrow pits, steep slopes, or sand piles within the Study Area. There are no rocky island/peninsulas within the Study area 	No (regardless, bird surveys would have recorded if present)	
Waterfowl Stopover and Staging Areas: – Aquatic – Terrestrial	Aquatic: No Terrestrial: No	 There are no marshes, ponds, or lakes within the Study Area. The cultural meadow communities are of minimal size 	No	
Waterfowl Over Wintering Areas (as identified by MNRF)	No	No Waterfowl Over- wintering areas are mapped within or adjacent to the Study Area	No	

Significant Wildlife Habitat (SWH) Type	Known or Candidate SWH present or adjacent to site?	Rationale (Habitat Presence or Absence)	Field studies required?
Raptor Wintering (Feeding	No	The Study Area does not	No
and Roosting) Areas		provide the old field	
		habitats needed although	
		there are woodlands	
Turtle Wintering Areas	No	There are no areas with	No
		deep water that will not	
		freeze in the winter.	
Reptile (Snake)	No	Burrows, rock crevices,	No
Hibernacula		and other sites located	
		below frost lines were not	
		observed to date. No	
		surficial karst seen.	
Bat Hibernacula	No	There are no caves, mine	No
		shafts, or underground	
		foundations within the	
		Study Area	
Bat Maternity Colonies	Candidate	The FOD and SWD may	No. The proposed
		provide enough snags for	development will not
		maternity colonies.	encroach into FOD
			and SWD
			communities.
Rare Vegetation Communit	ties		
Alvar	No	There are no alvars within	No
		the Study Area	
Prairie	No	There are no tallgrass	No
		prairies within the Study	
		Area.	
Savannah	No	There are no savannahs	No
		within the Study Area	
Rare Forest Types	No	There are no rare forest	No
		types within the Study	

Significant Wildlife Habitat (SWH) Type	Known or Candidate SWH present or adjacent to site?	Rationale (Habitat Presence or Absence)	Field studies required?
		Area (based on 2021 field	
		surveys)	
Cliff/Talus	No	There are no cliffs or	No
		taluses within the Study	
		Area	
Rock Barrens	No	There are no rock barrens	No
		within the Study Area	
Sand Barrens	No	There are no sand barrens	No
		within the Study Area	
Other Rare Vegetation	- Old Growth Forest:	-The forest communities	Undertaken in 2021.
Types, including Old	No	within the Study Area do	Confirmed during
Growin Forest	-Rare Veaetation	not contain old growth	summer and fall 2021
	Types: <u>Confirmed</u>	characteristics.	botanical inventories.
		- Southern Arrow-wood	Further vegetation
		Mineral Thicket Swamp	surveys in 2022.
		(SWT2-11) was recorded	
		within the Study Area.	
Specialized Habitats for Wi	ldlife		
Waterfowl Nesting Area	No	Although some wetlands	No; regardless
		are present, they are not	breeding bird surveys
		open wetlands generally	have been
		and are not adjacent to	undertaken.
		suitable upland areas.	
Bald Eagle and Osprey	No	No suitable habitat within	No
Nesting, Foraging and Perching Habitat		the Study Area.	
Woodland Raptor Nesting	No	The forest communities	No
Habitat		within the Study Area are	
		not larger than 30 ha.	
Amphibian Breeding	-Woodland:	The swamp communities	Yes. 3-season
Habitat:	Candidate	provide potential wetland	Amphibian calling
	Candidate	breeding habitat	surveys are planned.

Significant Wildlife Habitat (SWH) Type	Known or Candidate SWH present or adjacent to site?	Rationale (Habitat Presence or Absence)	Field studies required?	
 Wetland (includes bullfrog concentration areas) 				
Turtle Nesting Habitat	Νο	There are no open sand or gravel areas near wetlands for potential turtle nesting habitat.	No, however, observations will be made in 2022 for potential nesting habitat (At request of NPCA)	
Woodland/Specialized Raptor Nesting	No	There are no natural or conifer plantation woodland/forest stands >30ha	No	
Bald Eagle Wintering Areas	No	No fallow fields, no immediately adjacent waterbodies.	No	
Seeps and Springs	None known	NA	Observations will be made on site during other field investigations.	
Wildlife Movement Corrido	ors			
 Animal Movement Corridors (including Ecological Linkages) Deer Movement Corridors Amphibian Movement Corridors Other Wildlife Movement Corridors 	None known	From Ecoregion Criteria: Animal Movement Corridors should only be identified as SWH where: a Confirmed or Candidate SWH has been identified by MNRF or the planning authority based on documented evidence	No	
Habitats of Species of Conservation Concern				
Marsh Bird Breeding Habitat	No	Minimal marsh present in linear form	No	
Significant Wildlife Habitat (SWH) Type	Known or Candidate SWH present or adjacent to site?	Rationale (Habitat Presence or Absence)	Field studies required?	
---	---	---	--	
Woodland Area-Sensitive Breeding Habitat	None known	Woodlands present, although none are large	Yes. Breeding bird surveys have been	
		thus not anticipated to be present	undertaken	
Open Country Bird Breeding Habitat	No	Negligible open country habitat (fields are agricultural)	Νο	
Shrub / Early Successional Breeding Bird habitat	None known	Some thicket habitat present, although not extensive and not anticipated to be present	Yes. Breeding bird surveys have been undertaken	
Terrestrial Crayfish Habitat	None known	NA	Observations will be made on site during other field investigations.	
Global Species of Conservation Concern (i.e., G1, G2 and G3) as identified by the NHIC	None Known	NA	Yes. Multi-taxa field program proposed is anticipated to record any species in this category	
Federal Species of Conservation Concern (i.e., listed as endangered, threatened or special concern federally)	None known on site; some present in region or 10 km square	NA	Yes. Multi-taxa field program proposed is anticipated to record any species in this category	
Provincial Species of Conservation Concern (i.e., listed as special concern provincially or S1, S2 or S3 by the NHIC)	None known on site; some present in region or 10 km square	NA	Yes. Multi-taxa field program proposed is anticipated to record any species in this category	

rosalind.chaundy@pecg.ca

From:	Boudens, Adam <adam.boudens@niagararegion.ca></adam.boudens@niagararegion.ca>
Sent:	May 18, 2022 10:11 AM
То:	rosalind.chaundy@pecg.ca
Cc:	'Manuela Vernaza'; Young, Katie; Lampman, Cara
Subject:	RE: SWH Assessment for Elite/Tercot Properties East Port Colborne
Attachments:	SWH Screening Table for Niagara Region Port Colborne Elite-Tercot Properties.pdf; 2007705-1-2-Site Location.pdf

Flag Status:

Hi Rosalind,

Thanks for your patience. Environmental Planning staff have reviewed the attached SWH table, and offer no objection.

Please include a copy of this correspondence in the final report.

Flagged

Thanks and please let me know if you have any questions.

Adam

Adam Boudens

Senior Environmental Planner/Ecologist

Planning and Development Services, Niagara Region 1815 Sir Isaac Brock Way, P.O. Box 1042 Thorold, ON L2V 4T7 Phone: **905-980-6000 ext. 3770** Toll-free: 1-800-263-7215 Adam.Boudens@niagararegion.ca

From: rosalind.chaundy@pecg.ca <rosalind.chaundy@pecg.ca>
Sent: Wednesday, April 27, 2022 1:10 PM
To: Boudens, Adam <Adam.Boudens@niagararegion.ca>
Cc: 'Manuela Vernaza' <manuela.vernaza@pecg.ca>
Subject: SWH Assessment for Elite/Tercot Properties East Port Colborne

CAUTION EXTERNAL EMAIL: This email originated from outside of the Niagara Region email system. Use caution when clicking links or opening attachments unless you recognize the sender and know the content is safe.

Hello Adam,

Please find attached our SWH assessment, using the Niagara Region SWH table, for the properties east of Port Colborne that are owned by Elite and Tercot.

A figure is attached showing the properties in question.

Please let us know if you have any concerns with this assessment.

All the best, Rosalind

Rosalind Chaundy, M.Sc.F. Senior Ecologist

Notify prior for up for any Remark Offensented actual deviced of Registered

| c (647) 927 0519 | e rosalind.chaundy@pecg.ca

Vacation Notice: I will be away on vacation the week of May 2 through 6th.

The Regional Municipality of Niagara Confidentiality Notice The information contained in this communication including any attachments may be confidential, is intended only for the use of the recipient(s) named above, and may be legally privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, disclosure, or copying of this communication, or any of its contents, is strictly prohibited. If you have received this communication in error, please re-send this communication to the sender and permanently delete the original and any copy of it from your computer system. Thank you.

rosalind.chaundy@pecg.ca

From:	Boudens, Adam <adam.boudens@niagararegion.ca></adam.boudens@niagararegion.ca>						
Sent:	February 27, 2023 11:49 AM						
То:	rosalind.chaundy@pecg.ca						
Subject:	RE: Port Colborne Elite EIS ToR						
Attachments:	RE: SWH Assessment for Elite/Tercot Properties East Port Colborne (2.84 MB); Palmer						
	EIS Revised ToR Elite Killaly St E Port Colborne properties Mar 2022.pdf						

Hi Rosalind,

All that I could find is the attached email confirming no objection to the SWH Assessment.

As it doesn't appear that Regional environmental Planning staff formally responded, please use this email as confirmation that Regional staff offer no objection to the revised TOR (dated March 29, 2022. attached).

Let me know if you have any questions or concerns.

Thanks, Adam

Adam Boudens, Msc

Senior Environmental Planner/Ecologist Planning and Development Services Niagara Region 1815 Sir Isaac Brock Way, P.O. Box 1042 Thorold, ON L2V 4T7 Phone: **905-980-6000 ext. 3770** Toll-free: 1-800-263-7215 www.niagararegion.ca



From: rosalind.chaundy@pecg.ca <rosalind.chaundy@pecg.ca>
Sent: Friday, February 24, 2023 4:22 PM
To: Boudens, Adam <Adam.Boudens@niagararegion.ca>
Subject: Port Colborne Elite EIS ToR

CAUTION EXTERNAL EMAIL: This email originated from outside of the Niagara Region email system. Use caution when clicking links or opening attachments unless you recognize the sender and know the content is safe.

Hi Adam,

I was working through the Elite Port Colborne lands EIS and I couldn't find an acceptance from you (the Region) of the Revised ToR that I sent on April 21, 2022 (but dated Mar 29, 2022), and which Sarah M from NPCA accepted on May 5, 2022 (see attached correspondence).

I looked for a Region response, but couldn't find it – perhaps it came from someone else or my search wasn't thorough enough. Is there a response I'm missing or could you or Cara confirm that those terms were acceptable, please?

Thanks so much, Rosalind

Rosalind Chaundy, M.Sc.F. Senior Ecologist



| c (647) 927 0519 | e rosalind.chaundy@pecg.ca

The Regional Municipality of Niagara Confidentiality Notice The information contained in this communication including any attachments may be confidential, is intended only for the use of the recipient(s) named above, and may be legally privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, disclosure, or copying of this communication, or any of its contents, is strictly prohibited. If you have received this communication in error, please re-send this communication to the sender and permanently delete the original and any copy of it from your computer system. Thank you.



Appendix B

Flora Checklist

Ec19-180e-Fb27-B0aa

Scientific Name	Common Name	Native/Exotic/U	S Rank	COSEWIC	SARO	Coefficient of	Coefficient of
Abutilon theophrasti	Velvetleaf	F	SNA	Status	Status	conscivatism	3
Acer nlatanoides	Norway Maple	F	SNA				5
Acer rubrum	Red Maple	N	\$5			4	0
Acer saccharinum	Silver Maple	N				5	-3
Acer saccharum	Sugar Maple	N	S5			4	3
Achillea sp.	Yarrow Species					-	-
Alliaria petiolata	Garlic Mustard	F	SNA				0
Asclepias svriaca	Common Milkweed	N	S5			0	5
Aster sp.	Aster Species						-
Barbarea vulaaris	Bitter Wintercress	E	SNA				0
Cardamine doualassii	Limestone Bittercress	N	S4			7	-3
Cardamine hirsuta	Hairy Bittercress	F	SNA				3
Carey sn	Sedge Species	L	JIIA				5
Carex vulninoidea	Fox Sedge	N	\$5			3	-5
Carninus caroliniana	Blue-beech	N	55 55			6	0
Carva cordiformis	Bitternut Hickory	N				6	0
Carva ovata	Shaghark Hickory	N				6	3
Chenopodium album	Common Lamb's- quarters	E	SNA				3
Cichorium intybus	Wild Chicory	E	SNA				5
Cirsium vulgare	Bull Thistle	E	SNA				3
Cornus racemosa	Grey Dogwood	N	S5			2	0
Cornus sericea	Red-osier Dogwood	N	S5			2	-3
Crataegus sp.	Hawthorn Species						
Daucus carota	Wild Carrot	E	SNA				5
Dianthus armeria	Deptford Pink	E	SNA				5
Diervilla lonicera	Northern Bush- honeysuckle	N	S5			5	5
Dipsacus fullonum	Common Teasel	E	SNA				3
Echinochlog sp	Barnyard Grass						
Enilohium sn	Willow-herh Species						
Erigeron sp	Fleahane Species			_			
Engeron sp.	Vellow Trout-lily	N	55			5	5
Euthomia graminifolia	Grass-leaved	N	S5			2	0
	Woodland Strawberry	N	\$5			4	3
Fragaria virginiana	Wild Strawberry	N	CE			2	2
Fragana virginiana	Plack Ach	IN N	55	тир		2	3
Fraxinus neposuluanica	Bod Ash	N N	55			7	-3
Galium anarino	Common Bedstraw	IN N	54			5	-5
Galium circactans	Licorico Podstraw	IN N	55			4	3
Guildin Circuezulis	Spotted Coronium	IN N	55			6	3
Geranium maculatum		IN	55			D	3
Gerunium sp.	Canada Avons	N	C.E.			2	0
Geum canadense		IN	55			3	0
Geum sp.	Avens Species	N	622			0	0
	Hawkweed Species	IN	52 !			ð	U
Impations sp	lawel-weed Species						
luglans nigra	Black Walnut	N	C10			F	2
	Eastern Pod Codor	IN NI	54 f			<u>ح</u>	3
Lindera benzoin	Northern Spicebuch	IN N	55			4	3
		Ň	54			Ь	-3
Lonicera tatarica	Tatarian Honeysuckle	E	SNA				3

	Creeping Yellow		_			-
Lvsimachia nummularia	Loosestrife	E	SNA			-3
Lvthrum salicaria	Purple Loosestrife	E	SNA			-5
Malus sp.	Apple Species		-			
Matricaria discoidea	Pineappleweed	E	SNA			3
Melilotus albus	White Sweet-clover	E	SNA			3
Oxalis sp.	Wood Sorrel Species	_				
Panicum sp.	Panic Grass Species					
Parthenocissus vitacea	Thicket Creeper	N	S5		4	3
Phalaris arundinacea	Reed Canarygrass	N	S5		0	-3
Phraamites australis	Common Reed	N	S4?		0	-3
Pinus sylvestris	Scots Pine	E	SNA			3
Plantago lanceolata	English Plantain	E	SNA			3
Plantago maior	Common Plantain	F	SNA			3
Pog pratensis	Kentucky Bluegrass	N	55		0	3
Podophyllum peltatum	May-apple	N	55		5	3
Populus deltoides	Fastern Cottonwood	N	55		4	0
Populus tremuloides	Trembling Aspen	N	55		2	0
Prunus serotina	Black Cherry	N	55		3	3
Prunus virginiang	Chokecherry	N	55		2	3
Ouercus alba	White Oak	N	55		6	3
Quercus hicolor	Swamn White Oak	N	55		8	-3
Quercus piccioi	Bur Oak	N	54		5	-5
Quercus nalustris	Swamn Pin Oak	N	55		9	-3
Quercus pulustris	Northern Red Oak	N	54		5	-5
Rhampus cathartica	Furonean Buckthorn	F	55		0	0
Rhus typhing	Stagborn Sumac	N	SINA		1	2
Roca sp	Bose Species	IN	35		1	5
Rubus idaeus	Red Basnberry	N	55		2	2
Rubus accidentalis	Black Baspberry	N	55		2	5
Rumey crisnus		F	55		2	0
Salix discolor	Pussy Willow	N	SINA S5		2	-3
Salix ascolor	Willow Species	IN	35		5	-5
Sanguingrig canadensis	Bloodroot	N	CE.		E	2
Scirpus sp	Bulrush Species	IN			5	5
Schpus sp.	Giant Foxtail	E E	SNIA.	-		2
Setaria numila	Vellow Foxtail	E				0
Solidado so	Goldenrod Species	E.	SINA			0
Sonchus sp	Sowthistle Species					
Suringa vulgaris	Common Lilac	F	SNIA			5
Tarayacum officinale	Common Dandelion	F	SNA			2
Thuid accidentalic	Eastern White Codar		SINA	_		2
Tilia amoricana	Basswood	IN N	35		4	-5
Tavicadandron radicans	Basswood Poison lw	N N	35	-	4	5
Trifelium repens	White Clover		55		2	2
Trifolium cn	Clover Species	<u> </u>	SINA			5
Tupha latifalia	Broad loaved Cattail	N	CT.		1	
	Turba angustifalia V	IN	35		1	-5
Turka u alawaa		E	SNA			-5
rypna x glauca				_	2	2
Varbaseum thereaus			55		3	-3
Verbascum mapsus		E N	SNA		4	5
verbena urticifolia	Stree ath Array	N N	55		4	
viburnum recognitum		N -	54		/	
vicia cracca			SNA	_		5
∠anthoxyium americanum	Common Prickly-ash	N	55		3	3

LEG	END	
SRA	NK	Provincial Status: Provincial ranks are used by the NHIC to set protection priorities for rare species and natural communities. These ranks are not legal generally uncommon to common in the province. Species ranked S1-S3 are considered to be rare in Ontario. designations. S4 and S5 species are generally uncommon to common in the province. Species ranked S1-S3 are considered to be rare in Ontario.
S1	Critically Imperiled	Critically imperiled 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	Imperiled	Imperiled 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.
SU	Unrankable	Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA	Unranked	A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
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.
		Species or community occurred historically in the nation or state/province, and there is some possibility that it may be
SH	Possibly Extirpated (Historica	rediscovered.
SE#	Exotic Status	
S#?	Rank Uncertain	

Ontario Ministry of Natural Resources (OMNR). 2018. Natural Heritage Information Centre Species Lists. Last updated January 30, 2018. https://www.ontario.ca/page/get-natural-heritage-information

COS	SARO	
END	Endangered	A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.
THR	Threatened	A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
SC	Special Concern	A species with characteristics that make it sensitive to human activities or natural events.
DD	Data Deficient	
EXP	Extirpated	A species that no longer exists in the wild in Ontario but still occurs elsewhere.

Ontario Ministry of Natural Resources and Forestry (2018). Species Risk in Ontario. Last updated UNE 28, 2018. https://www.ontario.ca/environment-andenergy/species-risk-type

COS	EWIC	
END	Endangered	A wildlife species facing imminent extirpation or extinction.
THR	Threatened	A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or
		extinction.
SC	Special Concern	A wildlife species that may become threatened or endangered because of a combination of biological characteristics and
		identified threats.
VUL	Vulenerable	
NAR	Not at Risk	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
DD	Data Deficient	A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for
		assessment or (b) to permit an assessment of the wildlife species' risk of extinction.
NA	Non-active	
XT	Extirpated	A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

Committee for the Status on Endangered Wildlife in Canada (COSEWIC). 2018. Canadian Wildlife Species at Risk. Last updated February 22, 2018. http://www.sararegistry.gc.ca/sar/index/default_e.cfm

Coefficient of Conservation 'Higher values of the coefficients of conservatism, on the scale of 1–10, indicate species that are more "conservative" (or ecologically sensitive), including those least associated with anthropogenic disturbance, least aggressive, least able to spread, and most confined to particular natural habitat' (Catling Catling, Paul M. 2013. Using Coefficients of Conservatism and the Floristic Quality Index to assess the potential for serious and irreversible damage to plant communities. Canadian Field-Naturalist 127(3): 285-288.

Coefficient of Wetness

5 - Almost always occur on upland; 3 - Usually occur on uplands; 0 - Found on uplands and in wetlands; -3 Usually occur in wetlands; -5 Almost always occur in wetlands

Floristic Assessment System for Southern Ontario (Oldham et al, 1995).



Appendix C

Breeding Bird List

Breeding Birds of Elite Developments Lands, Port Colborne

		Status					Number of Pairs/Territories									
Common Name	Scientific Name	National Species at Risk COSEWIC ^a	Species at Risk in Ontario Listing ^a	Provincial breeding season SRANK ^b	Regional Status ^d	Area- sensitive (OMNR) ^c	Total Subject Lands	Northwest Swamp/FO °(A1)	Fields and Hedgerows (East & North)	East Thicket and S. Arrowood Thicket [®] (A2 & A3)	Northwest Swamp (B1)	South Wetland/ Woodland Complex (B3)	Central Walnut Woodland (B2)	705 Main St. E	896 Killally St E (inc A4)	Fields, Hedgerows & Abandoned Farm (West/Central)
Turkey Vulture	Cathartes aura			S5	Un		2 F									2 F
Red-tailed Hawk	Buteo jamaicensis			S5	Un		1				1					
Canada Goose	Branta canadensis			S5	VC		2 F							2F		
Killdeer	Charadrius vociferus			S5	С		4		1					1	1	1
American Woodcock	Scolopax minor			S4	Un		2	1				1				
Mourning Dove	Zenaida macroura			S5	VC		2			1						1
Chimney Swift	Chaetura pelagica	THR	THR	S4	Un		5 F									5 F
Red-bellied Woodpecker	Melanerpes carolinus			S4	Un		1				1					
Downy Woodpecker	Picoides pubescens			S5	С		3			1		1	1			
Northern Flicker	Colaptes auratus			S4	С		4			1	1	1	1			
Eastern Wood-Pewee	Contopus virens	SC	SC	S4	С		1				1					
Willow Flycatcher	Empidonax traillii			S5	Un		2			1		1				
Great Crested Flycatcher	Myiarchus crinitus			S4	С		1				1					
Horned Lark	Fremophila alpestris			S5	С		3							1		2
Tree Swallow	Tachvcineta bicolor			S4	VC		1					1		·····		
Barn Swallow	Hirundo rustica	SC	SC	S4	VC		3.8F		2 F			·····		1F	3	5 F
Blue Jav	Cvanocitta cristata			S5	VC		4, 1F		1 F	1	1	1			1	
Black-capped Chickadee	Poecile atricapillus			S5	C		4				1	2	1			
White-breasted Nuthatch	Sitta carolinensis			S5	Un	Α	1				1		·····			
House Wren	Troglodytes aedon			S5	С		4			1		2	1			
Carolina Wren	Thryothorus Iudovicianus			S4	Un		3	1		1	1					
American Robin	Turdus migratorius			S5	VC		23	2	1	5	3	4	2	2	2	2
Gray Catbird	Dumetella carolinensis			S4	С		12	1		4	1	4	1		1	
Cedar Waxwing	Bombycilla cedrorum			S5	С		4	1		1		1	1			
European Starling	Sturnus vulgaris			SE	VC		10, 12F	1	2 plus 12 F	2		1		1	2	1
Warbling Vireo	Vireo gilvus			S5	С		1				1					
Yellow Warbler	Setophaga petechia			S5	С		12		1	1	2	4		2	1	1
American Redstart	Setophaga ruticilla			S5	Un	Α	1					1				
Common Yellowthroat	Geothlypis trichas			S5	С		3					3				
Northern Cardinal	Cardinalis cardinalis			S5	С		12	1	2	2	1	3			2	1
Indigo Bunting	Passerina cyanea			S4	C		11	2	1		3	1	1		1	2
Chipping Sparrow	Spizella passerina			S5	C		1									1
Field Sparrow	Spizella pusilla			S4	Un		3			1		1	1			
Vesper Sparrow	Pooecetes gramineus			S4	Un		1									1
Savannah Sparrow	Passerculus sandwichensis			S4	VC	A	21		10						2	9
Song Sparrow	Melospiza melodia			S5	VC		56	4	12	5	2	9	5	4	3	12
Bobolink	Dolichonyx oryzivorus	THR	THR	S4	Un	Α	1								1	
Red-winged Blackbird	Agelaius phoeniceus			S4	VC		38		13	6		3		4	6	6
Common Grackle	Quiscalus quiscula			S5	VC		3, 1F			2		1			1F	
Brown-headed Cowbird	Molothrus ater			S5	VC		7	1	1			2	2			1
Baltimore Oriole	lcterus galbula			S4	C		6	1			2	3				
American Goldfinch	Cardeulis tristis			S5	C		18	1	6	2		2	1	2		4
Ruby-throated Hummingbird	Archilochus colubris			S5	Un		1			1						
American Crow	Corvus brachyrhynchos			S5	C		1 F		1 F							
Brown Thrasher	Toxostoma rufum			S4	Un		1			1						
Red-eyed Vireo	Vireo olivaceus			S5	C	l	1	I	l	1				l		

Eastern Kingbird	Tyrannus tyrannus		S4	С	1	1				
House Sparrow	Passer domesticus		SE	VC	1F		1 F			

F = Foraging only, not breeding

Field Work Conducted On:	Date	Temp (°C)	Wind Speed (km/h)	Cloud Cover (%)	Start time	End time
Site visit 1 (most properties)	June 17 2021	9	0	0	5:45 am	10:00 am
Site visit 2 (most properties)	July 5 2021	20	0	100	6:30 am	9:30 am
Site visit 3 (705 Main St E and 896 Killaly St.)	May 31 2022	20	11	10	7:40 am	9:40 am
Site visit 4 (705 Main St E and 896 Killaly St.)	June 22 2022	21	16	40	8:35 am	10:15 am

Number of Species: 48

Number of (provincial and national) Species at Risk: 3 nesting; 1 Foraging only Number of S1 to S3 (provincially rare) Species: 0 Number of Regionally Rare Species (R, O and ER species, as below): 0 Number of Forest Area-sensitive Species: 2

Number of Open Land/Grassland Area-Sensitive Species: 2

KEY

a COSEWIC = Committee on the Status of Endangered Wildlife in Canada a Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario) END = Endangered, THR = Threatened, SC = Special Concern

b SRANK (from Natural Heritage Information Centre) for breeding status if:

S1 (Critically Imperiled), S2 (Imperiled), S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)

SZB (breeding migrants or vagrants) and SR (reported as breeding, but no persuasive documentation).

SE (exotic, i.e. non-native)

c Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

d Niagara Region Status - J.Black and K.Roy, Birds of the Niagara Region, in Natural Areas Inventory (2006-2009) Vol. 2, Niagara Peninsula Conservation Authority

Very Common (VC) - observed annually on most days at many locations, often in large numbers.

Common (C) - observed annually on most days at many locations in small numbers.

Uncommon (Un) - observed annually on many days at a few locations in small numbers.

Rare (R)- observed annually or almost annually at a few locations in very small numbers, often on only a few days, and with difficulty unless at a known location.

Occasional (O) - not observed annually though always anticipated; often only a single individual observed.

Extremely rare (ER)- an extraordinary observation with five or fewer Niagara records; the probability of recurrence very low.

Extirpated - formerly resident in Niagara; no longer observed.

Extinct - formerly observed in Niagara; no longer exists anywhere

e See report figures for locations of subareas



Appendix D

Species at Risk Assessment

Palmer...

NAME	Provincial Status (ESA)	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/P/N)*	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AVIFAUNA				1	1	
Barn Swallow (Hirundo rustica)	SC	The Barn Swallow is a threatened species, is found throughout southern Ontario, and can range into the north as long as suitable nesting locations can be found. These birds prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud; they are typically attached to horizontal beams or vertical walls underneath an overhang. A significant decline in populations of this species has been documented since the mid-1980s, which is thought to be related to a decline in prey. Since the Barn Swallow is an aerial insectivore, this species relies on the presence of flying insects at specific times during the year. Changes in building practices and materials may also be having an impact on this species (Ministry of Natural Resources and Forestry, 2015).	OBBA (2001- 2005)	Y	Minimum three active nests 896 Killaly property.	Habitat not protected for Special Concern species. See SWH analysis.
Bobolink (Dolichonyx oryzivorus)	THR	The Bobolink is found in grasslands and hayfields, and feeds and nests on the ground. This species is widely distributed across most of Ontario; however, are designated at risk because of rapid population decline over the last 50 years (Ministry of Natural Resources and Forestry, 2014). The historical habitat of the bobolink was tallgrass prairie and other natural open meadow communities; however, as a result of the clearing of native prairies and the post-colonial increase in agriculture, bobolinks are now widely found in hayfields. Due to their reproductive cycle, nesting habits, and use of agricultural areas, bobolink nests and young are particularly vulnerable to loss as a result of common agricultural practices (i.e. first cut hay).	OBBA (2001- 2005); NHIC	Y	One Bobolink territory recorded in first survey. Hayfield habitat cut in second survey.	Recommend re-survey at a time closer to development to determine presence.
Chimney Swift (Chaetura pelagica)	THR	The Chimney Swift is a threatened species which breeds in Ontario and winters in northwestern South America. It is found mostly near urban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow tress. The Chimney Swift initially benefitted from human settlement; however, recent declines in flying insects and the modernization of chimneys are factors attributed to their current population declines. As a threatened species, the Chimney Swift receives protection for both species and habitat under the ESA (Ministry of Natural Resources and Forestry, 2014).	OBBA (2001- 2005)	Y	Although Chimney Swifts were observed foraging during the breeding bird surveys, not nesting habitat is present within the Subject Lands.	None; no nesting habitat.
Eastern Meadowlark (<i>Sturnella magna</i>)	THR	The Eastern Meadowlark is a bird that prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields and human use areas such as airports and roadsides. Eastern meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses. The decline in population of these species is thought to be at least partially related to habitat destruction and agricultural practices (Ministry of Natural Resources and Forestry, 2014).	OBBA (2001- 2005); NHIC	N	No Eastern Meadowlarks were observed during the 2021/22 breeding bird surveys.	None
Eastern Wood-Pewee (Contopus virens)	SC	The Eastern Wood-pewee is classified as a species of special concern by COSSARO. Their population has been gradually declining since the mid-1960's (The Cornell Lab of Ornithology, 2015). The Eastern Wood- pewee is a "flycatcher", a bird that eats flying insects, that lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It prefers intermediate-age forest stands with little understory vegetation. Threats to the population are largely unknown; however, causes may include loss of habitat due to urban development and decreases in the availability of flying insect prey (Ministry of Natural Resources and Forestry, 2014).	OBBA (2001- 2005)	Y	One Eastern Wood-pewee was recorded within the swamp community northwest of the Subject Lands.	None. The proposed development will not encroach into this swamp community.
Grasshopper Sparrow (Ammodramus savannarum)	SC	Grasshopper Sparrow are specialized to open relatively short grassland habitat, preferably grasslands with relatively sparse cover such as those in areas of poor soils, including alvars, moraines, and sand plains and generally does not favour tall grass moist meadows. It will also breed in manmade hayfields and occasionally in cereals such as Rye (Secale cereale).	OBBA (2001- 2005)	Ν	No Grasshopper Sparrows were observed during the 2021 breeding bird surveys.	None
Red-headed Woodpecker (Melanerpes erythrocephalus)	SC	The Red-headed Woodpecker is a medium-sized bird, with black and white colouring and a bright red head, neck, and breast. Adults often return to the same nesting site year after year. Between May and June, adults often return to the same nesting site and females lay from three to seven eggs. Habitat for the birds includes open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. The red-headed woodpecker is widespread across southern Ontario but rare (Ministry of Natural Resource and Forestry, 2014).	OBBA (2001- 2005)	N	Edges of the cultural woodland communities may provide potential habitat for this species, but none recorded on 2021/22 surveys.	None

Palmer...

Short-eared Owl (<i>Asio flammeus</i>)	SC	The Short-eared Owl is a medium-sized owl with a brown back, light coloured chest, and visible feather tufts on the round head that can be mistaken for small ears. This well-camouflaged bird is mostly seen during flight when the long wings and short tail are readily apparent. The short-eared owl is found in scattered pockets across the province where suitable open habitat, including grassland, tundra and marsh, can be found in sufficient quantities. Adults build nests on the ground in grassy areas and feed primarily at dawn and dusk on rodents and other small mammals in the surrounding area. Habitat loss is currently the greatest threat to the recovery of this species as prairie, savannah, and marsh ecosystems are modified or developed. Intensive grazing and early harvesting on farmlands can also affect this species by exposing or destroying nests during breeding season (Ontario Ministry of Natural Resources and Forestry, 2015).	OBBA (2001- 2005)	Ν	The agricultural fields do not provide suitable grassland habitat for this species.	None.
Wood Thrush (Hylocichla mustelina)	SC	The Wood Thrush is a species of Special Concern because of habitat degradation or destruction by anthropogenic development. The Wood Thrush is a medium-sized songbird, generally rusty-brown on the upper parts with white under parts and large blackish spots on the breast and sides, and about 20 cm long. The Wood Thrush forages for food in leaf litter or on semi-bare ground, including larval and adult insects as well as plant material. They seek moist stands of trees with well-developed undergrowth in large mature deciduous and mixed (conifer-deciduous) forests. The Wood Thrush flies south to Mexico and Central America for the winter (Ministry of Natural Resources and Forestry, 2014).	OBBA (2001- 2005)	Ν	The forest communites are too small and no Wood Thrushes were observed during the 2021/22 breeding bird surveys.	None.
HERPTILES						
Eastern Ribbonsnake (Thamnophis sauritus)	SC	The Eastern Ribbonsnake is usually found close to water, especially in marshes, where it hunts for frogs and small fish. A good swimmer, it will dive in shallow water, especially if it is fleeing from a potential predator. At the onset of cold weather, these snakes congregate in underground burrows or rock crevices to hibernate together. The ribbonsake prefers wetland habitats where its prey species, frogs and small fish, are abundant. Wetland destruction and degradation as well as shoreline development are causes for the decline of populations of the ribbonsake (Ministry of Natural Resources and Forestry, 2014).	ORAA (2010)	N	There is no open water within or near the Subject Lands that may provide abundant fish and frogs for this species to use as foraging habitat. No snakes observed durring 2022 snake surveys	None.
Massasauga Rattlesnake (Carolinian population) (Sistrurus catenatus)	END	Massasaugas live in different types of habitats throughout Ontario, including tall grass prairie, bogs, marshes, shorelines, forests and alvars. Within all of these habitats, Massasaugas require open areas to warm themselves in the sun. Pregnant females are most often found in open, dry habitats such as rock barrens or forest clearings where they can more easily maintain the body temperature required for the development of their offspring. Non-pregnant females and males forage and mate in lowland habitats such as grasslands, wetlands, bogs and the shorelines of lakes and rivers. Massasaugas hibernate underground in crevices in bedrock, sphagnum swamps, tree root cavities and animal burrows where they can get below the frost line but stay above the water table.	ORAA (2011)	Ν	Assumed extirpated locally.	None
VASCULAR PLANTS						
Butternut (<i>Juglans cinerea</i>)	END	The butternut is designated as endangered by COSSARO and is tracked by the NHIC as a species at risk. The tree is federally regulated by the Species at Risk Act (2002). Butternut belongs to the walnut family and produces edible nuts which are a preferred food source for wildlife. The range of butternut trees is south of the Canadian Shield on soils derived from calcium rich limestone bedrock. Butternut trees, which at one time were much more common to the south extending to the northern aspect of zone 6E, have been declining due to factors including forest loss and disease. Butternut trees suffer from a highly transmissible fungal disease called butternut canker. Butternut canker is causing very rapid decline in this tree species across its native range. The fungal disease is easily transmitted by wind and is very difficult to prevent. Trees often die within a few years of infection by butternut canker (Ministry of Natural Resource and Forestry, 2014).	Professional Experience	N	No Butternuts were recorded during the 2021- 2022 field investigaitons.	None.
MAMMALS						
Eastern Small-footed Myotis (Myotis leibii)	END	The eastern small-footed myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Eastern small-footed bat's fur has black roots and shiny light brown tips, giving it a yellowish-brown appearance. Its face mask, ears and wings are black, and its underside is grayish-brown, about 8 cm long in size and weighs 4-5 grams. In the spring and summer, eastern small-footed bats of under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects to eat, including beetles, mosquitos, moths, and files. They hibernate in winter, often in caves and abandoned mines. They can be found from south of Georgian Bay to Lake Erie and east to the Pembroke area, and choose colder and drier sites (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	P	The deciduous forest and swamp communities may provide snag trees with cavities suitable for roosting habitat. Appropriate isolated farmland trees have a low potential for bat habitat.	at no surveys or mitigation armland trees.

Palmer...

Little Brown Myotis (Myotis lucifugus)	END	Little brown myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Little brown bats have glossy brown fur and usually weigh between four and 11 grams. Bats are nocturnal. During the day they roost in trees and buildings. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing – an ideal environment for the fungus to grow and flourish. The syndrome affects bats by disrupting their hibernation cycle, so that they use up body fat supplies before the spring when they can once again find food sources (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	Ρ	The deciduous forest and swamp communities may provide snag trees with cavities suitable for roosting habitat. Appropriate isolated tableland trees have a low potential for bat habitat.	Confirm with MECP that no surveys or mitigation required for isolated farmland trees.
Northern Myotis (Myotis septentrionalis)	END	The northern long-eared myotis, a bat, are an endangered species threatened by a disease known as white nose syndrome, caused by a fungus from Europe. Northern long-eared bats have dull yellow-brown fur with pale grey bellies. They are approximately eight cm long, with a wingspan of about 25 cm, and usually weigh six to nine grams. Northern long-eared bats can be found in boreal forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October or November to March or April, most often in caves or abandoned mines (Ministry of Natural Resources and Forestry, 2014).	Professional Experience	Ρ	The deciduous forest and swamp communities may provide snag trees with cavities suitable for roosting habitat. Appropriate isolated tableland trees have a low potential for bat habitat.	Confirm with MECP that no surveys or mitigation required for isolated farmland trees.
Tri-colored Bat (Eastern Pipistrelle) (Perimyotis subflavus)	END	The eastern pipistrelle is a small bat that is widely distributed in eastern North America and whose range extends north to southern Ontario. The eastern pipistrelle is rare in this region of Ontario which is at the northernmost limit of the natural range for the species. These bats prefer to nest in foliage, tree cavities and woodpecker holes, and are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Eastern pipistrelles feed primarily on small insects and prefer an open forest habitat type in proximity to water (University of Michigan Museum of Zoology, 2004).	Professional Experience	Ρ	The deciduous forest and swamp communities may provide snag trees with cavities suitable for roosting habitat. Appropriate isolated tableland trees have a low potential for bat habitat.	Confirm with MECP that no surveys or mitigation required for isolated farmland trees.

<u>Notes:</u> SC - Special Concern

. THR - Threatened

END - Endangered

*Y = Yes, P = Potential, N = No



Appendix E

Significant Wildlife Habitat Assessment



Significant Wildlife Habitat Assessment - Ecoregion 7E

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence	Additional Notes and Species Observations
Seasonal Concentration	Areas of Animals	I		(1/1/14)	
Waterfowl Stopover and Staging Areas (Terrestrial)	Duck-like species, Tundra Swan	CUM + CUT ecosites	Fields with sheet-water flooding mid- March to May. Specific areas for Tundra Swan	Ν	Suitable habitat/sheet water areas are absent within the Subject Lands.
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Ponds, Lakes, Inlets, Marshes, bays, coastal inlets, watercourse used in migration, Swamps, Shallow Water Ecosites	Sewage & SWM ponds not SWH. Reservoir managed as a large wetland or pond/lake qualifies. Abundant food supply (inverts, shallow water veg)	Ν	Lack of sufficient water and wetland ecosites with suitable function.
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Great Lakes Shores, including rocky ones. Sewage treatment ponds and storm water ponds not SWH.	Ν	Suitable habitat is absent within the Subject Lands.
Raptor Wintering Area	Eagles, Hawks, Owls	Hawks/Owls: Combination of both Forest and Cultural Ecosites Bald Eagle: Forest or swamp near open water (hunting ground)	Raptors: >20ha, with a combo of forest and upland. Meadow (>15ha) with adjacent woodlands. Eagles: open water, large trees & snags for roosting.	Ν	Suitable habitat is not present within the Subject Property. The forest and meadow communities do not meet the minimum size requirements.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites not SWH.	Ν	Suitable habitat is absent within the Subject Lands.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	Ρ	The swamps and woodland communities have the potential to provide snag trees in high density for bat habitat.
Turtle Wintering Area	Turtles (Midland, N. Map, Snapping)	SW, MA, OA, SA, FEO, BOO (requires open waters)	Free water beneath ice. Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO. Man-made is not SWH.	Ν	Suitable habitats/open waters are absent within the Subject Lands.
Reptile Hibernaculum	Snakes	Snakes: Any ecosite (esp. w/ rocky areas), other than very wet ones. Talus, Rock Barren, Crevice, Cave, Alvar esp.	Access below frost line: burrows; rock crevices, piles or slopes, stone fences or foundations. Conifer/shrubby swamps/swales, poor fens, depressions in bedrock w/ accumulations of sphagnum moss or sedge hummock ground cover.	N	No suitable habitats were observed during field surveys.
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, N. Rough-winged Swallow	Banks, sandy hills/piles, pits, slopes, cliff faces, bridge abutments, silos, barns.	Exposed soil banks, not a licensed/permitted aggregate area or new man-made features (2 yrs).	Ν	Suitable habitat is absent within the Subject Lands.
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned NightHeron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 - 15 m from ground, near tree tops.	Ν	Suitable habitat is absent within the Subject Lands.
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	Gulls/Terns: Rocky island or peninsula in lake or river. Brewer's Blackbird: close to watercourses in open fields or pastures with scattered trees or shrubs.	Gulls/Terns: islands or peninsulas with open water or marshy areas. Brewers Blackbird colonies: on the ground in low bushes close to streams and irrigation ditches.	Ν	Suitable habitat is absent within the Subject Lands.
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, Special Concern: Monarch	Combination of open (CU) and forested (FO) ecosites (need one from each).	≥10 ha, located within 5 km of Lake Ontario. Undisturbed sites, with preferred nectar species.	Ν	Suitable habitat is absent within the Subject Lands.
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest (FO) and Swamp (SW) ecosites	Woodlots >5 ha within 5 km of L. Ontario & L. Erie (2-5 ha if rare in area). If multiple woodlands are along the shoreline, those <2 km from L. Ontario are more significant.	Ρ	A1/B1 if considered together are > 5 ha and are within 5 km of Lake Erie. All other smaller woodlots are within 5 km of Lake Erie and could also be considered potential SWH.
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	Suitable habitat is not present within the Subject Lands. No Deer Wintering Areas mapped by the MNRF.
Rare Vegetation Commu	unities		Cliffe poor vortical bodrack - 2		
cints and raius slopes		e.g., Niagara Escarpment (contact	Talus Slope: coarse rock rubble at the base of a cliff	Ν	Suitable habitat is absent within the Subject Lands.
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to tree covered, but <60%. <50% vegetation cover are	N	Suitable habitat is absent within the Subject Lands.
Alvar	Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. Need 4 of the 5 Alvar Inidcator Spp. <50% vegetation cover are exotic species.	N	Suitable habitat is absent within the Subject Lands.
Old Growth Forest	Trees >140 yrs; heavy mortaily = gaps. Multi-layer canopy, lots of snags and downed logs	FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas 0.5 ha. No evidence of logging.	N	Suitable habitat is absent within the Subject Lands.
Savannah	Prairie Grasses w/ trees	TPS1, TPS2, TPW1, TPW2, CUS2	No min. size.A Savannah is a <u>tallgrass</u> <u>prairie</u> habitat that has tree cover of 25 – 60%. <50% cover of exotic species	N	Suitable habitat is absent within the Subject Lands.
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	No min. size. An <u>open Tallgrass Prairie</u> habitat has < 25% tree cover. Less than 50% cover of exotic species.	N	Suitable habitat is absent within the Subject Lands.



Significant Wildlife Habitat Assessment - Ecoregion 7E

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)*	Additional Notes and Species Observations
Other Rare Vegetation		Provincially Rare S1, S2 and S3	Rare Vegetation Communities may include	,	The SWT2-11 community is dominated by
Communities		vegetation communities are listed	beaches, fens, forest, marsh, barrens,	Y	rare flora species (Southern Arrow-wood
Specialized Habitat for	Wildlife	In Appendix M of SWHTG.	dunes and swamps.		(Thicket Swamp)
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4 (>0.5 ha open water wetlands, alone or collectively).	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40 cm dbh).	N	Suitable habitat is absent within the Subject Lands.
Bald Eagle & Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water. Not man-made structures.	N	Suitable habitat is absent within the Subject Lands.
Woodland Raptor Nesting Habitat	Barred Owl. Hawks: N. Goshawk, Cooper's, Sharp-shinned, Red- shouldered, Broad-winged.	Forests (FO), swamps (SW), and conifer plantations (CUP3)	>30 ha with > 4 ha interior habitat (200 m buffer)	N	Suitable habitat is absent within the Subject Lands. The swamp and forest communities do not provide the minimum interior habitat.
Turtle Nesting Areas	Midland Painted Turtle Special Concern: Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1, FEO1	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches.	N	Suitable habitat is absent within the Subject Lands.
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area within the headwaters of a stream/river system. (2 or more confirms SWH type).	N	Seeps and springs were not observed within the Subject Lands.
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders, E. Newt	FOC, FOM, FOD, SWC, SWM, SWD	Open water wetlands, pond or woodland pool of >500 m ² within or adjacent to wooded areas. Permanent ponds or holding water until mid-July preferred.	N	Though suitable amphibian breeding habitat is present within the Subject Lands, no wetlands are considered candidate Significant Wildlife Habitat (SWH). Criteria for SWH, such as two or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses), two or more of the listed frog/toad species with Call Level Codes of 3, or confirmed breeding Bullfrogs (Lithobates catesbeianus), were not met.
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders, E. Newt	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Open water wetland ecosites >500m ² isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	N	Though suitable amphibian breeding habitat is present within the Subject Lands, no wetlands are considered candidate Significant Wildlife Habitat (SWH). Criteria for SWH, such as two or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses), two or more of the listed frog/toad species with Call Level Codes of 3, or confirmed breeding Bullfrogs (Lithobates catesbeianus), were not met.
Woodland Area- Sensitive Bird Breeding Habitat	Birds (area-sensitive species)	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands/woodlots >30 ha. Interior forest habitat >200m from forest edge.	N	Suitable habitat is absent within the Subject Lands. Very few area-sensitive forest birds recorded.
Habitat of Species of Co	nservation Concern				
Marsh Bird Breeding Habitat	Wetland Birds	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 Green Heron: SW, MA and CUM1	Wetlands with shallow water and emergent vegetation. Gr. Heron @ edges of these types w/ woody cover.	N	Minimal habitat is within the Subject Lands.
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, N. Harrier, Savannah Sparrow, Short- eared Owl (SC)	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	N	Suitable habitat is absent within the Subject Lands. Insufficient grassland species recorded breeding bird surveys.
Shrub/Early Successional Bird Breeding Habitat	Brown Thrasher + Clay-coloured Sparrow (indicators); Field Sparrow, Black-billed Cuckoo, E. Towhee, Willow Flycatcher, Yellow- breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	N	Insufficient habitat within the Subject Lands (thicket communities do not meet the minimum size criterion) and mainly common shrub species observed.
Terrestrial Crayfish	Chimney or Digger Crayfish; Devil Crayfish or Meadow Crayfish	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM. CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish (typc.	N	Crayfish mounds not observed within the Subject Lands.



Significant Wildlife Habitat Assessment - Ecoregion 7E

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/P/N)*	Additional Notes and Species Observations
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species	Any ELC code.	Presence of species of concern or rare wildlife species.	Ρ	Three Barn Swallow nests is considered Candidate SWH (see discussion in report) One Eastern Wood-Pewee (Special Concern), a relatively common bird found in a variety of woodland habitats, does not warrant SWH status.
Animal Movement Corri	idors				
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	N	None identified by MNRF or the planning authority; Ecoregion Criteria for 7E states 'Animal Movement Corridors should only be identified as SWH where: Where a Confirmed or Candidate SWH has been identified by MNRF or the planning authority based on documented evidence'
Exceptions for Ecoregion	л 7Е				
Bat Migratory Stopover: 7E-2	Hoary Bat, Eastern Red Bat, Silver- haired Bat	No Specific ELC	Long Point (42°35' N, 80°30'E to 42°33' N, 80°,03'E) - Silver-haired.	N	Suitable habitat is absent within the Subject Lands.



Appendix F

Development Plan (Weston June 2023)



	LEGEN	ID	
		Study Area	
		Commercial	
		Parkland	
		Significant Woodlands w/ 10m Buffer	
		Non-PSW Wetlands w/ 30m Buffer	
		Rare Vegatation Community	
		15m Municipal Drain Important/Marginal Fish Habitat Buffer	
		Municipal Drain Important/Marginal Fish Habitat Buffer	
		NPCA Floodplain	
		SWM Pond	
-	DEVELC	PMENT STATISTICS:	
	Gross St	udy Area:	142.27ha
	Es (e)	xcluding SWM ponds & Regulated Areas)	99.68na
	Required Provided	l Parkland: 1 ha per 300 units Parkland	7.30ha 4.69ha
	Units per	Net Hectare (2,242units/99.68ha)	22.49uph
	SWM Po	nd:	8.90ha

UNIT COUNT	UNITS	%
SINGLE DETACHED 13.7m (45')	34	
SINGLE DETACHED 12.2m (40')	348	460/
SINGLE DETACHED 10.7m (35')	437	40%
SINGLE DETACHED 9.15m (30')	208	
LANE BASED TOWNHOUSE 8m (26')	289	10%
LANE BASED TOWNHOUSE 6.1m (20')	131	1970
STREET TOWNHOUSE 8m (26')	118	100/
STREET TOWNHOUSE 6.1m (20')	161	1270
CONDOMINIUM TOWNHOUSE 6.5m (21')	516	23%
TOTAL UNITS	2242	
COMMERCIAL	2.43ha	

Required Commercial GFA:3,363m²150m² per 100 unit25,000m²Commercial Land Area:25,000m²

Estimated Commercial GFA (est. 25% coverage) 6,250m²

SINGLE DETACHED 13.7m (45') 9 SINGLE DETACHED 12.2m (40') 16 SINGLE DETACHED 10.7m (35') 36 SINGLE DETACHED 9.15m (30') 0 LANE BASED TOWNHOUSE 8m (26') 37 LANE BASED TOWNHOUSE 6.1m (20') 33 STREET TOWNHOUSE 8m (26') 0 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	UNIT COUNT - PART 4	UNITS
SINGLE DETACHED 12.2m (40') 16 SINGLE DETACHED 12.2m (40') 16 SINGLE DETACHED 10.7m (35') 36 SINGLE DETACHED 9.15m (30') 0 LANE BASED TOWNHOUSE 8m (26') 37 LANE BASED TOWNHOUSE 6.1m (20') 33 STREET TOWNHOUSE 8m (26') 0 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	SINGLE DETACHED 13 7m (45')	9
SINGLE DETACHED 10.7m (35') 36 SINGLE DETACHED 9.15m (30') 0 LANE BASED TOWNHOUSE 8m (26') 37 LANE BASED TOWNHOUSE 6.1m (20') 33 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	SINGLE DETACHED 12 2m (40')	16
SINGLE DETACHED 9.15m (30') 0 LANE BASED TOWNHOUSE 8m (26') 37 LANE BASED TOWNHOUSE 6.1m (20') 33 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	SINGLE DETACHED 10.7m (35')	36
LANE BASED TOWNHOUSE 8m (26') 37 LANE BASED TOWNHOUSE 6.1m (20') 33 STREET TOWNHOUSE 8m (26') 0 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	SINGLE DETACHED 9.15m (30')	0
LANE BASED TOWNHOUSE 6.1m (20') 33 STREET TOWNHOUSE 8m (26') 0 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	LANE BASED TOWNHOUSE 8m (26')	37
STREET TOWNHOUSE 8m (26') 0 STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	LANE BASED TOWNHOUSE 6.1m (20')	33
STREET TOWNHOUSE 6.1m (20') 37 CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	STREET TOWNHOUSE 8m (26')	0
CONDOMINIUM TOWNHOUSE 6.5m (21') 0 TOTAL UNITS 168 COMMERCIAL 2.43h	STREET TOWNHOUSE 6.1m (20')	37
TOTAL UNITS 168 COMMERCIAL 2.43h	CONDOMINIUM TOWNHOUSE 6.5m (21')	0
COMMERCIAL 2.43h	TOTAL UNITS	168
	COMMERCIAL	2.43ha

JUNE 1, 2023