Natural Heritage Evaluation - 921 Douro 1st Line, Douro-Dummer, County of Peterborough, Ontario

2021-12-20

Prepared for:
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1.0 Introduction

Cambium Inc. (Cambium) was retained by David Minshall to conduct an Natural Heritage Evaluation - 921 Douro 1st Line, Douro-Dummer, County of Peterborough, Ontario (Figure 1). The proposed development includes a single residential lot severance on the northwest corner of the property. Based on the proposed development, the northwest corner of the property including the proposed severed lot and its surrounding 120 m buffer, as shown in Figure 1, will be considered the Site for this report.

The Natural Heritage Evaluation (NHE; the Study) is required to address potential negative impacts to natural heritage features identified during the preliminary development review process, as required by the Provincial Policy Statement, 2020 (PPS) and the Growth Plan for the Greater Golden Horseshoe, 2020 (GPGGH). The Site contains or is adjacent to (within 120 m) of the following natural heritage and/or hydrologic features: unevaluated wetland, and potential habitat for endangered or threatened species. The Site is within Ecoregion 6E of Ontario (Crins, Gray, Uhlig, & Wester, 2009). The property is located outside the Douro-Dummer Settlement Area.

The Site is within the jurisdiction of the Otonabee Region Conservation Authority (ORCA) and their regulated area overlaps the Site due to the presence of mapped wetlands. As the Site contains wetlands, the Study will consider regulations on development as imposed by the local Conservation Authority's Regulation under the *Conservation Authorities Act, 1990*.

The *Endangered Species Act, 2007* (ESA) protects endangered or threatened species and their habitats from harm or destruction. Habitat of endangered and threatened species is protected under provincial natural heritage policy; however, it is also the landowner's responsibility to ensure that no harm to these species occurs on their property. This Study includes a habitat-based screening for species of conservation concern to determine if the Site has suitable habitat for any provincial or federal species at risk (SAR).

In order to address requirements of the approval authorities, Cambium has conducted this Study to provide an evaluation of reasonably anticipated ecological impacts, positive or

negative, that may arise as a result of this proposed development to guide the decision-making process.

1.1 Terms of Reference

A Preliminary Severance Review (PSR) prepared by Peterborough County dated November 23, 2020, was provided to Cambium and is included in Appendix A. The PSR details the Terms of Reference (ToR) required to complete the NHE for this project. Cambium subsequently confirmed the ToR with ORCA (Appendix A).

1.2 Proposed Development and Conceptual Site Plan

The proposed residential severance lot is approximately 0.65 ha in size, and is rectangular with the broader side fronting on Douro 1st Line, as shown on Figure 2. The Site includes the proposed severed lot, and the adjacent lands within 120 m of the proposed severance boundary. The Site does not contain any existing structures and is currently zoned as a Rural Area. Adjacent land uses include residential and agricultural.

2.0 Applicable Natural Heritage Policy and Regulation

2.1 Provincial Policy Statement, 2020

Section 2.1 of the Provincial Policy Statement (PPS) (Ministry of Municipal Affairs and Housing, 2020) protects the form and function of natural heritage features as defined by the PPS. Natural heritage features included in the PPS are provincially significant wetlands (PSW), significant coastal wetlands, significant woodlands, significant valleylands, significant wildlife habitat (SWH), significant areas of natural and scientific interest (ANSI), fish habitat, and the habitat of endangered and threatened species. Given their significance, development is prohibited within PSWs in Ecoregions 5E, 6E, and 7E and within significant coastal wetlands. Development in fish habitat and the habitat of endangered and threatened species shall only be permitted in accordance with provincial and federal requirements. Development within other natural heritage features and on lands adjacent to all natural heritage features are permitted only if demonstrated that there will be no negative impacts on the feature or their ecological function. Development includes the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the *Planning Act*.

Section 2.2 of the PPS protects the quality and quantity of water, including the form and hydrologic function of sensitive surface water features and sensitive ground water features. Focus is given to maintaining hydrologic linkages and functions at the watershed scale to minimize potential negative impacts, including cross-jurisdictional and cross-watershed impacts of development. Mitigative measures and/or alternative development approaches should be considered for development near water features.

2.2 Growth Plan for the Greater Golden Horseshoe, 2020

The Greater Golden Horseshoe is one of the most dynamic and fast-growing regions in North America. To address the challenges of increased development within the area, the Growth Plan for the Greater Golden Horseshoe, 2020 (GPGGH) builds on the PPS "*to establish a unique land use planning framework for the Greater Golden Horseshoe that supports achievement of complete communities, a thriving economy, a clean and healthy environment,*

and social equity" (Ministry of Municipal Affairs and Housing, 2020). In general, the GPGGH seeks to preserve agricultural lands, water resources, and natural areas by directing growth to settlement areas as defined in municipal Official Plans. The GPGGH contains policies regarding a provincial Natural Heritage System (NHS), key hydrologic features (KHFs), key hydrologic areas (KHAs), and key natural heritage features (KNHFs) (Table 1). Policies that reference the provincial NHS apply once the municipal Official Plan has incorporated the provincial NHS into their schedules; until that time, the policies that reference the NHS will apply outside settlement areas to the natural heritage systems identified in Official Plans that were approved and in effect as of July 1, 2017. Section 4.2.3 of the GPGGH states that, outside of settlement areas, development or site alteration is generally not permitted in KNHFs that are part of the NHS or in KHFs. Section 4.2.4 states that, outside of settlement areas, a proposal for new development or site alteration within 120 metres of a KNHF within the NHS or a KHF will require a natural heritage evaluation or hydrologic evaluation that identifies a suitable vegetation protection zone (i.e., a development setback). For KHFs, fish habitat, and significant woodlands the vegetation protection zone can be no less than 30 m measured from the outside boundary of the feature.

Table 1 Protected Features of the GPGGH

Key Hydrologic Features	Key Natural Heritage Features	
Permanent Streams	Habitat of Endangered and Threatened Species	Significant Wildlife Habitat
Intermittent Streams	Fish Habitat	Sand Barrens
Inland Lakes and their Littoral Zones	Wetlands	Savannahs
Seepage Areas and Springs	Life Science Areas of Natural and Scientific Interest (ANSI)	Tallgrass Prairies
Wetlands	Significant Valleylands	Alvars
	Significant Woodlands	

2.3 Official Plan and Zoning By-Law

The County of Peterborough Official Plan has designated the Site as 'Rural Area'. The Natural Heritage System (NHS) online mapping tool indicates that the Site is located outside the NHS.

The Municipality of Douro-Dummer has also designated the Site as 'Rural'. Adjacent lands, including the retained lot are designated 'Rural' with a small corridor of land designated 'Environmental Conservation Zone'.

According to the Municipal Official Plan, a maximum of two residential severances may be permitted on the conditions that the landowner has owned the property for a minimum of five years and the size of the new lot does not exceed 1 ha. The proposed severance meets these criteria.

2.4 Conservation Authority Regulation

"Conservation Authorities are local watershed management agencies that deliver services and programs to protect and manage impacts on water and other natural resources in partnership with all levels of government, landowners and many other organizations" (Conservation Ontario, 2021). Conservation Authorities each have their own Ontario Regulation under the *Conservation Authorities Act, 1990*. In general, they regulate development within and adjacent to river or stream valleys, Great Lakes and inland lakes shorelines, watercourses, hazardous lands (flood, erosion, unstable soils) and wetlands.

Otonabee Region Conservation Authority regulates these features under Ontario Regulation 167/06: *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.*

2.5 Endangered Species Act, 2007

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list are protected under the provincial *Endangered Species Act*, 2007 (ESA) (Government of Ontario, 2007). Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing or taking a member of a species listed as endangered, threatened, or extirpated. Section 10(1) of

the ESA prohibits the damage or destruction of habitat of species listed as endangered or threatened. Protection of special concern species is provided through designation of their habitat as significant wildlife habitat, a provincially protected natural heritage feature.

3.0 Technical Approach and Data Collection Methods

3.1 Background Information Review

Existing background information pertaining to the Site and surrounding landscape was compiled and reviewed, as part of a comprehensive desktop exercise, to better understand local biophysical conditions. In southern Ontario, readily available data includes orthoimagery, topographic base mapping, and geological records. Natural environment and land use schedules prepared in support of Official Plans and Zoning By-Laws were reviewed to acquire municipal data. Natural area records and species occurrences were obtained from digital resources and reference materials. The comprehensive desktop review for this Site included the following resources:

- Natural Heritage Areas: Make-a-map (Ministry of Natural Resources and Forestry, 2018); Accessed March 03, 2021
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2018); Accessed August 11, 2021
- Ontario Breeding Birds Atlas (OBBA) (2001-2005) (Bird Studies Canada, 2005): Accessed August 11, 2021
- Peterborough County Official Plan (County of Peterborough, 2020); Accessed September 03, 2021
- County of Peterborough Let me Map (County of Peterborough, 2021); Accessed September 03, 2021

Figure 2 shows the mapped natural heritage features present in the general area of the Site.

3.1.1 Ministry Consultation

Depending on the natural feature of the Site, ministry consultation may include the Ministry of Northern Development, Mines, Natural Resources, and Forestry (NDMNRF) and/or the Ministry of Environment, Conservation, and Parks (MECP), as applicable.

In early 2019, the Government of Ontario made changes to the regulating authority on matters related to SAR in the province. The MECP is now responsible for administering the ESA and providing direction on potential compliance issues. MECP has prepared a guidance document titled *Client's Guide to Preliminary Screening for Species at Risk* (Ministry of the Environment, Conservation and Parks, 2019). This document aims to "help clients better understand their obligation to gather information and complete a preliminary screening for SAR before contacting the Ministry". This document was used to guide the SAR habitat-based screening for the Study.

3.2 Field Investigations

Information gathered through the background information review was used to guide the development of the fieldwork program. The purpose of the site visit(s) was to verify information acquired through existing documentation and to gather additional site-specific information. The following sections provide the methods that were used to gather site-specific information.

3.2.1 Ecological Land Classification and Vegetation Inventory

The Ecological Land Classification (ELC) System for Southern Ontario (Lee, et al., 1998) was used to classify vegetation communities on the Site. Definitions of vegetation types are derived from the ELC for Southern Ontario First Approximation Field Guide (Lee, et al., 1998) and the revised 2008 tables. ELC units were initially delineated and classified by orthoimagery interpretation. Field investigations served to confirm the type and extent of communities on the Site through vegetation inventory and soil assessment with a hand auger. Where vegetation communities extend off the Site, classification is done through observation from property boundaries and publicly accessible lands.

3.2.2 Wetland Boundary Delineation

Wetland boundaries were initially delineated and classified by orthoimagery interpretation. The presence/absence of wetlands on the Site was confirmed through field investigations during the growing season (late May through October). Wetland boundaries were determined using the 50% wetland vegetation rule. Where vegetation-based delineation was inconclusive, soil

assessment with a hand auger was used to confirm wetland boundaries. Wetland boundaries on the Site were marked with a hand-held GPS unit and staked in the field. Where wetland communities extend off the Site, classification was done through observation from property boundaries and publicly accessible lands.

3.2.3 Grassland Bird Surveys

Bobolink (*Dolichonyx oryzivorus*) and Eastern Meadowlark (*Sturnella magna*) are SAR listed as threatened on the SARO list. These species prefer natural grasslands and agricultural fields, including pasture, hayfields and abandoned fields (CUM vegetation type under ELC), for breeding and nesting sites. One or both of these species have been recorded in the vicinity of the Site within recent years. Bobolink is an area sensitive species that requires a minimum area of 5 ha to support breeding habitat, with larger areas generally providing additional habitat benefits (Ministry of Natural Resources and Forestry, 2018). Eastern Meadowlark are not as strongly area sensitive; however, a minimum area of 5 ha is also required to support preferred breeding habitat (Ministry of Natural Resources and Forestry, 2018).

In order to determine if the Site is being used as nesting habitat by Bobolink or Eastern Meadowlark, avian surveys were conducted following the approved MNR protocol for Eastern Meadowlark (Ontario Ministry of Natural Resources, 2013). This protocol is suitable for use with both of these species. This method involves recording Bobolink and Eastern Meadowlark observations via both point count location(s) and traveling transects between points. The protocol requires that the Site be visited three times between May 21 and July 3 (the nesting season for both of these species) with survey dates being evenly distributed within this period and conducted within 7-10 days of each other. Surveys are conducted between sunrise and four hours after sunrise when wind speed is low (<19 km/h; Beaufort Wind Scale of 3 or lower) and with light or no precipitation.

3.2.4 Habitat-Based Wildlife Surveys

Given the scale of the proposed development, a habitat-based approach was used to assess potential impacts to wildlife, consistent with standard practice. General habitat information

gathered through the field investigations was used to assess the connectivity of the Site with the surrounding landscape and evaluate the ecological significance of the local area. Cambium staff actively searched for features that may provide specialized habitat for wildlife. These searches included inspecting tree cavities, overturning logs, rocks and debris, and scanning for scat, browse, sheds, fur, etc. Any evidence of breeding, forage, shelter, or nesting was noted. Species and habitat observations were documented and photographed.

4.0 Characterization of Natural Features and Functions

Background information and field investigation data are provided in the following sections, and an assessment of significance has been completed to identify protected natural heritage features on and adjacent to the Site.

The following field investigations were carried out on the Site and are summarized in Table 2.

Table 2 Summary of Field Investigations

Date	Time On-Site	Weather	Observer	Activities
2021-05-28	7:30-9:00	7°C, light rain Wind: 3	K. McKitterick	Ecological Land Classification Wetland Delineation Grassland Breeding Bird Survey
2021-06-04	6:00-7:00	12°C, Clear Wind: 1	K. McKitterick	Ecological Land Classification Wetland Delineation Grassland Breeding Bird Survey
2021-07-07	6:30-8:00	19°C, drizzling Wind: 1 Noise: 1	K. McKitterick	Grassland Breeding Bird Survey

Notes:

Wind speed is reported as a Beaufort Wind Scale value (0 = 0-2 kph, 1 = 3-5 kph, 2 = 6-11 kph, 3= 12-19 kph, 4 = 20-30 kph, 5 = 31-39 kph, 6 = 40-50 kph)

Noise is reported based on background noise levels: Index 0 – no appreciable effect, 1 – slightly affecting sampling, 2 – moderately affecting sampling, 3 – seriously affecting sampling, 4 – profoundly affecting sampling.

4.1 Landscape Position and Topography

The Site is within the Mixedwood Plains Ecozone: Lake Simcoe Rideau Ecoregion 6E, which extends southward from a line connecting Lake Huron in the west to the Ottawa River in the east including Ottawa, Kingston, Peterborough, Barrie, Tobermory, Kitchener, and Toronto. This ecoregion is characterized by mixed geology that includes both shallow soil areas such as alvar and bedrock plains, as well as deep soil areas such as the Oak Ridges Moraine. It falls within the Great Lakes-St. Lawrence Forest Region, including deciduous and mixed forests;

however, over 50% of the landscape in this Ecoregion is currently in use as agricultural land (Lee, et al., 1998).

The Site is relatively flat, with topography approximately 255 m above sea level.

4.2 Vegetation Communities

The vegetation communities on and adjacent to the Site are summarized in Table 3 and are mapped on Figure 2. A list of identified species and representative photos for each community are provided in Appendix B.

Table 3 Vegetation Communities

No.	ELC Code	Community Description	Community Type	S –Rank
1	CUM1	Cultural Meadow	Terrestrial	SNA
2	FOD5-8	Fresh Sugar Maple – White Ash Deciduous Forest	Terrestrial	S5
3	SWM1-1	White Cedar – Mixed Mineral Swamp	Wetland	S5
4	CUW	Cultural Woodland	Terrestrial	SNA
5	SWD2-2	Red / Green Ash Mineral Deciduous Swamp	Wetland	S5
6	FOD	Deciduous Forest	Terrestrial	

A search for Butternut (*Juglans cinerea*; provincially endangered) was completed as part of the vegetation survey; no Butternut trees were identified.

4.2.1 Significant Woodlands

Significant woodlands are natural heritage features that are afforded protection under provincial policy within Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River). According to their respective Official Plan Schedules, the planning authority has not explicitly defined or designated significant woodlands within their jurisdiction. In the absence of local criteria for evaluating woodlands, the Natural Heritage Reference Manual (NHRM) provides guidance on evaluating woodlands (Ministry of Natural Resources, 2010).

A summary of the significant woodlands assessment is provided in Table 3. An explanation of the results is presented in the following sections.

Table 4 Summary of Woodland Significance Evaluation

Woodlands Significance Criteria	Percent Cover of Woodland in Planning Area					Meets Criteria (Yes/No)
	<5%	5-15%	16-30%	31-60%	>60%	
Woodland Size Criterion						
Woodland Size	2 ha	4 ha	**20 ha**	50 ha	n/a	No
Ecological Functions Criteria						
Woodland Interior	any	any	**2 ha**	8 ha	20 ha	No
Proximity to Other Woodlands and Other Habitats	0.5 ha	1 ha	**4 ha**	10 ha	50 ha	No
Linkages	0.5 ha	1 ha	**4 ha**	10 ha	50 ha	No
Water Protection	0.5 ha	0.5 ha	**2 ha**	4 ha	4 ha	No
Woodland Diversity (composition)	0.5 ha	1 ha	**4 ha**	10 ha	20 ha	No
Uncommon Characteristics Criteria						
Unique Species Composition	0.5 ha	1 ha	**2 ha**	4 ha	10 ha	No
Rare Vegetation Community	0.5 ha	1 ha	**2 ha**	4 ha	10 ha	No
Rare or Uncommon Plant Species	0.5 ha	1 ha	**2 ha**	4 ha	10 ha	No
Older Woodland Characteristics	0.5 ha	1 ha	**2 ha**	4 ha	10 ha	No
Economic and Social Functions Criteria						
High Economic or Social Value	n/a	n/a	n/a	**n/a**	n/a	No

*Note: *woodlands must meet characteristics listed in the criterion **and** the corresponding area threshold*

Bold values indicate the area threshold relevant to this Site

The woodlands adjacent to the Site do not meet the criteria for woodland size, ecological functions, uncommon characteristics, or economic and social functions. Thus, the woodlands adjacent to the Site are not considered significant, in accordance with the guidelines outlined in the NHRM.

4.3 Wetland Delineation

There is one mapped unevaluated wetland overlapping the Site. Provincial mapping shows these two wetlands are connected by a strip of wetland between two fields (Ministry of Natural Resources and Forestry, 2018). However, the field investigations determined the provincial wetland mapping was generally correct, except that wetland communities (SWD1-1 and SWD2-2) are separated by a Cultural Woodland (CUW).

The Swamp White Oak Mineral Deciduous Swamp (SWD1-1) was delineated based on the abundance of wetland species, in particular Sensitive Fern (*Onoclea sensibilis*). The Green Ash Mineral Deciduous Swamp (SWD2-2) was delineated based on the abundance of wetland species including Sensitive Fern, Spotted Jewelweed (*Impatiens capensis*), Dark-green Bulrush (*Scirpus atrovirens*), and Mannagrass spp. (*Glyceria spp.*). The boundaries of both wetlands were GPS marked, as shown Figure 2.

4.4 Wildlife Survey Results

Aside from migratory birds (discussed in the following section), no incidental wildlife observations were made on the Site.

4.4.1 Birds

OBBA breeding bird surveys were completed as a part of this Study, as detailed in Appendix C. Bird species observed on or adjacent to the Site, breeding evidence, federal and provincial status and s-ranks are provided in Appendix C. In total, three species had probable or confirmed breeding evidence **on and adjacent to the Site** (shaded cells in Appendix C), and included:

- American Robin (*Turdus migratorius*), Mourning Dove (*Zenaida macroura*) and Common Yellowthroat (*Geothlypis trichas*).

No SAR or area-sensitive bird species were observed on or adjacent to the Site.

Grassland breeding bird surveys were completed as a part of this Study. The area of potentially suitable habitat included the Cultural Meadow (CUM1), consisting of Smooth Brome (*Bromus inermis*) up to 1 m in height and Wild Chicory (*Cichorium intybus*) up to 0.5 m in height. Bobolinks or Eastern Meadowlarks were not observed during the targeted surveys completed to identify grassland bird breeding habitat. Therefore, the Cultural Meadow (CUM1) is not habitat for Eastern Meadowlark or Bobolink.

4.5 Species of Conservation Concern

A list of species of conservation concern, including SAR, with the potential to occur in the general vicinity of the Site, has been compiled based on known species' ranges, habitat requirements, and review of background information sources (as listed in Section 3.1). In addition, the list has been augmented with direct field observations from this Study, as detailed in the previous sections. Cambium has employed a habitat-based screening, supplemented with targeted field surveys when necessary, to identify suitable habitat for species located on or adjacent to the Site. A detailed habitat suitability analysis is provided in Appendix D, and a discussion of the results is provided below.

4.5.1 Endangered and Threatened Species

As noted in Section 4.4.1, targeted surveys for Eastern Meadowlark and Bobolink confirmed the absence of these species on the Site. Habitat for other Endangered and/or Threatened species was not documented on the Site.

The Western Chorus Frog (*Pseudoacris triseriata*) is listed as threatened federally but currently not listed provincially. This species has the potential to utilize wetland habitats on the Site and adjacent lands. The proposed severance will not interfere with the habitat of this species; therefore, it will not be discussed further in this report.

4.5.2 Special Concern Species

The field investigations confirmed that no habitat is present for special concern species on or adjacent to the Site.

4.5.3 Locally Important Species

The field investigations confirmed that no habitat is present for locally important species on or adjacent to the Site.

5.0 Impact Assessment and Mitigation Measures

The proposed residential severance lot is approximately 0.65 ha in size, and rectangular with the broader side fronting on Douro 1st Line, as shown on Figure 2. The Site is currently vacant. The following sections address potential impacts to protected features identified on and adjacent to the Site that may result from the proposed development and site alteration:

- Wetlands

No other natural heritage features protected by provincial policy were confirmed on or adjacent to the Site.

Mitigation measures and best management practices have been recommended to ensure that the integrity of the existing natural features is protected or enhanced and that their functions are not negatively impacted during or following construction.

5.1 Wetlands

Wetlands are not present on the proposed severance parcel. Wetlands are present on adjacent lands within 120 m of the severance parcel. The proposed lot lines are located entirely outside the wetland and associated 30 m wetland setback, as shown on Figure 3. No development or site alteration is proposed within the wetland or 30 m wetland setback.

Cambium recommends that the 30 m wetland setback should be maintained as a Vegetation Protection Zone (VPZ). This area includes portions of Communities 3 and 5, as shown on Figure 3. The portion of the 30 m VPZ being used as agricultural lands (CUM1) can continue to be used for agricultural purposes until the Site is developed with a residential dwelling. At the time of the residential development, the lands within the VPZ can remain as a cultural meadow to provide a natural self-sustaining vegetation community. The 30 m VPZ is considered sufficient to protect the existing form and function of the wetland, provided that no vegetation removals or grading occur.

Before any construction activities occur, it is essential that perimeter Erosion and Sediment Control (ESC) fencing be installed around construction areas. Fencing should be properly keyed into the ground and securely fastened to vertical supports spaced ≤ 2 m apart. This key

control measure will help prevent sediment from entering the wetlands. All sediment fencing should be regularly maintained and kept in good working condition until the area has been stabilized and successfully revegetated. Any observed overland drainage channels originating from the Site that may or may not have formed by erosion should be directed to a check dam structure before discharging to off-site areas.

Provided that the new severance lines are located outside the wetland and its 30 m VPZ and all recommendations herein are adhered to, no direct or indirect impacts on the wetland are anticipated.

5.2 Best Management Practices

Best management practices are provided for birds on the Site. Nesting birds are protected under the *Migratory Birds Convention Act*, 1994. Vegetation clearing on the Site should occur outside the breeding bird season, extending from April 15 to August 15 in the local area (as per Environment and Climate Change Canada Guidelines).

If vegetation clearing must occur between April 15 and August 15, the area should be investigated for the presence of breeding birds and nests containing eggs and/or young by a qualified biologist, before Site alteration. Nests discovered should be left undisturbed until young have fledged or the nest is determined to be inactive. Note that many birds nest on the ground or in low shrubs and herbaceous vegetation, and that these features should be included in the active search. Vegetation clearing can proceed provided there are no active nests.

6.0 Policy Compliance

Based on the key natural heritage and hydrologic features identified on or adjacent to the Site and the findings of the field investigations detailed herein, the Site's proposed development complies with the PPS and GPGGH. Compliance with applicable natural heritage policy is summarized in Table 5.

Table 5 GPGGH Policy Compliance Summary

Key Natural Heritage / Hydrologic Feature	On-Site	On Adjacent Lands	Meets Associated Policy
Wetland	Yes	Yes	Yes, 4.2.3.1(e,f)
	Explanation: The proposed severance is located outside of the wetlands and their 30 m VPZ. The VPZ is of sufficient width to protect the wetland features and will be maintained with natural self-sustaining vegetation.		

7.0 Summary of Mitigation, Compensation, and Best Practices

1. All required permits and approvals should be obtained before any Site alteration or construction.
2. Site Plans should include the wetland limits and 30 m VPZs, as shown on Figure 3; the lot lines and development envelope should be fully located outside of these setbacks.
3. The portions of the 30 m VPZ that are currently occupied by a cultural meadow can remain as this self-sustaining vegetation community; no vegetation removals or grading should occur within the VPZ.
4. Perimeter ESC fencing should be erected before the commencement of any Site alteration or development, including vegetation clearing, grading, stockpiling, and/or storage of equipment and materials. This measure should be maintained in proper working order until the Site has been successfully revegetated or all loose substrates have been stabilized. All ESC fencing should be removed following construction.
5. The silt fence should be inspected regularly to ensure that it remains in good condition: and any downed areas, rips, or holes should be repaired or replaced immediately.
6. Vegetation clearing on the Site should occur outside the breeding bird season, extending from April 15 to August 15 in the local area. If vegetation clearing must occur between April 15 and August 15, the area should be investigated for the presence of breeding birds and nests containing eggs and/or young by a qualified biologist, before Site alteration. Nests discovered should be left undisturbed until young have fledged or the nest is determined to be inactive.

8.0 Closing

In closing, potential negative impacts associated with the proposed development and site alteration can be appropriately minimized, provided that the recommendations outlined in Section 7.0 are followed. The information presented herein demonstrates that the proposed development can be conducted in a way that will not adversely impact natural heritage and hydrologic features and functions identified on or adjacent to the Site. Furthermore, the proposed development complies with applicable provincial policy.

Respectfully submitted,

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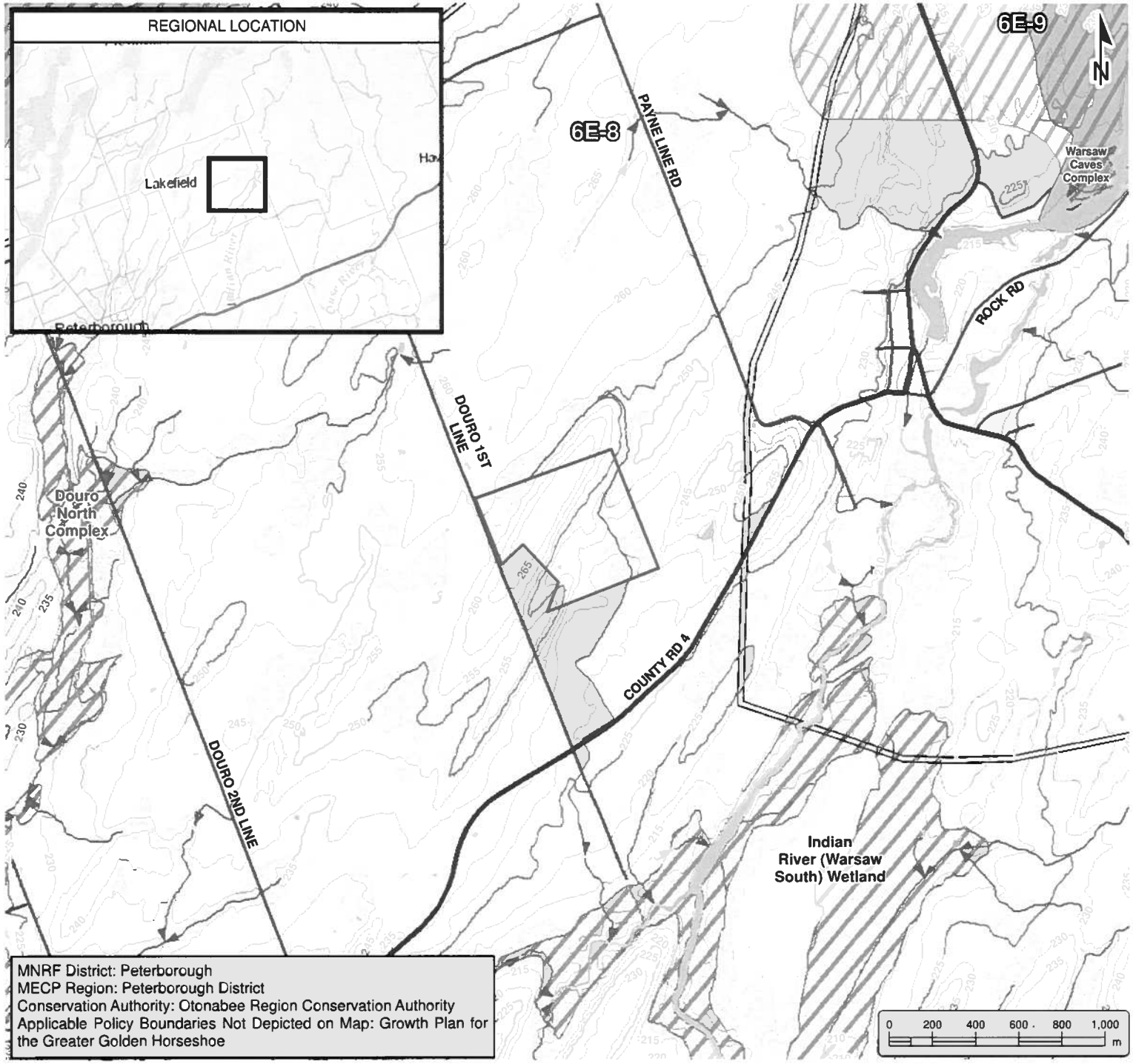
Glossary of Terms

ANSI: Area of Natural and Scientific Interest
ARA: Aquatic Resources Area
ARA: Aggregate Resources Act
AS: Agricultural System
ATK: Aboriginal Traditional Knowledge
BMA: Bear Management Area
BMP: Best Management Practice
CA: Conservation Authority
CEAA: Canadian Environmental Assessment Act/Agency
CFA: Canadian Forestry Association
CFIP: Community Fisheries Involvement Program
CFS: Canadian Forestry Service
CHU: Critical Habitat Unit
CH: Cultural Heritage
CLI: Canada Land Inventory
CLU: Crown Land Use
COSSARO: Committee on the Status of Species at Risk in Ontario
CR: Conservation Reserve
CWIP: Community Wildlife Involvement Program
CWS: Canadian Wildlife Service
DFO: Fisheries and Oceans Canada
EA: Environmental Assessment
EAA: Environmental Assessment Act
EAB: Emerald Ash Borer
EBR: Environmental Bill of Rights
EIA: Environmental Impact Assessment
EIS: Environmental Impact Study/Statement
ELC: Ecological Land Classification System
ELUP: Ecological Land Use Plan
END: Endangered species
EPA: Environmental Protection Act
ER: Environmental Registry
ESA: Endangered Species Act (2007)
ESA: Environmentally Sensitive Area
ESC: Erosion and Sediment Control
GIS: Geographic Information System
GLSL: Great Lakes – St. Lawrence
GPGGH: Growth Plan for the Greater Golden Horseshoe
GPS: Global Positioning System
HSA: Habitat Suitability Analysis
HIS: Habitat Suitability Index
KHA: Key Hydrologic Areas
KHF: Key Hydrologic Features
KNHF: Key Natural Heritage Features
LCFSP: Licence to Collect Fish for Scientific Purposes
LIO: Land Information Ontario
LRIA: Lake and Rivers Improvement Act
LUP: Land Use Permit or Plan
MA: Management Area
MAFA: Moose Aquatic Feeding Area
MCEA: Municipal Class Environmental Assessment
MECP: Ontario Ministry of Environment, Conservation and Parks
MNDMRF: Ontario Ministry of Natural Resources and Forestry
NER: Natural Environment Report
NHIC: Natural Heritage Information Centre
NHIS: Natural Heritage Information System
NHS: Natural Heritage System
OBM: Ontario Base Map
OFIS: Ontario Fisheries Information System
OLI: Ontario Land Inventory
OMAFRA: Ontario Ministry of Agriculture, Food and Rural Affairs
OWES: Ontario Wetland Evaluation System
PPS: Provincial Policy Statement (2014)
PSW: Provincially Significant Wetland
RLUP: Regional Land Use Plan
RMP: Regional Management Plan
R.P.F.: Registered Professional Forester
SAR: Species at Risk
SARO: Species at Risk in Ontario
SC: Special Concern species

F&W: Fish and Wildlife
FA: Fisheries Act (Federal)
FEC: Forest Ecosystem Classification
FMP: Forest Management Plan
FRI: Forest Resources Inventory
FWCA: Fish and Wildlife Conservation Act
GGH: Greater Golden Horseshoe
GHP: General Habitat Protection
SWH: Significant Wildlife Habitat
SWM: Stormwater Management
THR: Threatened species
TOR: Terms of Reference
TPP: Tree Preservation Plan
WIA: Woodlands Improvement Act
WMU: Wildlife Management Unit

Appended Figures



NATURAL HERITAGE EVALUATION

DAVID MINSHALL
921 Douro 1st Line,
Douro, Ontario

LEGEND

- Major Road
- Minor Road
- Watercourse, Intermittent
- Watercourse, Permanent
- Contour 5m Interval (Major)
- Contour 5m Interval (Minor)
- Unevaluated Wetlands
- Provincially Significant Wetlands
- Water Area
- Deer Wintering Area (Stratum 1)
- ANSI, Earth Science
- ANSI, Life Science
- Ecodistrict
- Subject Property (35.14 ha) (aproximate)

Notes:
Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

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Peterborough, Ontario, K9H 1E5
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www.cambium-inc.com

SITE LOCATION, SPECIAL PLANNING AREAS, AND NATURAL HERITAGE FEATURES

Project No.:	Date:
12619-001	September 2021
	Rev.:
Scale:	Projection:
1:25,000	NAD 1983 UTM Zone 17N
Created by: MAT	Checked by: MW
Figure: 1	

O:\GIS\MXDs\12600-12699\12619-001 David Minshall NHE 921 Douro 1st Line Douro\2021-09-30 FIG 1 - Site Location, Special Planning Areas, and Natural Heritage Features.mxd

NATURAL HERITAGE EVALUATION

DAVID MINSHALL
921 Douro 1st Line,
Douro, Ontario

LEGEND

- Vegetation Community
- Verified Wetland Boundary
- 120m Adjacent Lands
- Watercourse, Permanent
- Contour 5m Interval (Minor)
- Wetland
- Proposed Severance (0.65 ha)
- Subject Property (35.14 ha) (aproximate)

VEGETATION COMMUNITIES

1: CUM1; Cultural Meadow

2: FOD5-8; Dry – Fresh Sugar Maple – White Ash Deciduous Forest

3: SWD1-1; Swamp White Oak Mineral Deciduous Swamp

4: CUW; Cultural Woodland

5: SWD2-2; Green Ash Mineral Deciduous Swamp

6: FOD; Deciduous Forest

Notes:
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SITE NATURAL HERITAGE FEATURES

Project No.: 12619-001		Date: December 2021 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: MW	Figure:	2

O:\GIS\MXDs\12600-12699\12619-001 David Marshall\ NHE_921 Douro 1st Line_Douro\2021 08-30 FIG 2_Site Natural Heritage Features.mxd

NATURAL HERITAGE EVALUATION

DAVID MINSHALL
921 Douro 1st Line,
Douro, Ontario

LEGEND

- 120m Adjacent Lands
- 30m Wetland Setback
- Vegetation Community
- Verified Wetland Boundary
- Developable Area (0.65 ha)
- Watercourse, Permanent
- Contour 5m Interval (Minor)
- Wetland
- Proposed Severance (0.65 ha)
- Subject Property (35.14 ha) (aproximate)

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources and Forestry or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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NATURAL HERITAGE CONSTRAINTS

Project No.: 12619-001		Date: December 2021 Rev.:	
Scale: 1:2,000		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: MW	Figure:	3

O:\GIS\MXDs\12600-12699\12619-001 David Minshall - NHE - 921 Douro 1st Line - Douro\2021-08-30 FIG 3 - Natural Heritage Constraints.mxd

Appendix A
Correspondence

Matthew Wheeler

From: Matthew Wheeler
Sent: July 27, 2021 9:00 AM
To: Matt Wilkinson
Cc: Cambium File
Subject: Terms of Reference---921 Douro First Line, Duoro (12619-001)
Attachments: McGriskin & Minshall (revised) - PSR.PDF; severance.pdf

Hi Matt,

I hope you're doing well. I'm writing you regarding a proposed single lot severance for the property at 921 Douro First Line, Douro. Originally the owner was pursuing the severance of two lots but they have since decided to only severe the northern lot (see attached file: "severance.pdf"). I have attached the Preliminary Severance Review (PSR) for your consideration.

I would greatly appreciate if you could review and comment on the suitability of the following proposed Terms of Reference for the EIS;

- Consult with the ORCA staff, as required, to determine their interest/concerns regarding the proposed works and scope of work requirements.
- Compile and review applicable background information and environmental mapping pertaining to the Site.
- Conduct two (2) vascular plants surveys on the Site; one in late spring and another in summer, to provide a two-season vegetation inventory.
- Classify existing vegetation communities on the Site, according to the Ecological Land Classification System for Southern Ontario (Lee et. al., 1998), and evaluate them for sensitivity, rarity, and botanical quality.
- Delineate wetland boundaries following the Ontario Wetland Evaluation System (OWES) for Southern Ontario (Ministry of Natural Resources, 2013).
- Undertake a Species at Risk (SAR) screening to assess for potential SAR habitat and evaluate compliance with the provincial *Endangered Species Act*, 2007.
- Record observations of wildlife occurrences and assess wildlife habitat function, including significant wildlife habitat on the Site. Any evidence of breeding, forage, shelter or nesting sites, and/or travel corridors will be noted. This includes three (3) grassland bird surveys.
- Identify, assess, and include detailed descriptions of the natural features and functions identified on the Site and adjacent lands.
- Map key natural heritage and hydrologic features, vegetation communities, and other environmental features (watercourses, wetlands, areas of groundwater discharge, wildlife habitat, etc.) and proposed development on current, high quality aerial imagery.
- Provide an assessment of the potential impacts of the proposed development on natural features and their related ecological and hydrologic functions.
- Demonstrate conformity with the applicable policies and plans within the ORCA watershed, including: Conservation Authorities Act and O. Reg. 167/06.
- Develop an appropriate avoidance, mitigation, and/or restoration strategy, to address the potential impacts identified.
- Complete one (1) final report with supporting figures for circulation for approval to ORCA, which includes a CV of all qualified practitioners.

Please let me know if you have any comments or suggested revisions to the above.

Kind regards, Matthew Wheeler

Matthew Wheeler
Project Manager/Senior Ecologist

Cambium Inc. - Kingston
Environmental | Building Sciences | Geotechnical | Construction Monitoring
p: | **c:** 613.876.1515 | **toll:** 866.217.7900 | **w:** cambium-inc.com

Under modified work conditions in response to the current pandemic and government directives, Cambium continues to provide the professional services you have come to expect to guide good decisions. The well-being and safety of our teams, clients, and communities are a top priority. We ask for your patience and look forward to working together as we evolve into the "new normal". Stay safe. Better days are ahead.

Check out our video - an inside look at Cambium's culture & career opportunities.

Preliminary Severance Review

Prepared by the Peterborough County Planning Department

Peterborough County
Our History - Your Future

Name: Valerie McGriskin & David Minshall **Agent:** **Date:** November 23, 2020

Lot: 12 **Concession:** 1 **Municipality:** Douro Ward Township of Douro-Dummer

Description: 921 Douro First Line

Phone: 705-917-0161 **Email:** dwminshall@gmail.com **Office Phone:**

Communication Sent To: **Owner:** ☒ **Agent:** ☐

	Severed	Retained
County O.P. Description	Rural Area	Rural Area
Municipal O.P. Designation (effective April 2014)	Rural	Rural
Municipal Zoning (By-Law No. 10-1996)	(RU)	(RU) & (EC)
Area/Lot Dimensions	2 lots, each ± 0.4 hectares with ± 45m of frontage	± 34.8 hectares with ± 147m of frontage
Existing Use/Buildings	Vacant	House, Barn, Outbuilding

Intent: To sever more than one residential lot. Roll No.(s) 1522-010-002-03001.

County Official Plan Policy Review: The subject property is described as Rural Area in the County of Peterborough Official Plan. Section 2.6.3.5 of the Plan suggests that residential severances for land holdings located in the Rural Area should be discouraged in favour of development in Settlement Areas in an effort to promote orderly growth and development. However, severances in the Rural Area may be considered provided Health Unit, road frontage and access and Minimum Distance Separation requirements can be met (Ss.2.6.3.5 (A), (C) & (G)) and provided the applicable policies of Sections 2.6.3.1, 2.6.3.5, 4.1.3 and 4.3 are complied with (S.2.6.3.5 (H)).

Municipal Official Plan Policy Review: The subject property is designated Rural in the Local Component of the County Official Plan. In the Rural designation a maximum of two severances are permitted from a property as it existed 25 years prior to the date of application (S. 6.1.1 & 6.2.2.5(d)). Peterborough County Land Division records indicate that the subject property has not received any previous severances, therefore the property remains eligible for consent.

In addition to the above requirement for a residential lot in the Rural designation, the landowner must have owned the property for a minimum of 5 years, and the size of the new lot created specifically for a residential use shall not exceed 1 hectare in area (S. 6.2.2.5(d)(i)&(ii)). The landowners appear to meet the minimum length of ownership requirements, and the severed parcels are both less than 1 hectare in area.

All consents must also meet road frontage & access, Zoning By-law, Minimum Distance Separation and Health Unit requirements (S.7.12.2, 7.12.4, 7.2.3 & 7.12.12). MDS requirements appear to be met; the applicant has provided written confirmation from the Township that the barn on the retained lands is not suitable for housing livestock.

Municipal Zoning By-Law Review: The severed parcels are zoned Rural (RU) in the Municipal Zoning By-law. A single detached dwelling is permitted in the (RU) zone (S.9.1.5), provided the parcel has a minimum lot area of 0.4 hectares and a minimum lot frontage of 45 metres (S.9.2.4(a)&(b)). Both severed parcels appear to meet these minimum requirements.

The retained parcel is zoned Rural (RU) and Environmental Conservation (EC) in the Municipal Zoning By-law. An agricultural use is permitted in the (RU) zone (S.9.1.1), provided the parcel has a minimum lot area of 20 hectares and a minimum lot frontage of 135 metres (S.9.2.1(a)&(b)). The retained parcel appears to meet these minimum requirements. The portion of the retained parcel within the (EC) zone will not be impacted as a result of this proposal.

Provincial Policy Review: The Provincial Policy Statement (PPS) and Growth Plan for the Greater Golden Horseshoe (GPGGH) apply to this proposal.

The following key natural heritage features and/or key hydrologic features have been identified on or adjacent to the subject property: wetlands and stream.

Sections 4.2.3 and 4.2.4.1(c) of the Growth Plan (2019) state that development and site alteration, including lot creation, is not permitted in key hydrologic features or the minimum 30 metre vegetation protection zone (VPZ) surrounding the feature. In addition, Section 4.2.4.1 of the Growth Plan (2019) states that development within 120 metres of a key hydrologic feature will require a natural heritage evaluation/hydrologic evaluation. The southern-most severed parcel is well within the 30 metre vegetation protection zone surrounding a wetland and does not conform to the Growth Plan. The northern-most severed lot is slightly within the 30 metre vegetation protection zone. The lot lines of this proposed lot should be adjusted to ensure that the severed parcel is located outside the key hydrologic feature and its associated VPZ in order to comply with Growth Plan policy. Both severed lots are within the 120 metre buffer surrounding the wetland, therefore a natural heritage evaluation and/or hydrologic evaluation is required. Evaluations undertaken in accordance with these policies will identify the boundaries of the key natural heritage feature, vegetation protection zones, and any additional restrictions to be applied before, during and after development to protect the hydrologic and ecological functions of the feature.

A portion of the subject property is traversed by an area identified for habitat of endangered species and threatened species, as shown on the attached sketch. Policy 2.1.7 of the Provincial Policy Statement prohibits development and site alteration, including lot creation, within habitat of endangered species and threatened species, except in accordance with provincial and federal requirements. A Species at Risk (SAR) assessment is required as part of the natural heritage evaluation, referenced above.

Minimum Distance Separation Formula I (MDS I) as per policy 1.1.5.8 of the 2020 Provincial Policy Statement has been calculated for the livestock facilities (i.e. barns) at 999 Douro First Line and 996 Douro First Line (see map attached). The MDS arcs are smaller than those shown in a Preliminary Severance Review dated May 8, 2020 since the revised lot configuration no longer results in a cluster of 4 or more residential lots. Based on the calculation using a Type A land use, and the removal of the MDS arc from the retained parcel (not suitable for housing livestock as determined by Township), the proposal appears to meet Minimum Distance Separation requirements.

The subject property is located within a Prime Agricultural Area, as identified in the new Agricultural System for the Greater Golden Horseshoe (Growth Plan, 2019). Outside of the Greenbelt Area, provincial mapping of the agricultural land base does not apply until it has been implemented in the County Official Plan and until such time, the current designation applies.

Additional Notes:

* The lands appear to be regulated by Regulation 167/06, the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation of the Otonabee Conservation Authority. Therefore, the proposal should be discussed with Matt Wilkinson/Don Allin at (705) 745-5791 ext.213/ext.225 to determine what, if any permits may be necessary.

* The applicant and any prospective owners are advised that endangered and/or threatened species exist in the area and may exist on the site. It is the responsibility of the landowner to identify endangered and threatened species and their habitat within the property prior to undertaking work, and to ensure that the work/activity will not result in negative impacts. Landowners are encouraged to consult with the Ministry of Environment, Conservation and Parks (MECP) if they have questions about the *Endangered Species Act, 2007 (ESA)*. Any sightings of a threatened or endangered species during development and construction on the property must be reported in accordance with the ESA.

This Preliminary Severance Review has been circulated by the Planning Department to the following agencies (marked with an X):

- ☒ **Local Municipality of Douro-Dummer**
- ☐ **County Infrastructure Services (i.e. Roads) ;**
- ☒ **Conservation Authority ;**
- ☐ **First Nations ;**
- ☐ **Other**

Agencies to be Contacted by Owner/Agent (marked with an X):

- ☒ **Township**
- ☒ **Health Unit**

☒ **Conservation Authority**	☐ **Trent-Severn Waterway**
☐ **Source Water Risk Management Officer**	☐ **First Nations**
☐ **Ministry of Environment, Conservation and Parks**	☐ **Other**

Proposal does not appear to conform to the Growth Plan for the Greater Golden Horseshoe and/or Provincial Policy Statement policies.
The severance proposal does not appear to conform to the Provincial Plan(s). The severed parcels appear to be within the 30 metre vegetation protection zone (VPZ) surrounding a nearby wetland and new lots are not permitted in this area. The lot lines should be reconfigured to stay outside of the 30 metre VPZ. A Natural Heritage Evaluation will be required for any future application since both lots are within 120 metres of a wetland.

The applicant should be aware that the Provincial Growth Plan and Provincial Policy Statement take precedence over local Official Plans.

Proposal appears to conform to County Official Plan policies.
The severance proposal appears to conform to the County Official Plan, provided road frontage and access, and Health Unit requirements can be met.

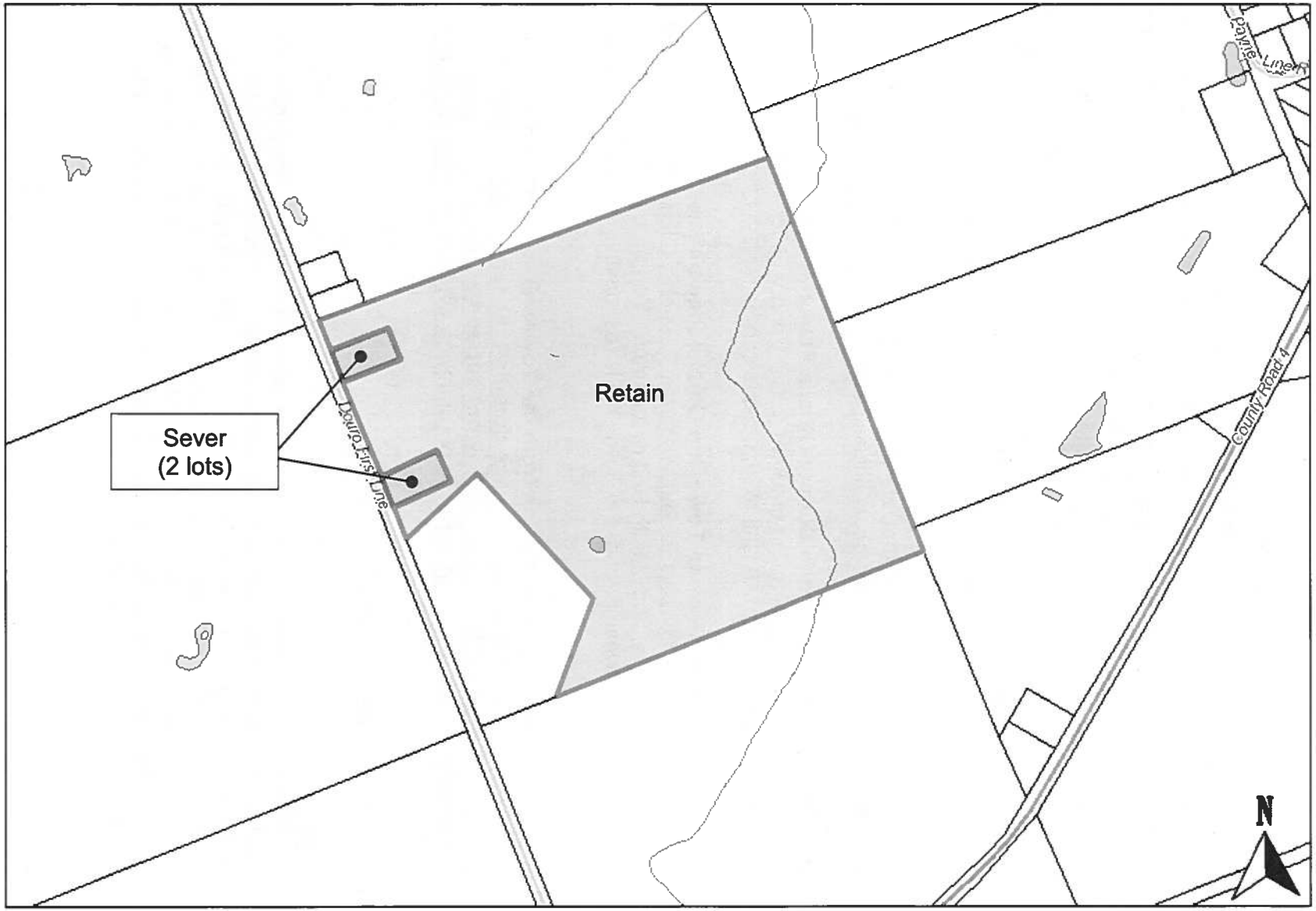
Proposal appears to conform to Township Official Plan policies.
The severance proposal appears to conform to the Township Official Plan, provided road frontage and access, and Health Unit requirements can be met. Since the property fronts on a Township road, the Township is responsible for issuing entrance permits.

☒ **Application requires confirmation from the Township or identified agency regarding policy conformity. **Please note that the landowner should be aware that members of the local council may not support a rezoning or minor variance to create a lot that is not in compliance with the provisions of the zoning by-law.****

***Reviewed By*: Keziah Holden**

Important
Our position on the overall conformity of the proposal is based on information available at the time of review. Subsequent information from commenting agencies can change our comments relating to any formal application for severance which is subsequently filed. Therefore, the above-noted comments should not be construed as preliminary approval or denial of a proposal but recognized as a position of the County Planning Department based on the availability of current information.

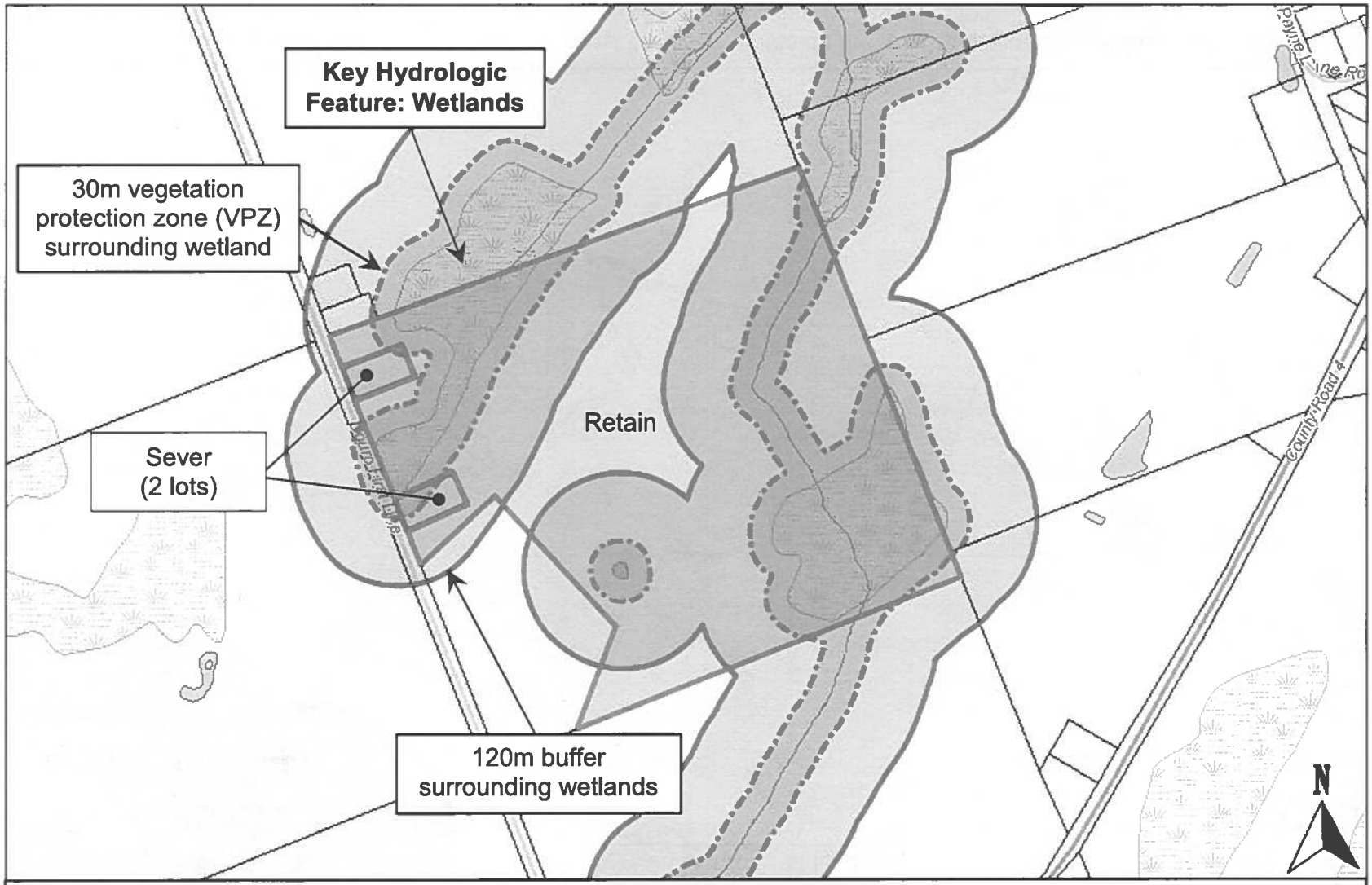
Roll # 1522-010-002-03001
Lot 12, Concession 1, Douro Ward



Scale (metric)
1:8,000

Roll # 1522-010-002-03001

Special Features Mapping: Key Hydrologic Features



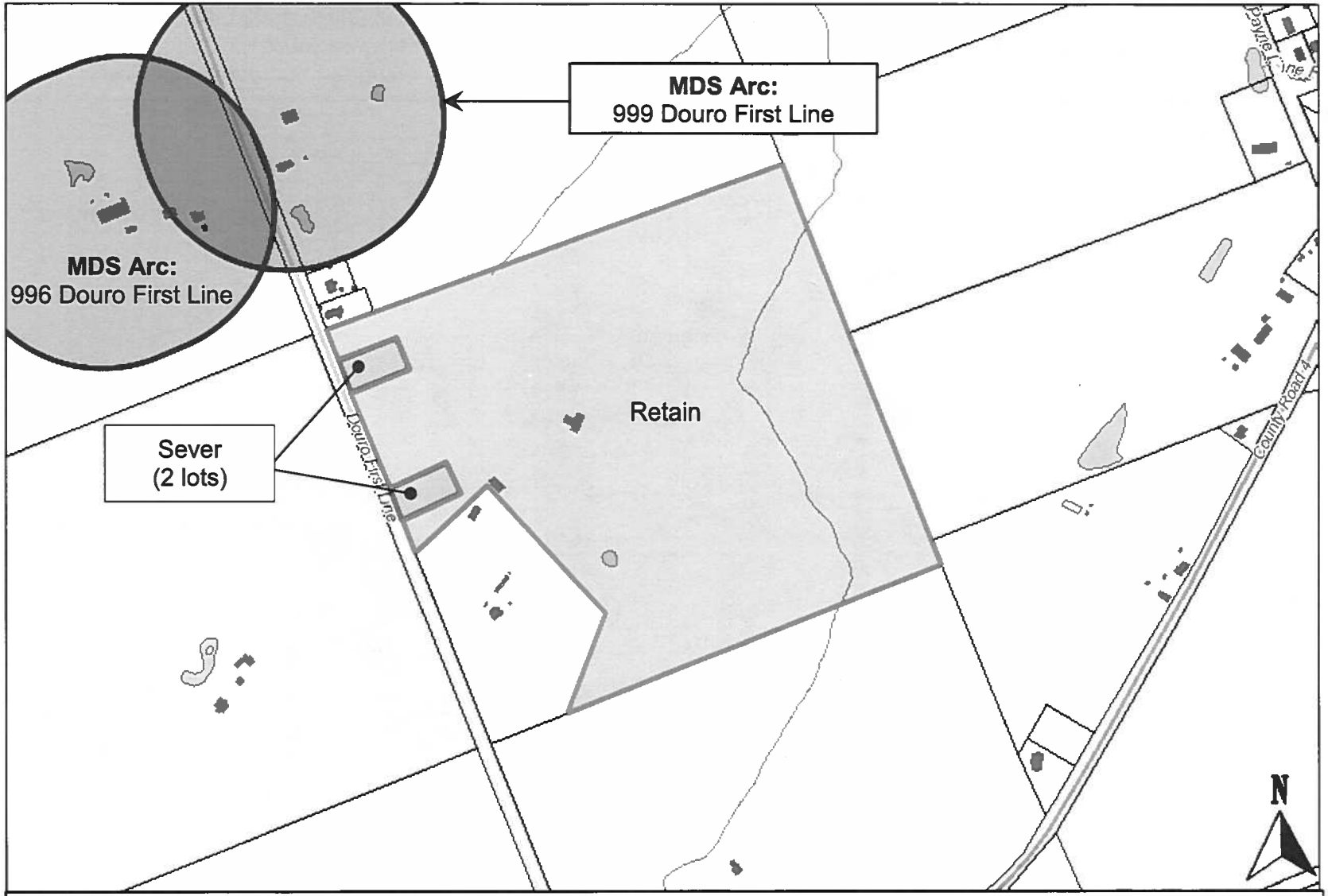
NOTE: New development, including lot creation, is not permitted within wetland boundaries or within the 30 metre vegetation protection zone; any development proposed within the 120 metre buffer surrounding the wetland and/or stream will require a Natural Heritage Evaluation (NHE).

Scale (metric)

1:8,000

Roll # 1522-010-002-03001

Minimum Distance Separation (MDS) Requirements



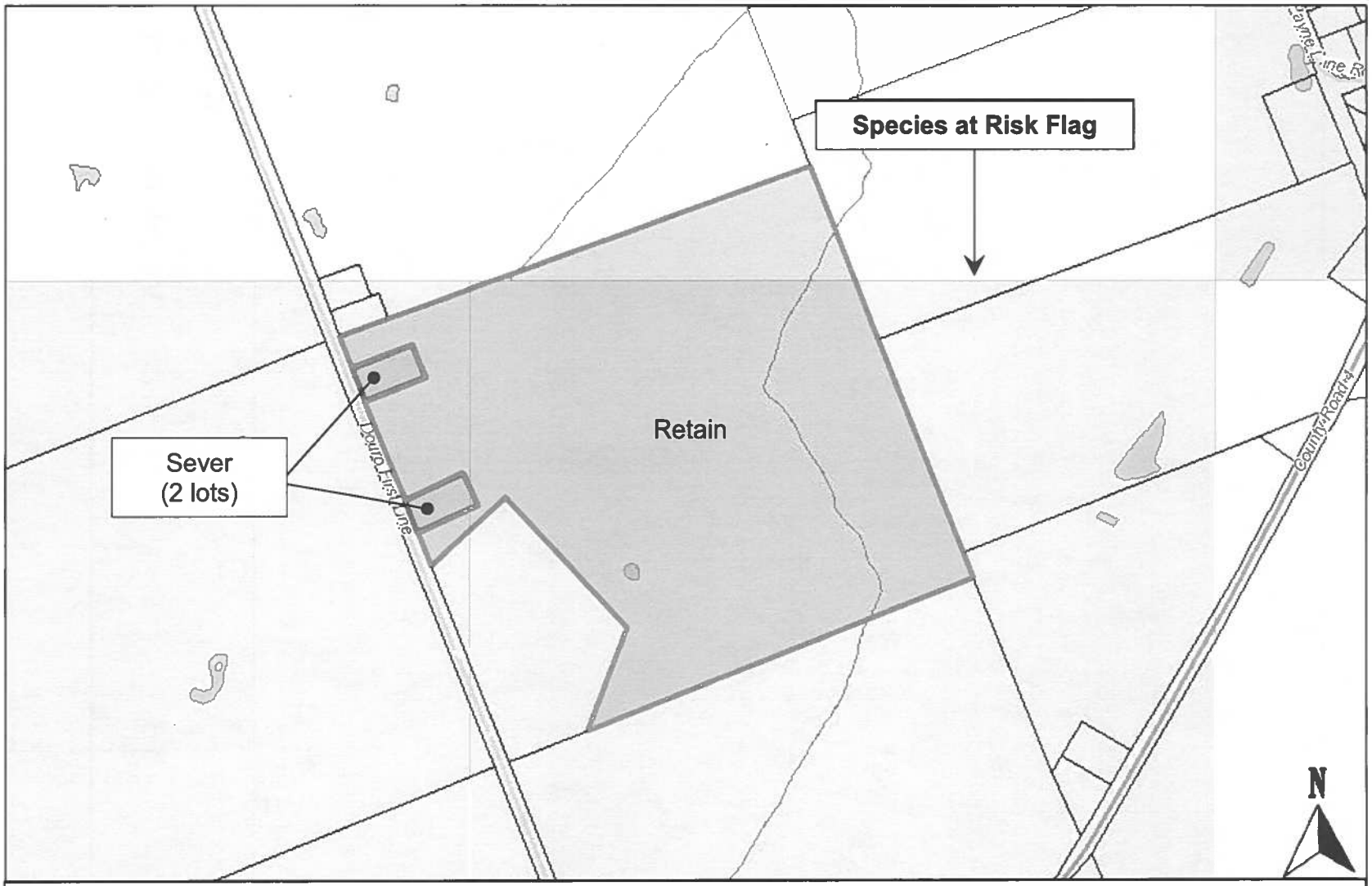
NOTE: New development, including lot creation, must be located outside the MDS arc(s) shown above. MDS arc for retained parcel has been removed; Township CBO determined building not suitable for housing livestock.

Scale (metric)

1:8,000

Roll # 1522-010-002-03001

Special Features Mapping – Species at Risk



NOTE: New development, including lot creation, is not permitted within habitat of threatened and endangered species, except in accordance with provincial and federal requirements. Species at Risk Data available to the County has identified an observation or potential habitat that may require a Species at Risk (SAR) Assessment to support the severance application.

Scale (metric)

1:8,000

Appendix B
Vegetation Species List

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: Cultural Meadow

COMMUNITY #: 1

LOCATION: 1st line, Warsaw

COORDINATES: 44.5973454, -78.1955781

PROJECT NUMBER: 12619-001

DATE: June 04, 2021

PROJECT MANAGER: Matt Wheeler

FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Common Burdock	*Arctium minus*	*Asteraceae*	3				SNA
Common Dandelion	*Taraxacum officinale*	*Asteraceae*	3				SNA
Common Mullein	*Verbascum thapsus ssp. thapsus*	*Scrophulariaceae*	5				SNA
Common Timothy	*Phleum pratense ssp. pratense*	*Poaceae*	3				SNA
Common Viper's Bugloss	*Echium vulgare*	*Boraginaceae*	5				SNA
Meadow Hawkweed	*Pilosella caespitosa*	*Asteraceae*	5				SNA
Orchard Grass	*Dactylis glomerata*	*Poaceae*	3				SNA
Red Clover	*Trifolium pratense*	*Fabaceae*	3				SNA
Reed Canarygrass	*Phalaris arundinacea var. arundinacea*	*Poaceae*	-3	0			S5
Smooth Brome	*Bromus inermis*	*Poaceae*	5				SNA
Spotted Knapweed	*Centaurea stoebe*	*Asteraceae*	5				SNA
Tall Goldenrod	*Solidago altissima*	*Asteraceae*	3	1			S5
Trembling Aspen	*Populus tremuloides*	*Salicaceae*	0	2			S5
White Sweet-clover	*Melilotus albus*	*Fabaceae*	3				SNA
Wild Chicory	*Cichorium intybus*	*Asteraceae*	5				SNA

NOTES: Cultural meadow, common European meadow grass and old field spp. Old rubble pile indicates could have been structure present

VEGETATION COMMUNITY PHOTOS:

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: FOD5-8 COMMUNITY #: 2 LOCATION: 1st line, Warsaw COORDINATES: 44.5973454, -78.1955784

PROJECT NUMBER: 12619-001 DATE: July 07, 2021 PROJECT MANAGER: Matt Wheeler FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Canada Enchanter's Nightshade	*Circaea canadensis ssp. canadensis*	*Onagraceae*	3	2			S5
Common Apple	*Malus pumila*	*Rosaceae*	5				SNA
English Hawthorn	*Crataegus monogyna var. monogyna*	*Rosaceae*	3				SNA
European Buckthorn	*Rhamnus cathartica*	*Rhamnaceae*	0				SNA
Orchard Grass	*Dactylis glomerata*	*Poaceae*	3				SNA
Smooth Brome	*Bromus inermis*	*Poaceae*	5				SNA
Trembling Aspen	*Populus tremuloides*	*Salicaceae*	0	2			S5
White Ash	*Fraxinus americana*	*Oleaceae*	3	4			S4
Zigzag Goldenrod	*Solidago flexicaulis*	*Asteraceae*	3	6			S5

NOTES:

VEGETATION COMMUNITY PHOTOS:

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: SWM1-1 COMMUNITY #: 3 LOCATION: 1st line, Warsaw COORDINATES: 44.5973454, -78.1955784

PROJECT NUMBER: 12619-001 DATE: July 07, 2021 PROJECT MANAGER: Matt Wheeler FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Bebb's Sedge	*Carex bebbii*	*Cyperaceae*	-5	3			S5
Bladder Sedge	*Carex intumescens*	*Cyperaceae*	-3	6			S5
Bur Oak	*Quercus macrocarpa*	*Fagaceae*	3	5			S5
Canada Enchanter's Nightshade	*Circaea canadensis ssp. canadensis*	*Onagraceae*	3	2			S5
Common Scouring-rush	*Equisetum hyemale ssp. affine*	*Equisetaceae*	0	2			S5
Eastern White Cedar	*Thuja occidentalis*	*Cupressaceae*	-3	4			S5
Red Ash	*Fraxinus pennsylvanica*	*Oleaceae*	-3	3			S4
Red Maple	*Acer rubrum*	*Aceraceae*	0	4			S5
Red-tinged Bulrush	*Scirpus microcarpus*	*Cyperaceae*	-5	4			S5
Sensitive Fern	*Onoclea sensibilis*	*Dryopteridaceae*	-3	4			S5
Tall Mannagrass	*Glyceria grandis var. grandis*	*Poaceae*	-5	5			S5

NOTES: Wet area visible on spring airphoto, not wet at time of field visit but dominated by sensitive fern and unvegetated patches

VEGETATION COMMUNITY PHOTOS:

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: Woodland | COMMUNITY #: 4 | LOCATION: 1st line Warsaw | COORDINATES: 44.5973454, -78.1955783

PROJECT NUMBER: 12619-001 | DATE: July 07, 2021 | PROJECT MANAGER: Matt Wheeler | FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Basswood	*Tilia americana*	*Tiliaceae*	3	4			S5
Chokecherry	*Prunus virginiana var. virginiana*	*Rosaceae*	3	2			S5
Eastern White Cedar	*Thuja occidentalis*	*Cupressaceae*	-3	4			S5
Northern Red Oak	*Quercus rubra*	*Fagaceae*	3	6			S5
Reed Canarygrass	*Phalaris arundinacea var. arundinacea*	*Poaceae*	-3	0			S5
Smooth Brome	*Bromus inermis*	*Poaceae*	5				SNA
Sugar Maple	*Acer saccharum*	*Aceraceae*	3	4			S5
Trembling Aspen	*Populus tremuloides*	*Salicaceae*	0	2			S5
Virginia Creeper	*Parthenocissus quinquefolia*	*Vitaceae*	3	6			S4?
Wild Lily-of-the-valley	*Maianthemum canadense ssp. canadense*	*Liliaceae*	3	5			S5

NOTES:

VEGETATION COMMUNITY PHOTOS:

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: SWD2-2 COMMUNITY #: 5 LOCATION: 1st line Warsaw COORDINATES: 44.5973455, -78.1955786

PROJECT NUMBER: 12619-001 DATE: July 07, 2021 PROJECT MANAGER: Matt Wheeler FIELD STAFF: Keegan McKitterick

FIELD SHEET – Vegetation Species List

Common Name	Scientific Name	Family	CoW	CoC	SARA	SARO	S-Rank
Bladder Sedge	*Carex intumescens*	*Cyperaceae*	-3	6			S5
Canada Enchanter's Nightshade	*Circaea canadensis ssp. canadensis*	*Onagraceae*	3	2			S5
Dark-green Bulrush	*Scirpus atrovirens*	*Cyperaceae*	-5	3			S5
Eastern White Cedar	*Thuja occidentalis*	*Cupressaceae*	-3	4			S5
Fowl Mannagrass	*Glyceria striata var. striata*	*Poaceae*	-5	3			S5
Manitoba Maple	*Acer negundo*	*Aceraceae*	0	0			S5
Red Ash	*Fraxinus pennsylvanica*	*Oleaceae*	-3	3			S4
Red-tinged Bulrush	*Scirpus microcarpus*	*Cyperaceae*	-5	4			S5
Reed Canarygrass	*Phalaris arundinacea var. arundinacea*	*Poaceae*	-3	0			S5
Sensitive Fern	*Onoclea sensibilis*	*Dryopteridaceae*	-3	4			S5
Spotted Jewelweed	*Impatiens capensis*	*Balsaminaceae*	-3	4			S5
Tall Mannagrass	*Glyceria grandis var. grandis*	*Poaceae*	-5	5			S5

NOTES: Wet area near rd

VEGETATION COMMUNITY PHOTOS:

Appendix C
Bird Species List

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: Cultural Woodland

LOCATION: 1st line Warsaw

COORDINATES: 44.5973351, -78.1956088

POINT COUNT #: 1

PROJECT NUMBER: 12619-001

DATES: May 28, 2021 June 04, 2021

PROJECT MANAGER: Matthew Wheeler

FIELD STAFF: Keegan McKitterick

May 28, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Robin	*Turdus migratorius*	Turdidae			S5B	P
Black-capped Chickadee	*Poecile atricapillus*	Paridae			S5	X
Mourning Dove	*Zenaida macroura*	Columbidae			S5	P
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	X
Song Sparrow	*Melospiza melodia*	Passerellidae			S5B	S

June 04, 2021

Common Name	Scientific Name	Family	SARA	SARO	S-Rank	Breeding Evidence
American Robin	*Turdus migratorius*	Turdidae			S5B	P
Black-capped Chickadee	*Poecile atricapillus*	Paridae			S5	X
Chestnut-sided Warbler	*Setophaga pensylvanica*	Parulidae			S5B	H
Common Yellowthroat	*Geothlypis trichas*	Parulidae			S5B	S
Mourning Dove	*Zenaida macroura*	Columbidae			S5	P
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	X

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
NU= Used nest or egg shell found (occupied or laid within the period of study)
FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: Tree line along 1st Line – Road behind (west)

CAMBIUM

VEGETATION COMMUNITY CLASSIFICATION: Cultural Meadow

LOCATION: 1st Line Warsaw

COORDINATES: 44.5973388, -78.1956049

POINT COUNT #: 2

PROJECT NUMBER: 12619-001

DATES: May 28, 2021 June 04, 2021

PROJECT MANAGER: Matt Wheeler

FIELD STAFF: Keegan McKitterick

FIELD SHEET – Bird Species List

May 28, 2021						
Common Name	**Scientific Name**	**Family**	**SARA**	**SARO**	**S-Rank**	**Breeding Evidence**
Blue Jay	*Cyanocitta cristata*	Corvidae			S5	X
Chestnut-sided Warbler	*Setophaga pensylvanica*	Parulidae			S5B	H
Common Yellowthroat	*Geothlypis trichas*	Parulidae			S5B	S
Indigo Bunting	*Passerina cyanea*	Cardinalidae			S4B	H
Red-breasted Nuthatch	*Sitta canadensis*	Sittidae			S5	H
Ruby-crowned Kinglet	*Regulus calendula*	Regulidae			S4B	S

June 04, 2021						
Common Name	**Scientific Name**	**Family**	**SARA**	**SARO**	**S-Rank**	**Breeding Evidence**
American Robin	*Turdus migratorius*	Turdidae			S5B	P
Black-capped Chickadee	*Poecile atricapillus*	Paridae			S5	X
Blue Jay	*Cyanocitta cristata*	Corvidae			S5	X
Chestnut-sided Warbler	*Setophaga pensylvanica*	Parulidae			S5B	H
Common Yellowthroat	*Geothlypis trichas*	Parulidae			S5B	T
Mourning Dove	*Zenaida macroura*	Columbidae			S5	P
Red-winged Blackbird	*Agelaius phoeniceus*	Icteridae			S4	X

X = Species observed in its breeding season (no breeding evidence)
H = Species observed in its breeding season in suitable nesting habitat
S= Singing male present, or breeding calls heard, in its breeding season in suitable nesting habitat
P= Pair observed in their breeding season in suitable nesting habitat
T= Permanent territory presumed through registration of territorial song on at least 2 days, a week apart, at the same place
D= Courtship or display between a male and a female or 2 males, including courtship feeding or copulation
V= Visiting probable nest site
X = Species observed in its breeding season (no breeding evidence)
CF= Adult carrying food for young
NE= Nest containing eggs

A = Agitated behaviour or anxiety calls of an adult
B= Brood patch on adult female or cloacal protuberance on adult male
N= Nest-building or excavation of nest hole
DD= Distraction display or injury feigning
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FY= Recently fledged young or downy young, including young incapable to sustain flight
AE= Adults leaving or entering nest site in circumstances indicating occupied nest
FS= Adult carrying faecal sac
NY= Nest with young seen or heard

Shaded cells indicate probable or confirmed breeding by the species within the vegetation community.

NOTES: E side of Meadow with treed area behind (east) of point count location

Appendix D
Species Of Conservation Concern Screening

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Birds								
Bald Eagle	*Haliaeetus leucocephalus*	No Status	SC	S2N,S4B	The Bald Eagle is a bird of prey with a white head, neck and tail, a massive bright yellow beak, powerful legs, and a wingspan of over 2 m. It nests in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. These nests are usually on islands in freshwater lakes or in large trees such as the pine and poplar. During the winter, they may also be found near open bodies of water that do not freeze (1).	No	Known to occur in the general area	No further consideration required
Bank Swallow	*Riparia riparia*	THR	THR	S4B	The Bank Swallow is a small songbird of around 12 cm long with a distinctive dark breast band, that flies with quick and erratic wingbeats (1). It nests in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. This can include banks of rivers and lakes, bluffs, active sand and gravel pits, road cuts and stockpiles of soils. However, they prefer sand-silt substrates for excavating their nest burrows. They often use large wetlands as communal nocturnal roosts post-breeding or during wintering periods (2).	No	Known to occur in the general area	No further consideration required
Barn Swallow	*Hirundo rustica*	THR	THR	S4B	The Barn Swallow is a mid-sized songbird with steel-blue backs and wings, glossy in males, and a line of white spots across its upper tail. It lives in a variety of open habitats for foraging, such as grassy fields, pastures, certain agricultural crops, shorelines, cottage areas, wetlands, or subarctic tundra (2). They prefer to nest within human made structures such as barns, bridges, and culverts. Barn Swallow nests are cup-shaped and made of mud, typically attached to horizontal beams or vertical walls underneath an overhang (1).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Black Tern	*Chlidonias niger*	No Status	SC	S3B	The Black Tern is a small waterbird with a forked tail, straight pointed bill, slender shape, and black head during breeding season. It builds floating nests in loose colonies in shallow marshes, with a preference for cattails. They breed primarily in the marshes along the edges of the Great Lakes, but may also use wetlands further north if suitable (1).	No	Known to occur in the general area	No further consideration required
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	The Bobolink is a mid-sized songbird of tan colour with black stripes, except for males during summer breeding season who are black with a white back and yellow collar. It prefers tall, grassy meadows, hayfields and some croplands, and feeds (largely on insects) on the ground in dense grasses (1). It tends to nest in forage crops: hayfields and pastures dominated by species including clover, bluegrass, and broadleaf plants (2).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Canada Warbler	*Cardellina canadensis*	THR	SC	S4B	The Canada Warbler is a small songbird with bright yellow underparts and bluish-grey back and tail (1). It can be found in a variety of forest types, but is most abundant in moist, mixed forests with a well-developed, dense shrub layer. Nests are usually located on or near the ground on mossy logs, and along stream banks (3).	No	Known to occur in the general area	No further consideration required
Cerulean Warbler	*Setophaga cerulea*	END	THR	S3B	The Cerulean Warbler, a small songbird, is blue-green with white eyebrows and two prominent white wing bars (1). It requires relatively large tracts of mature deciduous forest (>100 ha), and nests in older, second-growth deciduous forests. During breeding season, it is found in relatively large tracts of mature deciduous forests that feature large, tall trees and an open understorey (4).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B,S4N	The Chimney Swift is a small bird, between 12 and 14 cm, with a brown, cigar-shaped body, slender wings, and an erratic flight pattern. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow trees. Now, it is found mostly near urban and suburban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. They also tend to stay in habitat close to the water (1).	No	Known to occur in the general area	No further consideration required
Common Nighthawk	*Chordeiles minor*	THR	SC	S4B	The Common Nighthawk is a medium-sized bird with long, pointed wings, a long tail with a notch, and and large eyes. Its plumage of dark brown with black and white specks blends with its roost site. It is typically found in open areas such as gravel beaches, rock outcrops and burned woodlands, that have little to no ground vegetation. This species can also be found in highly disturbed locations such as clear cuts, mine tailing areas, cultivated fields, urban parks, gravel roads, and orchards (1).	No	Known to occur in the general area	No further consideration required
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	The Eastern Meadowlark is a medium-sized migratory songbird with a bright yellow throat and belly, a black V shape on its chest, and a pointed bill. It prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields, human-use areas such as airports and roadsides, or other open areas. The Eastern Meadowlark 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 (1).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Eastern Whip-poor-will	*Antrostomus vociferus*	THR	THR	S4B	The Eastern Whip-poor-will is a medium-sized bird with mottled brown and grey feathers to blend in with its surroundings, a large flattened head, and small bill. They are usually found in areas with a mix of open and forested areas such as patchy forests with clearings, forests that are regenerating after major disturbances, savannahs, open woodlands or openings in more mature forests. Breeding habitat is dependent on forest structure rather than composition, although common tree associations are pine and oak, and it nests directly on the forest floor (2). The species prefers to nest in semi-open or patchy forests with clearings as it forages in open areas and uses forested areas for roosting (1).	No	Known to occur in the general area	No further consideration required
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	The Eastern Wood-pewee is a species of 'flycatcher', a bird that eats flying insects. It grows to approximately 15 cm, has greyish-olive upper parts and pale bars on its wings. This species 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 (1). It typically creates nests on tree branches 2-12 m in height (2).	No	Confirmed absent through targeted surveys	No further consideration required
Evening Grosbeak	*Coccothraustes vespertinus*	No Status	SC	S4B	The Evening Grosbeak is a large songbird with a thick greenish bill. It is a social bird that is often found in flocks, particularly during the winter months. Their preferred habitat is thick coniferous forest. During their breeding season, they are generally found in open, mature mixed forests dominated by Firs, White Spruce, or Trembling Aspen (1).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Golden Winged Warbler	*Vermivora chrysoptera*	THR	SC	S4B	The Golden-winged Warbler is a small songbird with distinctive yellow wing patches and patches behind their eyes. It inhabits early successional habitat of old fields and favour areas where trees are spread out or forest edges to use for perching, singing, and searching for food. They seem to prefer regeneration zones with young shrub growth, surrounded by mature forest, locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas for their breeding sites; often frequenting clusters of herbaceous plants and low bushes (1).	No	Confirmed absent through targeted surveys	No further consideration required
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4B	The Grasshopper Sparrow is a small songbird with a streaked back, a white stripe down the center of its crown, a flattish head, and a conical beak. It inhabits open grasslands and prairies with well-drained soil, preferring areas that are sparsely vegetated. It will also nest in hayfields and pastures, as well as alvars and occasionally grain crops such as barley (1).	Yes: on-site and adjacent lands	Confirmed absent through targeted surveys	No further consideration required
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	The Least Bittern is a small member of the heron family, reaching around 30 cm in length. It has brown and beige plumage with chestnut patches on its wings (1). The species nests in marshes (> 5 - 10 ha) and swamps dominated by emergent vegetation, preferably cattails, interspersed with patches of woody vegetation and open water. They require dense vegetation and open water with stable levels within 10 m for nesting, and access to clear, open water for foraging (4).	No	Known to occur in the general area	No further consideration required
Loggerhead Shrike	*Lanius ludovicianus*	END	END	S2B	The Loggerhead Shrike is a small bird with a black, hooked bill, grey crown, and white throat and chest. This species has specific habitat requirements that are dependent on active livestock grazing, or grassland areas that have naturally short grass cover (i.e. alvar communities). They also require spiny, multi-branched shrubs, or barbed fencing, to catch prey. They prefer grassland habitats that have sporadic occurrences of low trees and shrubs; particularly hawthorn species, which are used as part of their feeding behaviour (1).	No	Known to occur in the general area	No further consideration required
Olive-sided Flycatcher	*Contopus cooperi*	THR	SC	S4B	The Olive-sided Flycatcher is a medium-sized songbird with olive colouring, often seen perching on top of tall trees waiting to catch their prey. It prefers open areas along natural mature forest edges, forest edges near natural openings such as rivers or swamps, human-made openings, or burned forest openings with numbers of dead trees. Breeding habitat usually consists of coniferous or mixed forests adjacent to rivers or wetlands, in Ontario often nesting in White and Black Spruce, Jack Pine, and Balsam Fir (1).	No	Known to occur in the general area	No further consideration required
Red-headed Woodpecker	*Melanerpes erythrocephalus*	THR	SC	S4B	The Red-headed Woodpecker is a mid-sized bird, at around 20 cm long, with a vivid red head, neck and breast as well a strong bill. The species can be found in open woodland and woodland edges, often near man-made landscapes such as parks, golf courses and cemeteries. These areas must contain a large number of dead trees for perching and nesting (1).	No	Known to occur in the general area	No further consideration required
Short-eared owl	*Asio flammeus*	SC	SC	S2N,S4B	The Short-eared Owl has a large round head with small tufts of feathers, long wings, a short tail, and cryptic colouring of brown streaks. This species is found in scattered pockets across the province where suitable open habitat, including grasslands, tundra, peat bogs and marsh, can be found in sufficient quantities. Adults build nests on the ground in grassy areas and occasionally agriultural fields (1). The main factor influencing their choice in habitat is believed to be an abundance of their food source, primarily rodents and other small mammals (2).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Wood Thrush	*Hylocichla mustelina*	THR	SC	S4B	The Wood Thrush is a medium-sized songbird of around 20 cm with rusty brown coloured upper parts and white underparts with large dark spots. It breeds in deciduous and mixed forests with moderate understories, shade and abundant leaf litter where it forages for food, including larval and adult insects as well as plant material. They prefer moist stands of trees with well-developed undergrowth and tall trees for perches (1).	No	Confirmed absent through targeted surveys	No further consideration required
Fish								
American Eel	*Anguilla rostrata*	No Status	END	S1?	The American Eel is a long, slender bodied fish, with one long fin extending down the back and around the tail, and two small pectoral fins. It has thick lips, and a protruding lower jaw that extends out above the upper jaw. At the juvenile stage, they swim up the St. Lawrence River to reach Lake Ontario and connected tributaries where they will remain for 8 to 23 years before migrating back to their spawning grounds. In Ontario, the American eel prefers mud, sand or gravel substrates during the juvenile stage when they reside primarily in the benthic zone of waterbodies. More mature eels are able to thrive in most environments provided there is available cover during daylight hours, and the habitat is accessible (2).	No	Known to occur in the general area	No further consideration required
Lake Sturgeon	*Acipenser fulvescens*	No Status	END	S2	The Lake Sturgeon, a large freshwater fish, has an extended snout with four whisker-like organs hanging near the mouth and is dark to light brown or grey on its back and sides with a lighter belly. In Ontario, this fish is found in the rivers of the Hudson Bay Basin, the Great Lakes basin, and their connecting waterways. Lake Sturgeon's live almost exclusively in freshwater lakes and rivers with soft bottoms of mud, sand or gravel and are usually found at depths of 5 to 20 m. They spawn in relatively shallow, fast-flowing water or if available deeper water habitat as well (1).	No	Known to occur in the general area	No further consideration required
Herptiles								
Blanding's Turtle	*Emydoidea blandingii*	THR	THR	S3	Blanding's Turtles are identifiable by their bright yellow throat and chin and domed shell. They spend the majority of their life cycle in the aquatic environment, usually in large wetlands or shallow lakes with high densities of water plants (1). These turtles prefer shallow, nutrient rich water with organic sediment and dense vegetation. They use terrestrial sites for travel between habitat patches and to lay clutches of eggs, often going hundreds of meters from their nearest water body. Blanding's Turtles nest in dry coniferous and mixed forest habitats, as well as fields and roadsides (2). From late October until the end of April, they hibernate in the mud at the bottom of permanent water bodies (1).	No	Known to occur in the general area	No further consideration required
Eastern Musk Turtle	*Sternotherus odoratus*	SC	SC	S3	The Eastern Musk Turtle is small with a narrow carapace, a dark brown body and two light stripes on each side of their head (5). It is a small freshwater turtle found primarily in slow moving water bodies with abundant emergent vegetation and mucky bottoms along the southern edge of the Canadian Shield within which they burrow into overwinter. Nesting sites vary, but must be close to the water and exposed to direct sunlight (1).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Midland Painted Turtle	*Chrysemys picta marginata*	SC	-	S4	The Midland Painted Turtle has a olive to black carapace with red or dark orange markings on the marginal scutes, as well as red and yellow stripes on the head and neck. The species uses a variety of waterbodies including, ponds, marshes, lakes and slow-moving creeks with a soft bottom and an abundance of basking sites and aquatic vegetation. This species usually hibernates on the bottom of waterbodies (5).	No	Known to occur in the general area	No further consideration required
Northern Map Turtle	*Graptemys geographica*	SC	SC	S3	The Northern Map Turtle is a medium sized turtle identified by its carapace's map contour-like patterning. It lives in larger lakes and rivers, requiring high water quality to support their primary prey species: molluscs. This species can often be seen in large groups basking together on rocks and logs. In the winter, the Northern Map Turtle can be found hibernating on the bottom of slow-moving rivers (1).	No	Known to occur in the general area	No further consideration required
Snapping Turtle	*Chelydra serpentina*	SC	SC	S3	The Snapping Turtle, with its large serrated carapace, small plastron, and spiked tail, is Canada's largest freshwater turtle (5). It spends the majority of its life in water, preferring shallow water with soft mud and leaf litter, and will travel upland to gravel or sandy embankments, roadsides, along railway lines or beaches to lay their eggs (1).	No	Known to occur in the general area	No further consideration required
Spotted Turtle	*Clemmys guttata*	END	END	S2	The Spotted Turtle is named after the distinct yellow spots on its carapace. The species is semi-aquatic and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. This species usually hibernates in wetlands or seasonally wet areas with structures such as overhanging banks, hummocks, tree roots, or aquatic animal burrows (1).	No	Known to occur in the general area	No further consideration required
Wood Turtle	*Glyptemys insculpta*	THR	END	S2	The Wood Turtle has orange coloured front legs, neck and chin and a sculpted carapace with raised, pyramidal scutes (5). They prefer clear rivers and streams that have moderate current, and sandy or gravelly substrates. This species spends more time on land than other turtle species including in meadows, swamps and fields. Wooded areas are an essential habitat component, and the species uses aquatic habitats for hibernation and mating. Nesting occurs in areas with sandy soil and abundant light (1).	No	Known to occur in the general area	No further consideration required
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	THR	S3	The Eastern Hog-nosed Snake can be a variety of colours and patterns so is most easily identified by its flattened, upturned nose. They prefer sandy well-drained habitats such as beaches and dry forests because they lay their eggs, hibernate and burrow in these areas. The main diet of this snake is toads and frogs, so they usually stay close to water including marshes and swamps, where they have an increased chance of finding their preferred prey (1).	No	Known to occur in the general area	No further consideration required
Eastern Milksnake	*Lampropeltis triangulum*	SC	NAR	S4	The Eastern Milksnake's colouration is grey or tan with reddish alternating blotches otlines in black along its back and sides (5). It has recently been delisted from being a species at risk in Ontario (1). This species tends to use open habitats such as rocky outcrops, fields and forest edges. The preferred prey of milksnakes are mice, small rodents, and ground nesting birds which are amply found in and surrounding agricultural outbuildings. The milksnake is secretive and is not likely to be encountered during the day or at night while hunting (5).	No	Known to occur in the general area	No further consideration required

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	The Eastern Ribbonsnake is slender with three bright yellow stripes running down its back and sides and a white crescent in front of each eye. This snake is usually found close to water as they are strong swimmers, often fleeing predators by diving into shallow water. It prefers wetland habitats where its prey species, frogs and small fish, are abundant. Over winter, they congregate in underground burrows or rock crevices to hibernate (1).	No	Known to occur in the general area	No further consideration required
Common Five-lined Skink (Southern Shield Population)	*Plestiodon fasciatus*	SC	SC	S3	The Common Five-lined Skink is Ontario's only lizard species. Its Southern Shield population can be found underneath rocks on open bedrock in forests and like to bask on sunny rocks and logs. They hibernate in crevices among rocks or buried in the soil (1). They hibernate in groups under rocks and tree stumps or in rotting wood (5).	No	Known to occur in the general area	No further consideration required
Western Chorus Frog	*Pseudacris triseriata*	THR	-	S3	The Western Chorus Frog is small with a dark stripe running through its eye and a light stripe underneath (5). It is primarily a lowland terrestrial species that requires access to terrestrial and aquatic habitats in close proximity to one another. Relying on marshes and wooded wetlands adjacent to forested habitats, this species also requires isolated, predator free pools for breeding. Temporary pools, such as vernal pools in wooded areas, are preferred. This species hibernates terrestrially in a variety of environments, including leaf litter, wood debris, and vacant animal burrows (2).	Yes: on-site and adjacent lands	Known to occur in the general area	No further consideration required
Invertebrates								
Monarch Butterfly	*Danaus plexippus*	SC	SC	S2N,S4B	The Monarch is an orange and black butterfly with small white spots and a wingspan of around 10 cm. It relies on milkweed plants as a food source for growing caterpillars, but the adult butterflies forage in diverse habitats for nectar from wildflowers (1).	No	Known to occur in the general area	No further consideration required
Mottled Duskywing	*Erynnis martialis*	No Status	END	S2	The mottled duskywing is a medium-sized butterfly in the skipper family with a wingspan of 25-42 mm. It is dark grey with yellow-brown spots on its hind wings that give the species its mottled appearance and its name. The wings of freshly emerged adults have a purplish iridescence that fades with age. The mottled duskywing tends to live in dry habitats with sparse vegetation. These include open barrens, sandy patches among woodlands, and alvars. In Ontario, the mottled duskywing will only deposit their eggs on two closely-related plants: New Jersey tea and prairie redroot (1).	No	Known to occur in the general area	No further consideration required
West Virginia White	*Pieris virginiensis*	No Status	SC	S3	The West Viginia White is a small, dingy white butterfly. This species is found in moist deciduous woods, and requires a supply of toothwort, a small, spring-blooming plant, which provides the only source of food for its larvae. The West Virginia White is found mostly in the central and southern parts of Ontario, but its range extends north to Manitoulin and St. Joseph islands (1).	No	Known to occur in the general area	No further consideration required
Mammals								

APPENDIX: Species of Conservation Concern - County of Peterborough

COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	The Tri-colored Bat is small, with pale brown with orange-red forearms, muzzle, and ears. It is named for the black, yellow, and brown hairs on its back. It is considered rare in this region of Ontario which is at the northernmost limit of the natural range. These bats prefer to nest in foliage, tree cavities and woodpecker holes, but are occasionally found in buildings; though this is not their preferred habitat. Winter hibernation takes place in caves, mines and deep crevices. Tri-colored Bats prefer an open forest habitat type in proximity to water (6).	No	Known to occur in the general area	No further consideration required
Eastern Small-footed Myotis	*Myotis leibii*	No Status	END	S2S3	The Eastern Small-footed Myotis has fur with black roots and shiny brown tips as well as very small feet. In the spring and summer, the Eastern Small-footed Myotis will roost in a variety of habitats, including in or under rocks, in rock outcrops, in buildings, under bridges, or in caves, mines, or hollow trees. They change their roosting locations daily and hunt at night for insects. They hibernate in winter, often in caves and abandoned mines choosing colder and drier sites than other similar bats (1).	No	Known to occur in the general area	No further consideration required
Little Brown Myotis	*Myotis lucifugus*	END	END	S4	The Little Brown Myotis has glossy brown fur and a fleshy projection covering the entrance to its ears. This species roosts in trees and buildings, often selecting attics, abandoned buildings and barns for summer colonies where they can raise their young. Little Brown Bats hibernate from October/November to March/April, most often in caves or abandoned mines that are humid and remain above freezing (1).	No	Known to occur in the general area	No further consideration required
Northern Myotis	*Myotis septentrionalis*	END	END	S3	The Northern Myotis has dull yellow-brown fur with pale bellies and long, rounded ears. This species is found in boreal forests, roosting under loose bark and in the cavities of trees. These bats hibernate from October/November to March/April, most often in caves or abandoned mines (1).	No	Known to occur in the general area	No further consideration required
Algonquin Wolf	*Canis lycaon*	SC	THR	S4	Formerly called the Eastern Wolf, this canine was recently renamed the Algonquin Wolf. In the southern portion of the province, this species prefers deciduous and mixed forest landscapes while their northern range include mixed and coniferous forests. It is most prevalent in areas with abundant prey species which include Beaver, White-tailed Deer and Moose. Dens sites are usually found in coniferous forests with easily excavated soil types like sand and close to a permanent water source (1).	No	Known to occur in the general area	No further consideration required
Trees, plants, fungi and lichens								
American Ginseng	*Panax quinquefolius*	END	END	S2	American Ginseng is a perennial plant which grows up to 60 centimetres in height. The leaves typically have five leaflets arranged in a whorl at the end of the leaf stem. The root looks like a gnarly parsnip. The flowers are an inconspicuous green-white in colour, but the berries are bright red and arranged in a cluster. In Ontario, the American Ginseng typically grows in rich, moist, and mature deciduous woods dominated by Sugar Maple, White Ash, and American Basswood. It typically grows in deep, nutrient rich soil over limestone or marble bedrock (1).	No	Confirmed absent through targeted surveys	No further consideration required
Butternut	*Juglans cinerea*	END	END	S2?	The Butternut is a medium sized tree reaching 30 m in height. It has large compound leaves with 11 to 17 leaflets. The fruit is oval, fuzzy and sticky. In Ontario, the Butternut prefers moist, well-drained soil, often along streams, or occasionally well-drained gravel sites. It grows alone or in small groups in deciduous forests (1).	Yes: on-site	Confirmed absent through targeted surveys	No further consideration required

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COMMON NAME	SCIENTIFIC NAME	Federal	Provincial		SPECIES DESCRIPTION AND HABITAT REQUIREMENTS	SUITABLE HABITAT	SPECIES OBSERVATIONS	ASSESSMENT
		SARA	SARO	S-RANK				
Pale-bellied Frost Lichen	*Physconia subpallida*	END	END	S3	The Pale-bellied Frost Lichen resembles a light dusting of frost on a dark tree trunk. This species is found throughout eastern North America, growing in wooded areas rich in hardwood species, such as White Ash, Hop Hornbeam (Ironwood), Black Walnut, and American Elm. It is also common to find this species growing on fenceposts or boulders within or near these wooded areas. In Ontario, this species has been found in the following counties: Frontenac, Haliburton, Hastings, Peterborough, Lanark and Renfrew (1).	Yes: on-site	Confirmed absent through targeted surveys	No further consideration required

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