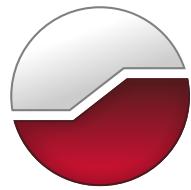


GEMTEC
www.gemtec.ca

**Environmental Impact Statement
Proposed Zoning By-law Amendment and
Development Application
11728 Lanark Road
Township of Greater Madawaska
County of Renfrew, Ontario**

GEMTEC Project: 100011.125



GEMTEC
www.gemtec.ca

Submitted to:

Rick and Heather Rump
11728 Lanark Road
Township of Greater Madawaska, Ontario
K0J1H0

**Environmental Impact Statement
Proposed Zoning By-law Amendment and
Development Application
11728 Lanark Road
Township of Greater Madawaska
County of Renfrew, Ontario**

September 30, 2025
GEMTEC Project: 100011.125

EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Rick and Heather Rump to complete an Environmental Impact Statement (EIS) for the approximately 114 ha subject property, municipally addressed as 11728 Lanark Road, northeast of the Lanark Road and Wilson Farm Road intersection, in the Township of Greater Madawaska, County of Renfrew, Ontario. This EIS has been completed in support of a proposed plan of development and was completed in accordance with all federal, provincial and municipal policies and guidelines, as applicable.

In support of this EIS a desktop review and numerous field investigations were completed to identify the presence or absence of natural heritage features and species at risk (SAR) on-site. Field investigations were completed throughout spring and summer 2025. The focus of the field investigations was to describe, in general, the natural and physical setting of the subject property with a focus on confirming the presence or absence of natural heritage features and potential SAR or their habitat as identified in the desktop review.

Following completion of the desktop review and field investigations, the following natural heritage features were identified on-site or within the study area: local wetlands, fish habitat, and significant wildlife habitat for turtle wintering area (*confirmed*) deer yarding area (*confirmed*), woodland amphibian breeding (*confirmed*), wetland amphibian breeding (*confirmed*), habitats of special concern and rare wildlife species (eastern wood-peewee, wood thrush, snapping turtle), amphibian movement corridor (*confirmed*), and cervid movement corridor (*confirmed*). Potential habitat was identified on-site for eastern red bat, hoary bat, little brown myotis, eastern small-footed myotis, tri-colored bat, silver-haired bat, Blanding's turtle, black ash, and butternut. No other evidence of SAR or SAR habitat were observed during the field investigations. The project has the potential to impact regulated habitat for SAR bats and black ash.

Potential impacts to the natural heritage features within the study area includes the loss of woodland habitats, primarily for amphibian and avian species. Due to the presence of potential habitat for Blanding's turtle, SAR bats, and black ash on-site, an Information Gathering Form will be required to be submitted to the MECP to determine whether the project requirements under the *Endangered Species Act, 2007*. In order to ensure no impacts occur to healthy black ash, a black ash health assessment must be completed prior to disturbance within the critical root zone of any black ash tree. The critical root zone is defined as the area 10 cm from the trunk for every 1 cm of tree trunk diameter.

Potential indirect impacts to aquatic habitat within on-site are primarily associated with water quality through increased nutrient and sediment loading.

Potential impacts to natural heritage features and SAR habitat are to be mitigated through the implementation of a 30 m setback from the on-site wetland communities and environmental protection measures during construction.

Additionally, to provide protection to potential SAR and other wildlife on-site, exclusion fencing around the entire construction envelope of each development phase/lot should be installed prior to any development to prevent the immigration of SAR species and other wildlife into the construction area. Should any SAR be discovered throughout the course of the proposed works, operations should stop and the species at risk biologist with the local MECP district should be contacted immediately for further direction. Furthermore, to ensure compliance with all applicable legislation, all best management practices and adherence to vegetation clearing windows for reptiles, birds, and bats, outlined in Section 7 should be followed to ensure no negative impacts occur to natural heritage features on-site.

The proposed project complies with the natural heritage policies of the Provincial Planning Statement and both the Township of Greater Madawaska and the County of Renfrew Official Plan. No negative impacts to identified natural heritage features or their ecological functions are anticipated as a result of the proposed development as long as all mitigation measures in Section 7 are enacted and best management practices followed.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	II
L LIST OF APPENDICES	VII
1.0 INTRODUCTION.....	1
1.1 Purpose	1
1.2 Objective.....	1
1.3 Physical Setting	2
1.4 Land Use Context.....	2
2.0 METHODOLOGY.....	3
2.1 Desktop Review.....	3
2.2 Field Investigations	3
2.2.1 Ecological Land Classification	4
2.2.2 Bat Maternity Roost Surveys	4
2.2.3 Basking Turtle Survey	4
2.2.4 Amphibian Breeding Surveys	5
2.2.5 Breeding Bird Surveys.....	5
2.2.6 Bat Acoustic Survey	5
2.3 Data Analysis.....	5
3.0 EXISTING ENVIRONMENT.....	7
3.1 Ecoregion	7
3.2 Topography, Physiography, Geology	7
3.3 Wetlands, Surface Water and Fish Habitat.....	7
3.4 Vegetation Communities	8
3.5 Wildlife	11
4.0 NATURAL HERITAGE FEATURES	12
4.1 Significant and Unevaluated Wetlands	12
4.2 Significant Areas of Natural and Scientific Interest.....	12
4.3 Significant Wildlife Habitat	12
4.3.1 Habitats of Seasonal Concentrations of Animals	13
4.3.1.1 <i>Candidate</i> Waterfowl Stopover and Staging Areas (Aquatic).....	13
4.3.1.2 <i>Candidate</i> Bat Maternity Colony	13
4.3.1.3 <i>Candidate</i> Turtle Wintering Area	14
4.3.1.4 <i>Candidate</i> Deer Yarding Area	17
4.3.2 Specialized Habitats for Wildlife	17
4.3.2.1 <i>Candidate</i> Waterfowl Nesting Area	17
4.3.2.2 <i>Candidate</i> Woodland Nesting Raptor Habitat	18
4.3.2.3 <i>Candidate</i> Woodland Amphibian Breeding SWH	18
4.3.2.4 <i>Candidate</i> Wetland Amphibian Breeding SWH	19

4.3.3	Habitats of Species of Conservation Concern	20
4.3.3.1	<i>Candidate</i> Marsh Bird Breeding Habitat.....	20
4.3.3.2	Special Concern and Rare Wildlife Species SWH	21
4.3.4	Animal Movement Corridors	21
4.4	Fish Habitat	22
4.5	Species at Risk.....	22
5.0	PROPOSED PROJECT	23
6.0	IMPACT ASSESSMENT	24
6.1	Unevaluated Wetlands	24
6.2	Significant Wildlife Habitat	24
6.2.1	<i>Confirmed</i> Turtle Wintering Area	25
6.2.2	<i>Confirmed</i> Deer Yarding Habitat	25
6.2.3	<i>Confirmed</i> Woodland Amphibian Breeding Habitat.....	25
6.2.4	<i>Confirmed</i> Wetland Amphibian Breeding Habitat.....	25
6.2.5	Habitats of Special Concern and Rare Wildlife Species.....	26
6.2.5.1	Eastern Wood-Pewee, Wood Thrush.....	26
6.2.5.2	Snapping Turtle	26
6.2.6	Animal Movement Corridors – Cervid	26
6.2.7	Animal Movement Corridors – Amphibian	27
6.3	Fish Habitat	27
6.4	Species at Risk.....	28
6.4.1	Blanding's Turtle.....	28
6.4.2	Eastern Red Bat	29
6.4.3	Eastern Small-footed Myotis	29
6.4.4	Hoary Bat	30
6.4.5	Little Brown Myotis	30
6.4.6	Silver-haired Bat	30
6.4.7	Tri-colored Bat.....	31
6.4.8	Black Ash	31
6.4.9	Butternut	32
6.5	Cumulative Impacts	32
7.0	RECOMMENDED AVOIDANCE AND MITIGATION MEASURES	33
7.1	Unevaluated Wetlands	33
7.2	Significant Wildlife Habitat	35
7.2.1	<i>Confirmed</i> Turtle Wintering Area SWH	35
7.2.2	<i>Confirmed</i> Woodland and Wetland Amphibian Breeding SWH.....	35
7.2.3	Habitats of Special Concern and Rare Wildlife Species.....	35
7.2.3.1	Eastern Wood-Pewee, Wood Thrush.....	35
7.2.3.2	Snapping Turtle	36
7.2.4	Animal Movement Corridors – Amphibian and Cervid	36
7.3	Fish Habitat	36

7.4 Species at Risk.....	37
7.4.1 Blanding's Turtle.....	38
7.4.2 Eastern Red Bat, Eastern Small-footed Myotis, Hoary Bat, Little Brown Myotis, Silver-haired Bat, and Tri-Colored Bat.....	39
7.4.3 Black Ash	39
7.4.4 Butternut.....	40
7.5 Wildlife	40
7.6 Best Practice Measures for Mitigation of Cumulative Impacts.....	41
8.0 CONCLUSIONS.....	42
9.0 LIMITATION OF LIABILITY.....	43
10.0 REFERENCES.....	44

LIST OF TABLES

Table 2.1 Summary of Field Investigations	4
Table 2.2 Vegetation Communities	9
Table 4.1 Summary of Snag Survey Results for Bat Maternity Colony SWH	14
Table 4.2 Summary of Turtle Basking Survey Results for Turtle Wintering Area SWH	15
Table 4.3 Summary of Amphibian Breeding Call Surveys for Woodland/Wetland SWH	19

L LIST OF APPENDICES

Appendix A	Report Figures
Appendix B	Site Photographs
Appendix C	Report Summary Tables

1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Rick and Heather Rump to complete an Environmental Impact Statement (EIS) for an approximately 114 ha property municipally addressed as 11728 Lanark Road, northeast of the Lanark Road and Wilson Farm Road intersection (hereafter referred to as “the subject property”), located in The Township of Greater Madawaska, County of Renfrew (the County), Ontario.

1.1 Purpose

The proponent is seeking the environmental approvals to achieve a zoning by-law amendment and a proposed development application on a 6.3 ha area of the existing property. Based on *Section 2.2* of the County of Renfrew Official Plan (County of Renfrew, 2020) an EIS is required showing that the proposed development will not negatively impact any potential natural heritage features, which may be present within the study area. The study area is defined as the property boundary and the adjacent lands encompassing an area of 120 m beyond the property boundary. The subject property and the extents of the study area are illustrated on Figure A.2 in Appendix A.

1.2 Objective

The 2024 Provincial Planning Statement (MMAH, 2024) issued under Section 3 of the Planning Act states that “development and site alteration shall not be permitted in: habitats of species at risk, significant wetlands, significant areas of natural and scientific interest and significant wildlife habitat in Ecoregion 5E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.” Similarly, the 2024 Provincial Planning Statement dictates that ‘development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.’

The objective of the work presented herein is to identify and evaluate the significance of any natural heritage features, as defined in the Provincial Planning Statement (MMAH, 2024), on the subject property and within the broader study area and assess the potential impacts from the proposed development on any natural heritage features identified and to recommend appropriate and defensible mitigation measures to ensure the long-term protection of any natural heritage features identified.

To meet these objectives, the EIS presented herein has been completed in accordance with the following provincial and municipal regulations, policies and guidelines:

- Provincial Planning Statement (MMAH, 2024);
- Endangered Species Act (Ontario, 2007);
- Fisheries Act (Canada, 1984);
- Conservation Authorities Act (Ontario, 1990);
- Natural Heritage Reference Manual (OMNR, 2010); and
- Renfrew County Planning and Land Use Official Plan (Renfrew County Official Plan, 2020).

1.3 Physical Setting

The subject property is a mosaic of meadow, coniferous and mixed forest, hardwood swamp, and meadow marsh habitats, intersected by naturalized watercourses and Stones Lake.

The property is bound to the north by an unnamed parcel encompassing Stones Lake and to the south by Lanark Road. To the west the property is bound by the rear lots of residential units fronting Wilson Farm Road and to the east by Stones Lake Road.

1.4 Land Use Context

The subject property is situated within a larger rural area. The existing land use designation from the County of Renfrew Official Plan, Schedule A is rural lands, with portions of environmental protection around wetland communities.

2.0 METHODOLOGY

2.1 Desktop Review

A desktop information gathering exercise and a preliminary site investigation were completed to aid in the scoping of field investigations and to gather information relating to natural heritage features that may be present on the subject project or within 1 km of the subject property. An additional component of the desktop review was to assess the potential presence of SAR to occur on the subject property or within the study boundary based on a review of publicly accessible occurrence records and a review of SAR habitat requirements and range maps.

Information regarding the potential presence of natural heritage features and SAR within the vicinity of the site was obtained from the following sources:

- Make a Map: Natural Heritage Areas (OMNRF, 2014a)
- Land Information Ontario (OMNRF, 2011);
- Ontario Geological Survey (OGS, 2019);
- Fisheries and Oceans Canada SAR Maps (DFO, 2019);
- Natural Heritage Information Centre Biodiversity Explorer (OMNRF, 2013);
- Breeding Bird Atlas of Ontario (Cadman et al., 2007)
- Ontario Herpetofaunal Atlas (Oldham and Weller, 2000);
- Wildlife Values Area (OMNRF, 2020a);
- Wildlife Values Site (OMNRF, 2020b);
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019); and
- County of Renfrew Official Plan (County of Renfrew, 2020);

2.2 Field Investigations

GEMTEC completed a series of field investigations to describe in general, the natural and physical setting of the subject property.

Field investigations completed in support of this EIS are outlined in Table 2.1 below. Photographs of site features taken during field investigations are provided in Appendix B.

Table 2.1 Summary of Field Investigations

Date	Time	Weather	Purpose
May 14, 2025	9:00 – 14:00	16°C, partly cloudy (3/10 cloud cover), Beaufort 2, no precipitation	Ecological Land Classification, Bat Maternity Roost Survey, Basking Turtle Survey 1
May 15, 2025	21:00 – 22:00	11°C, partly cloudy (4/10 cloud cover), Beaufort 2, no precipitation	Amphibian Breeding Survey 1
May 26, 2025	23:00 – 24:00	14°C, clear skies (0/10 cloud cover), Beaufort 1, no precipitation	Amphibian Breeding Survey 2
May 27, 2025	8:00 – 10:30	20°C, clear skies (0/10 cloud cover), Beaufort 1, no precipitation	Breeding Bird Survey 1, Basking Turtle Survey 2
June 2, 2025	10:30 – 12:30	20°C, some cloud cover (2/10 cloud cover), Beaufort 2, no precipitation	Basking Turtle Survey 3
June 4, 2025	12:00 – 14:00	25°C, partly cloudy (3/10 cloud cover), Beaufort 2, no precipitation	Basking Turtle Survey 4
June 10, 2024	8:00 – 10:30	18°C, moderately cloudy (5/10 cloud cover), Beaufort 2, no precipitation	Breeding Bird Survey 2, Basking Turtle Survey 5
June 25, 2025	7:30 – 9:30	23°C, partly cloudy (3/10 cloud cover), Beaufort 2, no precipitation	Breeding Bird Survey 3
June 25, 2025	22:30 – 23:30	23°C, partly cloudy (3/10 cloud cover), Beaufort 2, no precipitation	Amphibian Breeding Survey 3, Bat Acoustic Monitoring

2.2.1 Ecological Land Classification

Vegetation communities on the subject property were delineated during the desktop review stage of this EIS using publicly available air photos and confirmed in the field throughout the 2025 field investigations, following the Ecological Land Classification (ELC) System for Northern Ontario (MNR, 2009). Vegetation communities were confirmed in the field by employing the random meander methodology while documenting dominant vegetation species within the various vegetation community forms.

2.2.2 Bat Maternity Roost Surveys

Potential bat maternity roosting sites were surveyed for in each forested ecosite on-site on May 14, 2025, following the protocol for identifying candidate maternity roosts outlined in the OMNR (2011a) Bats and Bat Habitats: Guidelines for Wind Power Projects. Snag survey stations are illustrated on Figure A.2 in Appendix A.

2.2.3 Basking Turtle Survey

In order to address the potential for the site to provide turtle overwintering, turtle nesting and the presence or absence of Blanding's turtle, a species at risk (SAR), a series of five turtle basking

surveys were conducted following the approved protocol for Blanding's turtles established by the MNRF (2015). A list of all turtle species identified on-site is provided in Table C.1 in Appendix C.

2.2.4 Amphibian Breeding Surveys

Amphibian breeding surveys were conducted on three occasions at four point count locations; breeding amphibian survey locations are provided on Figure A.2. Breeding amphibian surveys followed protocols from the Marsh Monitoring Program (Bird Studies Canada, 2008). Surveys were conducted no earlier than 30 minutes after sunset and were completed by midnight, to encompass peak amphibian calling activity. Breeding amphibian surveys consisted of three minutes of passive listening in which all amphibians calling during the survey period were recorded, along with their call code. A list of all amphibian species identified on-site is provided in Table C.1 in Appendix C.

2.2.5 Breeding Bird Surveys

Breeding bird surveys were conducted on three occasions at eight point count locations; breeding bird survey locations are provided on Figure A.1. Breeding bird surveys followed protocols from the Canadian Breeding Bird Surveys (Downes and Collins, 2003) and the Ontario Breeding Bird Atlas (Cadman et al., 2007). Surveys were conducted no earlier than 30 minutes before sunrise and were completed within five hours of sunrise, to encompass peak song bird activity. Breeding bird surveys consisted of five minutes of passive listening in which all birds heard or seen within the survey period were recorded, including species, sex and breeding behaviour, if possible. A list of all avian species identified on-site is provided in Appendix C.1.

2.2.6 Bat Acoustic Survey

During the June 25 amphibian survey on-site, a handheld ultrasonic module, the Echo Meter Touch 2 Pro and its auto-ID feature was used to aid in identifying potential bat species on-site. The auto-ID feature of the echo meter touch 2 pro uses recordings from the module and suggests the most likely species present for each recording. However, because bats vary their echolocation calls in response to a wide variety of needs, no automated call identification can achieve 100% accuracy in species identification. No species were detected with the handheld device during the June 25 nocturnal survey.

2.3 Data Analysis

An evaluation of the significance of natural heritage features, the sensitivity of identified flora and fauna and the potential impacts posed by the proposed development was undertaken through an analysis of desktop and field investigation data using the approaches and criteria outlined in the following documents:

- Natural Heritage Reference Manual (OMNR, 2010);
- Significant Wildlife Habitat Technical Guide (OMNR, 2000);
- Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015); and

- Significant Wildlife Habitat Mitigation Support Tool (OMNRF, 2014b).

3.0 EXISTING ENVIRONMENT

3.1 Ecoregion

The site is situated in Ecoregion 5E-11 (Georgian Bay), that extends from southeastern Lake Superior in the west to the central portion of the Ottawa River valley and the Quebec border in the east. The climate of Ecoregion 5E is categorized as humid, cool-temperate ecoclimate with a mean annual temperature range of 2.8°C to 6.2°C, and an annual precipitation range between 771 mm to 1,134 mm (Crins *et al.*, 2009).

The eastern portion of the Ecoregion, within which the subject property is located, is underlain by a deeper layer of acidic and morainal material, specifically, kame moraines. This Ecoregion falls with Rowe's (1972) Great Lakes – St. Lawrence Forest Region, comprising some or all of the Algoma, Sudbury-North Bay, Algonquin-Pontiac, Georgian Bay, and Middle Ottawa Forest Sections (Crins *et al.*, 2009).

3.2 Topography, Physiography, Geology

The topography of the site is variable, pocketed with hummocks and small depressions. The site has a topographical high of 185 m above sea level (mASL) along the southern side of Stones Lake, with a southwards and westward sloping topography. The site has a topographical low of 172 mASL along the northern shoreline of Stones Lake.

As described by Chapman and Putnam (1984), the site is located on the shallow till and rock ridges physiographic landform, within the physiographic region of the Algonquin highlands.

The Ontario Geological Survey (OGS, 2019) identified two surficial soil units on the subject property: Precambrian bedrock and bedrock-drift complex in Precambrian terrain. The property south of Stones Lakes is mapped as Precambrian bedrock, with the northern portion mapped as bedrock-drift complex.

Bedrock geology of the site, as described by the OGS, indicates that the site is underlain by the clastic metasedimentary rocks, which is comprised of conglomerate, wacke, quartz arenite, arkose, limestone, siltstone, chert, minor iron formation, and minor metavolcanic rocks.

3.3 Wetlands, Surface Water and Fish Habitat

Surface water features identified on-site through desktop review and confirmed during the 2025 field investigations include fourteen local wetland communities, two unnamed watercourses, and Stones Lake. Surface water features are illustrated on Figure A.1 of Attachment A.

Watercourse one occurs along the western property boundary, originating as drainage for the wetlands north of the study area. Watercourse one as it occurs on-site loses definition passing through wetland communities, with naturalized channel between communities. The second watercourse occurs within the southern portion of the property, providing drainage for Stones

Lake. Watercourse two was observed to have a naturalized channel throughout, with a rock outcrop waterfall where it receives flows from Stones Lake.

A total of fourteen local wetland communities were identified within the subject property. An additional three wetland communities occur within the study area but do not extend on-site. The fourteen wetlands are scattered across the site and include organic meadow marsh, floating meadow marsh, intolerant hardwood swamp, and mineral thicket swamp communities.

A fisheries assessment was not conducted as part of this EIS. A review of desktop occurrence data from Fish ON-Line indicates the presence of largemouth bass (*Micropterus salmoides*), northern pike (*Esox lucius*), pumpkinseed (*Lepomis gibbosus*), and yellow perch (*Perca flavescens*) in Stones Lake. No data is available for the local wetlands. Based on observations from the site investigation, including water permanence, water depths, and/or hydrological connectivity to Stones Lake, the local wetlands are anticipated to provide seasonal fish habitat at a minimum.

No other surface water, groundwater, or fish habitat features were identified on-site. Groundwater investigations have been completed under separate cover.

3.4 Vegetation Communities

The site is a mosaic of meadow, coniferous and mixed forest, hardwood swamp, and meadow marsh habitats, intersected by naturalized watercourses and Stones Lake. Table 2.2 below provides a brief summary of the vegetation communities on-site. Vegetation communities described below are illustrated on Figure A.3 in Appendix A.

Table 2.2**Vegetation Communities**

ELC Type	Description	Size (ha)
Dry to Fresh Coarse – Red Pine – White Pine Conifer Forest (G048)	<p>Present within the southeastern corner of the property is a coniferous forest community dominated by white pine (<i>Pinus strobus</i>).</p> <p>Other species observed within the canopy included balsam fir (<i>Abies balsamea</i>), eastern white cedar (<i>Thuja occidentalis</i>), with limited sugar maple (<i>Acer saccharum</i>) and white birch (<i>Betula papyrifera</i>) at the transition to the mixedwood community.</p> <p>The subcanopy possessed scattered saplings of the above species.</p>	7.55
Dry to Fresh Coarse – Mixedwood Forest (G059)	<p>Ground cover vegetation was sparse in conifer dominated areas. In open areas of transitional habitat, ground cover was observed to include white rattlesnake root (<i>Nabalus albus</i>), sweetclover (<i>Melilotus</i> spp.), eastern woodland sedge (<i>Carex blanda</i>), bigleaf aster (<i>Eurybia macrophylla</i>), bramble (<i>Rubus</i> spp.), goldenrod (<i>Solidago</i> spp.), and blue bead-lily (<i>Clintonia borealis</i>).</p> <p>Present within the across the majority of the property is a mixedwood forest community.</p> <p>Species observed within the canopy included white pine, balsam fir, eastern white cedar, basswood (<i>Tilia americana</i>), bur oak (<i>Quercus macrocarpa</i>), red oak (<i>Quercus rubra</i>), large tooth aspen (<i>Populus grandidentata</i>), trembling aspen (<i>Populus tremuloides</i>), sugar maple, white birch, ironwood (<i>Ostrya virginiana</i>), white ash (<i>Fraxinus americana</i>), and tamarack (<i>Larix laricina</i>).</p> <p>The subcanopy possessed scattered saplings of balsam fir and hardwood species. Areas of recent disturbance were primarily colonized by inclusions of trembling aspen saplings.</p> <p>Ground cover vegetation included white trillium (<i>Trillium grandiflorum</i>), red trillium (<i>Trillium erectum</i>), mayflower (<i>Maianthemum canadense</i>), woodland sedge (<i>Carex</i> spp.), trout lily (<i>Erythronium americanum</i>), white rattlesnake root, sweetclover, eastern woodland sedge, bigleaf aster, bramble, goldenrod, and blue bead-lily.</p>	76.71

ELC Type	Description	Size (ha)
Dry to Fresh Coarse – Meadow (G045)	<p>A meadow community is present along Lanark Road extending up to the existing residential dwelling.</p> <p>Herbaceous vegetation was dominant, with species observed including cow vetch (<i>Vicia cracca</i>), common dandelion (<i>Taraxacum officinale</i>), wild parsnip (<i>Pastinaca sativa</i>), grass (<i>Poaceae</i> spp.), mullein (<i>Verbascum thapsus</i>), golden rod, bramble.</p> <p>Scattered shrub and tree vegetation included white pine, trembling aspen, juniper, and balsam fir.</p>	3.47
Intolerant Hardwood Swamp (G130)	<p>Present in the northern portion of the site as two patches is an intolerant hardwood swamp community.</p> <p>Canopy vegetation was dominant throughout with species observed including green ash (<i>Fraxinus pennsylvanica</i>), black ash (<i>Fraxinus nigra</i>), eastern white cedar, tamarack, and white pine.</p> <p>The subcanopy was made up of primarily of ash saplings.</p>	4.6
Mineral Thicket Swamp (G134)	<p>Herbaceous vegetation included bladder sedge (<i>Carex intumescens</i>), purple milkweed (<i>Asclepias purpurascens</i>), sensitive fern (<i>Onoclea sensibilis</i>), common oak fern (<i>Gymnocarpium dryopteris</i>), northern bracken fern (<i>Pteridium aquilinum</i>), pond weed (<i>Potamogeton</i> spp.), reed (<i>Phragmites australis</i>), and bulrush (<i>Schoenoplectus</i> spp.).</p> <p>A mineral thicket swamp community is present in the southeastern corner of the property, as a ring around a small pond.</p> <p>Subcanopy vegetation was dominant with observed species including speckled alder (<i>Alnus incana</i>), viburnum trees (<i>Viburnum</i> spp.), and pussy willow (<i>Salix discolor</i>).</p>	2.2
Organic Meadow Marsh (G144)	<p>Herbaceous vegetation was limited to an inner ring of cattail and reed along the perimeter of the pond.</p> <p>Present as six patches across the site is an organic meadow marsh community.</p> <p>Herbaceous vegetation was dominant, with observed species including starwort (<i>Stellaria</i> spp.), purple milkweed, bitter willow</p>	7.88

ELC Type	Description	Size (ha)
	(<i>Salix rigida</i>), cutgrass (<i>Leersia oryzoides</i>), peace lily (<i>Spathiphyllum</i> spp.), bog aster (<i>Oclemena nemoralis</i>), rattlebox (<i>Crotalaria</i> spp.), Bebb's willow (<i>Salix bebbiana</i>), and hoary sedge (<i>Carex canescens</i>).	
Floating Marsh (G145)	Present as two patches within and adjacent to Stones Lake is a floating marsh community. Herbaceous vegetation was dominant, with observed species including yellow pond lily (<i>Nuphar lutea</i>), pond weed, cattail, reed, and bulrush. Depths were estimated to vary between 1-0.5 m throughout the field season.	11.5

3.5 Wildlife

Wildlife observed on-site and within the study area during field investigations completed in 2025 are summarized in Table C.1 in Appendix C.

4.0 NATURAL HERITAGE FEATURES

Natural heritage features in Ecoregion 5E are defined in the 2024 PPS as “features and areas, including *significant wetlands, significant coastal wetlands, fish habitat, significant habitats of endangered species and threatened species, significant wildlife habitat and significant areas of natural and scientific interest*, which are important for their environmental and social values as a legacy of the natural landscape of an area”.

4.1 Significant and Unevaluated Wetlands

As described in the Natural Heritage Reference Manual (OMNR, 2010), wetlands “mean lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface.” While *significant* in regard to wetlands means “an area identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time.”

As described above, the desktop review and subsequent site investigations identified the presence of fourteen local wetland communities on-site, with an additional three occurring off-site within the study area. The on-site wetland parcels are illustrated on Figure A.4 of Appendix A.

No provincially significant wetlands (PSW) are present within the study area. The nearest PSW to the site is the Grassy Bay Complex which is located 915 m to the southwest.

Potential impacts to local wetlands from the proposed development are discussed in Section 6 below.

4.2 Significant Areas of Natural and Scientific Interest

The MNRF identifies two types of areas of natural and scientific interest (ANSI) in Ontario: life sciences ANSIs typically represent significant segments of Ontario’s biodiversity and natural landscapes, while earth science ANSIs typically represent significant examples of bedrock, fossils or landforms in Ontario (OMNR, 2010).

No ANSI have been identified on-site or adjacent to the site during the desktop review or during site investigations.

4.3 Significant Wildlife Habitat

The natural heritage reference manual (OMNR, 2010), in combination with the significant wildlife habitat technical guide (OMNR, 2000) and the significant wildlife habitat ecoregion criterion schedules (OMNRF, 2015) were used to identify and evaluate the potential for significant wildlife habitat on-site. The significant wildlife habitat is broadly categorized as habitats of seasonal concentration of animals, rare vegetation communities, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors. Table C.2, C.3, C.4, C.5 and

C.6 in Appendix C, provide the screening rationale for each category of significant wildlife habitat, respectively.

4.3.1 Habitats of Seasonal Concentrations of Animals

Seasonal concentration areas are habitats where large numbers of species congregate at one particular time of the year. The significant wildlife habitat technical guides (OMNR, 2000) and significant wildlife habitat ecoregion criterion schedules (OMNRF, 2015) identify 12 types of seasonal concentration habitats that may be considered significant wildlife habitat. These 12 types of seasonal habitat are presented in Table C.2 in Appendix C, including a brief description of the rationale as to why or why they are not assessed further in this EIS.

Following review of Table C.2 in Appendix C, four habitats of seasonal concentration of animals are present on-site or within the study area, *candidate* waterfowl stopover and staging areas (aquatic), *candidate* bat maternity roost colonies, *candidate* turtle wintering areas, and *confirmed* deer yarding areas. Each SWH are discussed in detail in the subsections below.

4.3.1.1 Candidate Waterfowl Stopover and Staging Areas (Aquatic)

Candidate waterfowl nesting area SWH has been identified on-site based on the presence of suitable wetland habitats (Ecosites: G142). The habitat is defined as all suitable wetland communities and a 100 m radius area (OMNRF, 2015a). Twenty-seven waterfowl species are listed as indicator species for waterfowl nesting areas. The defining use criteria for the SWH in Ecoregion 5E is confirmed aggregations of 100 or more of the listed species for a minimum of seven days (>700 waterfowl use days).

Breeding bird surveys were conducted as part of this EIS. A single indicator species was observed throughout the targeted breeding bird surveys; Canada goose (*Branta canadensis*). The species was not observed in aggregations greater than 100. Furthermore, no waterfowl stopover wildlife areas are mapped on-site following a review of Ontario Geohub wildlife value area occurrence data. Given the results of the survey efforts and desktop review, waterfowl stopover and staging area (aquatic) is not considered present within the study area.

4.3.1.2 Candidate Bat Maternity Colony

Candidate bat maternity colony SWH was identified within all suitable and large forested habitats on-site (Ecosites: G059).

Bat maternity colony SWH is extremely rare in all Ontario landscapes, providing crucial habitat for the birthing, nursing and weaning of bat pups by reproductive females of the following species: big brown bat (*Eptesicus fuscus*) and silver-haired bat (*Lasionycteris noctivagans*). Defining criteria for bat maternity colony SWH is the use of the forest ecosite or ecoelement by 10 or more big brown bats, or 5 or more adult female silver-haired bats.

Bat maternity roost surveys were completed conducted on May 14, 2025, prior to leaf on, to confirm the density of suitable snag trees within the applicable forest communities. Surveys following protocols outlined the Government of Ontario document Bats and bat habitats: guidelines for wind power projects and were completed by surveying randomly distributed points throughout deciduous and mixed forest communities on-site, while geolocating all snags within a 12.6 m radius plot of each point. A handheld acoustic device was used during the June 25, 2025 nocturnal survey. No bats were identified through the handheld device. It is noted that handheld devices provide limited success in determining species presence or absence.

Table 4.1 below provides the results of the snag density survey and the density of snags per hectare in each ecosite surveyed.

Table 4.1 Summary of Snag Survey Results for Bat Maternity Colony SWH

Ecosite	On-Site Area (ha)	Number of Plots Surveyed	Number of Snags Greater than 25 cm DBH	Snags/ha	Candidate SWH for Bat Maternity Colonies
G059	76.71	30	3	0.03	No

The results of the bat maternity roost surveys indicate that the G059 forested ecosite does not hold meet the minimum snag density criteria to be considered *candidate* SWH. As such, bat maternity roost habitat SWH is not considered present within the study area.

4.3.1.3 Candidate Turtle Wintering Area

Candidate turtle wintering area SWH was identified on-site within the open water marsh communities and Stones Lake (Ecosite: G145). The permanent open water and water depths within these aquatic habitats is likely to provide suitable overwintering habitat. The meadow marsh and swamp communities (G144, G134, G130) were observed to lack sufficient depths to provide overwintering habitat but were included within the scope of the basking surveys.

Turtle wintering area SWH may be identified as permanent water bodies, large wetlands and bogs or fens with adequate dissolved oxygen, water deep enough to avoid freezing and have soft mud substrates (OMNRF, 2015). Defining criteria for turtle wintering area SWH in ecoregion 5E is the presence of 5 or more over-wintering midland painted turtles (*Chrysemys picta marginata*), or 1 or more northern map turtle (*Graptemys geographica*) or snapping turtle (*Chelydra serpentina*). Table 4.1 below summarizes the results of the turtle basking surveys described in Section 2.2.4 of this report.

Table 4.2 Summary of Turtle Basking Survey Results for Turtle Wintering Area SWH

Wetland Location	Date	Turtles Observed	Confirmed SWH for Turtle Overwintering
G130 (#1)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
	June 10, 2025	-	No
G130 (#2)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
	June 10, 2025	-	No
G130 (#3)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
	June 10, 2025	-	No
G130 (#4)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
	June 10, 2025	-	No
G130 (#5)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
	June 10, 2025	-	No
G130 (#6)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
	June 10, 2025	-	No
G144 (#1)	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	No

G144 (#2)	June 10, 2025	-	No
	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
G144 (#3)	June 10, 2025	-	No
	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
G144 (#4)	June 10, 2025	-	No
	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
G144 (#5)	June 10, 2025	-	No
	May 14, 2025	-	
	May 27, 2025	-	
	June 2, 2025	-	
	June 4, 2025	-	
G134	June 10, 2025	-	No
	May 14, 2025	1 – Midland Painted Turtle	
	May 27, 2025	2 – Midland Painted Turtle	
	June 2, 2025	2 – Midland Painted Turtle	
	June 4, 2025	2 – Midland Painted Turtle	
G145 (#1)	June 10, 2025	2 – Midland Painted Turtle	Yes
	May 14, 2025	3 – Midland Painted Turtle	
	May 27, 2025	2 – Midland Painted Turtle	
	June 2, 2025	3 – Midland Painted Turtle	
	June 4, 2025	2 – Midland Painted Turtle	
G145 (#2)	June 10, 2025	5 – Midland Painted Turtle	Yes
	May 14, 2025	5 – Midland Painted Turtle	
	May 27, 2025	6 – Midland Painted Turtle	
	June 2, 2025	6 – Midland Painted Turtle	
	June 4, 2025	6 – Midland Painted Turtle	
	June 10, 2025	4 – Midland Painted Turtle	

Turtle basking surveys were completed on five occasions targeting the local wetland habitats on-site. Observations from the basking turtle surveys indicate the presence of more than 5 midland painted turtles floating marsh communities (Ecosites: G145) and the connected Stones Lake, confirming the SWH within this area. No SWH was confirmed for remaining wetland communities. The area considered to be the SWH is illustrated on Figure A.5 of Appendix A.

Impacts to *confirmed* turtle wintering area from the proposed development are discussed in Section 6.

4.3.1.4 Candidate Deer Yarding Area

Candidate deer yarding areas SWH was identified on-site within the forested habitats (Ecosite: G059).

Deer yarding area SWH may be identified as mixed or deciduous forest with plenty of browse available for food (Stratum II), and coniferous forest of hemlock, cedar, and spruce with more than 60% canopy cover (Stratum I). Agricultural lands may also be included (Stratum II).

There are no studies needed to confirm deer yarding habitat. Generally, there will be a history of traditional use of the yard by deer. As such, deer yards are mapped by OMNRF district offices. Following a review of OMNRF deer yard maps, Stratum II yards were identified on-site. Impacts to *confirmed* deer yarding areas from the proposed development are discussed in Section 6 below.

4.3.2 Specialized Habitats for Wildlife

Specialized wildlife habitats are microhabitats that provide a critical resource to some groups of wildlife. The Significant Wildlife Habitat Technical Guide (OMNR, 2000) and Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015) identify 10 specialized habitats that may constitute SWH, these 10 types of specialized wildlife habitats are evaluated in Table C.3 in Appendix C.

Following a review of Table C.3 in Appendix C, four specialized wildlife habitats have been identified on-site or within the study area: *candidate* waterfowl nesting habitat, *candidate* woodland raptor nesting, *candidate* woodland amphibian breeding habitat, and *candidate* wetland amphibian breeding habitat. The SWH are discussed in detail in the subsections below.

4.3.2.1 Candidate Waterfowl Nesting Area

Candidate waterfowl nesting area SWH has been identified on-site based on the presence of suitable marsh habitat adjacent to upland habitat (Ecosites: G130, G134, G144, G145, G045, G048, G059). The habitat is defined as all upland habitats within 120 m of suitable wetland communities (OMNRF, 2015a). Fifteen waterfowl species are listed as indicator species for waterfowl nesting areas. The defining use criteria for the SWH is a total of 3 nesting pairs of listed

species excluding mallard (*Anas platyrhynchos*), or 10 nesting pairs for listed species including mallard.

Breeding bird surveys were conducted as part of this EIS. One indicator species was observed throughout the targeted breeding bird surveys; Canada goose. Observations from the breeding bird surveys indicate the species was observed as transient, no breeding pairs were observed on-site. Furthermore, no waterfowl nesting areas are mapped on-site following a review of Ontario Geohub wildlife value area occurrence data. Given the results of the survey efforts and desktop review, waterfowl nesting area is not considered present within the study area.

4.3.2.2 Candidate Woodland Nesting Raptor Habitat

Woodland nesting raptor habitat provides critically important breeding habitat for nine species of raptor. Habitats are often used annually by these species with nests sites being rarely identified. The presence of one or more active nests from species list is considered significant under the defining use criteria (OMNRF, 2015).

The subject property meets the defining use criteria in that candidate woodland nesting raptor habitat may be found in all natural or conifer plantation woodland/forest stands (Ecosites: G048, G059). However, no indicator raptor species were observed or stick nests have been observed on-site following the completion of the breeding bird surveys. As such, *confirmed* woodland nesting raptor habitat is not considered present on-site and is not discussed or evaluated further in this EIS.

4.3.2.3 Candidate Woodland Amphibian Breeding SWH

Candidate woodland amphibian breeding habitat was identified on-site based on the presence of indicator species as well as appropriate habitat conditions of the on-site wetlands and forested communities (Ecosites: G130, G134, G144, G048, G059).

Candidate woodland amphibian breeding habitat provides critically important breeding habitat for eight amphibian species. Woodland amphibian breeding habitat can be located in all forested ecosites that have or are adjacent to a wetland, pond or woodland pool (including vernal pools) greater than 500 m² (about 25 m diameter). The defining criteria for confirmed woodland amphibian breeding SWH is the presence of breeding populations of one or more listed newt/salamander species, two or more of the listed frog/toad species with at least 20 individuals, or two or more of the listed frog/toad species with a call level code 3.

To evaluate the potential for the habitat on-site to provide amphibian breeding habitat, a series of amphibian breeding surveys were conducted. Table 4.3 below summarizes the results of the amphibian breeding surveys described in Section 2.2.5 of this report. Figure A.2 of Appendix A illustrates the survey locations.

Table 4.3 Summary of Amphibian Breeding Call Surveys for Woodland/Wetland SWH

Survey Location	Breeding Habitat	Species / Highest Call Code / Date	Confirmed SWH
1	Woodland	-	No
2	Woodland	-	No
		SPPE / 3 / May 15, 2025	
3	Wetland	BUFR / 2-10 / June 25, 2025	Yes
		GRFR / 2-20 / June 25, 2025	
4	Woodland	SPPE / 2-10 / May 26, 2025	No
5	Woodland	SPPE / 3 / May 26, 2025	Yes
		GRTR / 3 / May 26, 2025	

Notes: SPPE = Spring Peeper, GRTR = Gray Treefrog, GRFR = Green Frog, NLFR = Northern Leopard Frog, AMTO = American Toad, CHFR = Western Chorus Frog, BUFR = Bull Frog. Call Codes: the first number indicates the call code where: (1) number of individuals can be accurately counted, (2) individuals can be readily estimated, (3) calls are continuous and overlapping, such that estimates of individuals are not reliable. The second number identifies the number of individuals calling. Call codes of 3 do not have a second number, as individual estimates are not possible.

Based on review of Table 4.3 above and observations made during the field investigations, the northernmost open marsh and hardwood swamp wetland communities on-site (Ecosites: G144, G130) and adjacent woodland habitat (230 m buffer from identified wetlands) meet the defining use criteria for *confirmed* woodland amphibian breeding SWH. The area considered to be the SWH is illustrated on Figure A.5 of Appendix A. Impacts to woodland amphibian breeding habitat from the proposed development are discussed in Section 6 below.

4.3.2.4 Candidate Wetland Amphibian Breeding SWH

Candidate wetland amphibian breeding habitat provides critically important breeding habitat for twelve amphibian species. Wetland amphibian breeding habitat can be located in all ecosites associated with swamps, marshes, fens, bogs, open water and shallow water. Typically, these wetland ecosites will be isolated (greater than 120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. bull frog) may be adjacent to woodlands.

The defining use criteria for confirmed wetland amphibian breeding SWH is the presence of breeding populations of one or more listed newt/salamander species, two or more of the listed frog/toad species with at least 20 individuals, or two or more of the listed frog/toad species with a call level code 3, or with confirmed breeding bullfrogs.

Based on review of Table 4.3 above, wetland habitat on-site meets the defining use criteria for *confirmed* wetland amphibian breeding SWH for station 3 based on the observed presence of breeding bull frogs. The area considered to be the SWH is illustrated on Figure A.5 of Appendix

A. Impacts to wetland amphibian breeding habitat from the proposed development are discussed in Section 6 below.

4.3.3 Habitats of Species of Conservation Concern

Provincial rankings are used by the Natural Heritage Information Centre to set protection priorities for rare species, similar to those described in Section 3.5 above for vegetation communities. Provincial rankings (S-ranks), are not legal designations such as those used to define the various protection statuses of species at risk, they are only intended to consider factors within the political boundaries of Ontario that might influence a particular species abundance, distribution or population trend.

Based on the guidance provided in the Significant Wildlife Habitat Ecoregion Criterion Schedules (MNRF, 2015), when a plant or animal element occurrence is recorded for any species with an S-rank of S1 (extremely rare), S2 (very rare), S3 (rare to uncommon) or SH (historically present), the corresponding vegetation ecosite is considered to provide *candidate* habitat for species of conservation concern and further consideration within the EIS is warranted.

The Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015), provides four general habitat types known to support a wide range of species of conservation concern in Ontario. The four general habitat types for Ecoregion 5E-11 are provided in Table C.5 in Appendix C, including a brief rationale as to why they are or are not considered further in this EIS. Following review of Table C.5 in Appendix C, two habitats of species of conservation concern have been identified on-site; *candidate* marsh breeding bird habitat and habitat for special concern and rare wildlife species.

The *candidate* SWH are discussed in detail in the subsections below.

4.3.3.1 Candidate Marsh Bird Breeding Habitat

Candidate marsh bird breeding habitat has been identified on-site based on the presence of suitable marsh habitats (Ecosites: G130, G144, G145). The habitat is defined as the area of the corresponding marsh ecosite (OMNRF, 2015a). Nineteen avian species are listed as indicator species for marsh bird breeding habitat. The defining use criteria for the SWH is a total of 5 nesting pairs of sedge wren (*Cistothorus stellaris*) or marsh wren (*Cistothorus palustris*), or 1 pair of sandhill crane (*Antigone canadensis*), or 5 or more of the listed species.

Breeding bird surveys were conducted as part of this EIS. One indicator species was observed throughout the 2025 field surveys; common loon (*Gavia immer*). A single pair was heard calling during the nocturnal amphibian breeding surveys. Furthermore, no colonial waterbird nesting areas are mapped on-site following a review of Ontario Geohub wildlife value area occurrence data. Given the results of the survey efforts and desktop review, significant marsh bird breeding habitat is not considered present within the study area.

4.3.3.2 Special Concern and Rare Wildlife Species SWH

Based on observation data from the field investigations, two species of special concern has been identified on-site or within the broader study area, eastern wood-pewee (*Contopus virens*) and wood thrush (*Hylocichla mustelina*). No other species of special concern or rare wildlife species were identified on-site or within the broader study area. A review of the NHIC online database indicates occurrence records for eastern wood-pewee, wood thrush, and snapping turtle (*Chelydra serpentina*).

Eastern Wood-pewee

The eastern wood-pewee is a small flycatcher bird with an S-rank of S4 (uncommon but not rare) and is listed as a species of special concern in Ontario. The species is often found near clearings and forest edges. The NHIC database indicates the presence of species within the study area. The species was observed during the field investigations. Forested habitat on-site (Ecosite: G048, G059) provides suitable nesting and foraging habitats to support eastern wood-pewee. Potential impacts to rare and special concern wildlife species are discussed in Section 6 below.

Wood Thrush

The wood thrush (*Hylocichla mustelina*) is a medium-sized songbird with an S-rank of S4 (uncommon but not rare) in Ontario. Wood thrush is a woodland species often found in moist, deciduous hardwood or mixed forests stands, with dense deciduous undergrowth and tall trees. The NHIC database indicates the presence of species within the study area. The species was observed during the field investigations. Forested habitat on-site (Ecosite: G048, G059) provides suitable nesting and foraging habitats to support wood thrush. Impacts to wood thrush and their habitat from the proposed development are discussed in Section 6.

Snapping Turtle

The snapping turtle is a highly aquatic turtle species with an S-rank of S3 (rare to uncommon) and is listed as a species of special concern in Ontario. Snapping turtles are aquatic generalists, found in a variety of wetlands, water bodies and watercourses. The species was not observed during the field investigations. However, given the availability of potentially suitable aquatic habitat (Ecosites: Stones Lake, G145) on-site and presence of other turtle species, there is a moderate potential for snapping turtle and its habitat to occur on-site. Potential impacts to snapping turtle from the proposed development are discussed in Section 6.

4.3.4 Animal Movement Corridors

Animal movement corridors are elongated areas used by wildlife to move from one habitat to another and allow for the seasonal migration of animals (OMNRF, 2015). The Significant Wildlife Habitat Ecoregion Criterion Schedules for Ecoregion 5E-11 (OMNRF, 2015), identifies three types of animal movement corridor: amphibian movement corridors, cervid movement corridors, and furbearer movement corridors.

Following review of Table C.6 in Appendix C, amphibian and cervid movement corridors have been identified on-site. The amphibian corridors are associated with the wetland amphibian breeding habitat on-site (Ecosites: G145). The cervid movement corridors have been identified within the forested habitats on-site (Ecosites: G059), associated with the Stratum II deer yards identified through the wildlife values site (OMNRF, 2020b). The area considered to be the SWH is illustrated on Figure A.5 of Appendix A. As such, impacts to amphibian and cervid movement corridors from the proposed development are discussed in Section 6.

4.4 Fish Habitat

The protection of fish and fish habitat is a federal responsibility and is administered by the Department of Fisheries and Oceans Canada (DFO). Fish habitat as defined in the Fisheries Act (Canada, 1985) means, “spawning grounds and nursery, rearing food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.”

When development is unable to avoid resulting in the harmful alteration, disturbance or destruction (HADD) of fish habitat from typical projects, impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under the Fisheries Act is required for the project to proceed.

A fisheries assessment was not conducted as part of this EIS, until such time that a fisheries assessment is completed, the local wetlands and the unnamed watercourses on-site are assumed to provide fish habitat.

Potential impacts to fish and fish habitat from the proposed development are discussed in Section 6.

4.5 Species at Risk

The probability of occurrence for species at risk to occur on-site and within the broader study area was determined through the desktop review stage of this EIS, as described in Section 2.1, and through the site-specific surveys conducted as part of this EIS, outlined in Section 2.2.

Table C.7 in Appendix C, provides a summary of all species at risk which were determined to have the potential to occur on-site or within the broader study area, their protection status under the provincial Endangered Species Act (Ontario, 2007), their probability of occurrence and a brief rationale of that probability. Impacts to endangered or threatened SAR determined to have a moderate or high potential to occur on-site or within the broader study area are discussed further in Section 6.

5.0 PROPOSED PROJECT

The proposed project assessed for potential impacts on the natural heritage features determined to be present within the broader study area includes a zoning by-law amendment and a proposed development application on a 6.3 ha area of the existing property. The current plan of development includes new internal roadways, low impact permeable pathing, parking lots, a distillery, a storage facility, a commercial storefront, installation of a culvert crossing, a six-storey hotel, and outdoor spa cabins with amenities. It is understood that the proposed development will occur over two phases. Future development is anticipated in the long term, to be considered under future separate application. Should any aspect of the current proposed development change, this EIS should be revised to reflect the development plan. The proposed development plan is illustrated on Figure A.4 of Appendix A.

Components of the proposed project considered in the impact assessment presented in Section 6 are likely to include: tree clearing and vegetation grubbing, fill placement and elevation grading, parking lot construction, roadway construction, excavation and pouring of foundations, construction of commercial and residential buildings, all on private services, and general landscaping activities.

The proposed stormwater management for the development is an on-site water treatment plant, to be located centrally on the subject property, outside of surface water setbacks. Stormwater management is to be completed in accordance with the County of Renfrew Official Plan (Renfrew County, 2020). The stormwater management infrastructure is understood to include a minimum of 80% total suspended solids removal. Stormwater management and water servicing plans are to be provided under separate cover.

Potential environmental impacts from the proposed project are discussed in relation to proposed construction in Section 6 below.

6.0 IMPACT ASSESSMENT

Potential impacts to natural heritage features on-site and within the broader study area are assessed for direct, indirect and cumulative effects based on the proposed project outlined in Section 5. Natural heritage features identified in Section 4 of this report as present or likely to be present are discussed in the subsections below.

Potential effects to the environment of the site from the proposed development outlined in Section 5 include: a loss of woodlands, vegetation removal, habitat fragmentation and loss, disturbance of the natural soil mantle, increased noise generation, increased human disturbance, increase stormwater generation, increased nutrient loading to adjacent surface water features, increase in impervious surface, short-term increases in sedimentation and/or erosion, and wildlife habitat loss.

6.1 Unevaluated Wetlands

Local unevaluated wetlands occur on-site and within the study area. As minimal in-water work is currently anticipated (culvert installation within existing watercourse) as part of the proposed project, potential impacts are anticipated to be primarily indirect in nature.

Indirect impacts may include increased long-term human disturbance such as dumping of refuse and yard waste and trampling of riparian habitats, increase storm water generation and potentially increased nutrient loading to adjacent surface water features. Other potential impacts include short duration construction impacts, including: heavy machinery encroachment, compaction and fill placement.

Mitigation measures intended to protect local unevaluated wetlands from negative impacts are discussed in Section 7.

6.2 Significant Wildlife Habitat

The potential presence of *candidate* significant wildlife habitat on-site and within the study area was evaluated in Section 4.3. As a result of this assessment, seven significant wildlife habitats were determined to be present on-site or within the study area and within the impact footprint of the proposed project; *confirmed* turtle wintering area, *confirmed* deer yarding areas, *confirmed* woodland amphibian breeding habitat, *confirmed* wetland amphibian breeding habitat, *confirmed* habitats of special concern and rare wildlife species SWH for eastern wood-peewee, wood thrush, and snapping turtle, and *confirmed* animal movement corridor for amphibian and cervid.

Potential impacts to each type of SWH are discussed in greater detail in the following subsections, while mitigation measures intended to prevent such impacts are presented in Section 7.

6.2.1 Confirmed Turtle Wintering Area

Confirmed turtle wintering area has been identified on-site within the open water areas of the open water marsh wetland communities (Ecosites: G145). *Confirmed* turtle wintering areas are mapped on Figure A.5 of Appendix A.

Impacts to turtle wintering areas are associated with impacts to local wetlands. Other impacts include increased road mortality, particularly during the migration season when turtles are more transient.

Mitigation measures to reduce impacts to *confirmed* turtle wintering area SWH are outlined in Section 7.

6.2.2 Confirmed Deer Yarding Habitat

Confirmed deer yarding habitat was identified within the mixedwood forest habitat on-site (Ecosites: G059).

Direct impacts to deer yarding habitat SWH will include the loss of up 0.9 ha of mixed wood forest habitat. The direct loss of deer yarding SWH on-site is anticipated to be minimal given the development represents a < 0.1% loss of edge habitat from the greater than 2300 ha mapped Stratum II area.

Indirect impacts include habitat encroachment and increased human presence following development.

Mitigation measures to protect *confirmed* woodland amphibian breeding habitat are provided in Section 7.

6.2.3 Confirmed Woodland Amphibian Breeding Habitat

Confirmed woodland amphibian breeding habitat was identified within the wetland habitats (Ecosites: G144, G130) and extends 230 m into adjacent forested ecosites (Ecosites: G059).

As no in-water work is proposed within woodland amphibian breeding SWH, potential impacts to *confirmed* woodland amphibian breeding SWH are associated with indirect impacts to wetland habitats and impacts to turtle wintering habitat, as well as a direct loss of approximately 1.7 ha of suitable woodland habitat.

Mitigation measures to protect *confirmed* woodland amphibian breeding habitat are provided in Section 7.

6.2.4 Confirmed Wetland Amphibian Breeding Habitat

Confirmed wetland amphibian breeding habitat was identified within the floating marsh wetland habitats on-site (Ecosites: G145).

As no in-water work is proposed within wetland amphibian breeding SWH, potential impacts to *confirmed* woodland amphibian breeding SWH are associated with indirect impacts to wetland habitats and impacts to turtle wintering habitat.

Mitigation measures to protect *confirmed* wetland amphibian breeding habitat are provided in Section 7.

6.2.5 Habitats of Special Concern and Rare Wildlife Species

6.2.5.1 Eastern Wood-Pewee, Wood Thrush

Eastern wood-pewee and wood thrush are small, avian insectivores that are listed as species of special concern in Ontario. The NHIC indicates the presence of these species within 1 km of site. The eastern wood-pewee and wood thrush were observed during the site investigations.

Impacts to avian species of special concern include a direct loss of approximately 4.6 ha of suitable forested habitat. Indirect impacts include a minor increase in human presence, human-wildlife interaction, and increased noise levels. Impacts from increased human presence are anticipated to be minimal given the existing surrounding development and the abundance of habitat in the greater study area.

Mitigation measures intended to prevent negative impacts to nesting and foraging avian species of special concern are presented in Section 7.

6.2.5.2 Snapping Turtle

Snapping turtle is a freshwater turtle found in a variety of permanent aquatic features including wetlands, waterbodies and watercourses. In Ontario, the Snapping Turtle is listed as a species of special concern. The NHIC indicates the presence of the species within 1 km of site. The species was not observed during the field investigations.

As no in water work is proposed as part of the project, impacts to snapping turtles and their habitat are associated with indirect impacts to local wetlands and impacts to turtle wintering habitat.

Mitigation measures to protect snapping turtle and their habitat from the proposed development are presented in Section 7.

6.2.6 Animal Movement Corridors – Cervid

Animals move between areas to satisfy their life history requirements, white-tail deer migrate seasonally between summer and winter ranges to access foraging habitats of agricultural lands and deciduous forests, and to winter habitats for the cover of coniferous forest stands. Cervid movement corridors require significant and continuous forest cover as deer must travel through unfamiliar territory with increased exposure to predation. (MNRF, 2014b).

The study area has been identified as a cervid movement corridor due to the association with the on-site Stratum II deer yards mapped by the OMNRF district offices, and by the evidence indicating of use found during the early spring field investigation.

Direct impacts to cervid movement corridor SWH are associated with impacts to deer yarding SWH. Despite the loss of deer yarding habitat and adjacent forested habitat, cervid movement corridors are expected to be minimally impacted by the proposed development primarily due to the size of the deer yard habitat (< 0.1% to be lost) and the location of the development at the periphery of the mapped deer yard.

Mitigation measures to protect cervid movement corridors are provided in Section 7.

6.2.7 Animal Movement Corridors – Amphibian

A number of amphibian species migrate seasonally between summer and winter ranges to access foraging habitats of agricultural lands and deciduous forests, and to winter habitats for the cover of coniferous forest stands. Amphibian corridors require wide spans of native vegetation, with several layers, either along a waterway or as an uninterrupted stretch of woodland.

For an area to function as a movement corridor for migrating amphibians it requires specific habitat features; layers of native vegetation, a waterway with a minimum of 15 metres of vegetation on either side, or a 200-metre-wide stretch of woodland habitat with gaps less than 20 metres in width.

Direct impacts to amphibian movement corridor SWH includes the loss of up to 0.9 ha forested habitat. Potential indirect impacts are associated with impacts to woodland and wetland amphibian breeding SWH. Despite the loss of forested habitats on-site, it is anticipated that the riparian zone of local wetlands, the unnamed watercourses and Stones Lake will serve as a wildlife travel corridor for wetland amphibian breeding off-site and in the surrounding area.

Mitigation measures to protect amphibian movement corridors are provided in Section 7.

6.3 Fish Habitat

According to the Provincial Planning Statement (MMAH, 2024), “development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.” Fish habitat as defined in the Fisheries Act (Canada, 1985) means “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.”

In 2019, changes were made to the Fisheries Act, broadening the protection for fish and fish habitat. Under the new Fisheries Act, protection is afforded to all fish and fish habitat, not just those that support either a recreational, commercial or Aboriginal fishery. Under the Fisheries Act, work that is conducted in or near waterbodies must avoid “the death of fish, other than by fishing”

(Canada, 1985). Furthermore, the new Fisheries Act states that work must avoid “the harmful alteration, disruption or destruction (HADD) of fish habitat” (Canada, 1985).

When activities are unable to avoid or mitigate harm to fish or fish habitat from typical project impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under Subsection 35 (2) of the Fisheries Act is required for the project to proceed without contravening the Act.

Based on the proposed development plans, at least one culvert crossing is to be installed to accommodate the new internal roadways. The proposed in-water works require proper authorization, approval, and/or permits from regulatory agencies including the Department of Fisheries and Oceans (DFO). A DFO request for review has not been submitted at the time of this reporting.

Potential indirect impacts to surface water features resulting from construction activities and from increased runoff following construction may include: alterations to water quality, increased storm water runoff, overland flow and concomitant sediment transport caused by an increase in impervious surface area and vegetation loss, as well as increased nutrient loading through both overland and subsurface pathways, and landscaping practices.

Mitigation measures intended to protect fish and fish habitat from negative impacts are discussed in Section 7.

6.4 Species at Risk

As outlined in the Endangered Species Act (Ontario, 2007), only species listed as threatened or endangered and their general habitat receive automatic protection. Habitat for species at risk is considered to be what is required for overwintering, nesting, and immediate life processes. For vascular plants, regulated habitat is considered as the critical root zone surrounding a member of the species. Species of special concern and their habitat do not receive protection under the ESA.

Potential impacts associated with the proposed project to threatened or endangered species identified as having a moderate or high potential to occur on-site in Section 4.7, are discussed on a species-by-species basis in the subsections below.

6.4.1 Blanding's Turtle

Blanding's turtles (*Emydoidea blandingii*) have a highly domed, smooth black carapace with small, irregular tan or yellow flecking. The most distinctive characteristic of this species is the bright yellow chin and throat. Their hinged plastron is yellow with a large dark blotch in the corner of each scute but may also be entirely black (Oldham and Weller, 2000).

In Canada, Blanding's turtles are found throughout southern and south-central Ontario from south of Manitoulin Island to western Quebec. In Ontario, Blanding's turtles are often observed utilizing

eutrophic habitats with clear water (COSEWIC, 2005). This turtle species occurs primarily in shallow water; adults are generally found in open or partially vegetated sites, whereas juveniles prefer areas that contain thick aquatic vegetation. Blanding's turtles are known to make large overland journeys between connected lakes, rivers, streams, marshes or ponds, upwards of 6 km in a single active season. Overwintering occurs in permanent pools that average about one metre in depth, or slow flowing streams (COSEWIC, 2005). A review of NHIC occurrence data indicates the species has been observed within 1 km of the site. Blanding's turtle was not observed during the targeted basking turtle surveys.

Despite the lack of observations from the targeted survey work, Blanding's turtle is anticipated to have a moderate chance to occur on site based on the NHIC occurrence data for the species and observed suitable habitat conditions (Ecosites: G145, Stones Lake). As no in water work is proposed as part of the project, impacts to Blanding's turtle and their habitat are limited to indirect impacts to local wetlands and impacts to turtle wintering area SWH.

Avoidance and mitigation measures intended to prevent harm to Blanding's turtles who have the potential to occur on-site are presented in Section 7.

6.4.2 Eastern Red Bat

Eastern red bat (*Lasiurus borealis*) are long distance migrants, travelling from the overwintering grounds in Mexico and the southern United States where they hibernate under leaf litter, with periods of torpor lasting several days (COSEWIC, 2023). In the summer the species makes long distance trips to summer ranges in the north, with the species showing high fidelity to small roosting areas (COSEWIC, 2023).

Based on the presence of suitable forested habitat within the study area, there is a potential for the eastern red bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to eastern red bat are primarily associated with the loss of forested habitat, encroachment, and increased wildlife-human interaction.

Mitigation measures intended to protect eastern red bat from impacts of the proposed development are discussed in Section 7.

6.4.3 Eastern Small-footed Myotis

Eastern Small-footed Myotis (*Myotis leibii*) primarily overwinter in caves and abandoned mines with low humidity and temperatures and stable microclimates (Humphrey, 2017). In comparison to other Ontario bat species, they are able to tolerate much colder temperatures, drier conditions and draftier locations for hibernating (Humphrey, 2017). During the spring and summer months, they utilize a variety of habitats for roosting, including under rocks or rock outcrops, in buildings, under bridges, or in caves, mines or hollow trees (Ontario, 2021a).

Based on the presence of suitable forested habitat within the study area, there is a potential for Eastern Small-footed Myotis to occur on the property, primarily for foraging or non-maternal roosting. Impacts to Eastern Small-footed Myotis are primarily associated with the loss of forested habitat, encroachment, and increased wildlife-human interaction.

Mitigation measures intended to protect eastern small-footed myotis from impacts of the proposed development are discussed in Section 7.

6.4.4 Hoary Bat

The hoary bat (*Lasius cinereus*) is a long distance migratory species, travelling from southern overwintering sites in the United States and Mexico, up to northern summer sites across Canada (COSEWIC, 2023). The species relies of forested habitats and clearing to carry out maternal roosting and foraging life processes (COSEWIC, 2023).

Based on the presence of suitable forested habitat within the study area, there is a potential for the hoary bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to hoary bat are primarily associated with the loss of forested habitat, encroachment, and increased wildlife-human interaction.

Mitigation measures intended to protect hoary bat from impacts of the proposed development are discussed in Section 7.

6.4.5 Little Brown Myotis

Little brown myotis (*Myotis lucifugus*) overwinter in caves and abandoned mines, they require highly humid conditions and temperatures that remain above the freezing mark (Ontario, 2021b). During the summer months, maternity colonies are often located in buildings or large-diameter trees. Little brown myotis roost in trees and buildings. Foraging occurs over water and along waterways, forest edges and in gaps in the forest. Open fields and clear-cuts are not typically utilized for foraging (COSEWIC, 2013).

Based on the presence of suitable forested habitat within the study area, there is a potential for there is a potential for little brown myotis to occur on the property, primarily for foraging or non-maternal roosting. Impacts to little brown myotis are primarily associated with the loss of forested habitat, encroachment, and increased wildlife-human interaction.

Mitigation measures intended to protect little brown myotis from impacts of the proposed development are discussed in Section 7.

6.4.6 Silver-haired Bat

Silver-haired bat (*Lasionycteris noctivagans*) is a large-bodied insectivorous bat. The fur black to dark brown, often with silver or grey tips and is found across Canada in the summer months and during fall migration (COSEWIC, 2023).

The full extent of the Canadian range is not well known due to lack of survey efforts. The species is a long-distance migrant, travelling from overwintering sites in the southern United States and Mexico up to summer sites in Canada (COSEWIC, 2023). The species shows high fidelity to forested ecosites with clearings, where summer maternal roosting and foraging occurs (COSEWIC, 2023).

Based on the presence of suitable forested habitat within the study area, there is a potential for the silver-haired bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to silver-haired bat are primarily associated with the loss of forested habitat, encroachment, and increased wildlife-human interaction.

Mitigation measures intended to protect silver-haired bat from impacts of the proposed development are discussed in Section 7.

6.4.7 Tri-colored Bat

Tri-colored Bat (*Perimyotis subflavos*) overwinter in caves or mines, and have very rigid habitat requirements; they typically roost in the deepest parts where temperatures are the least variable, and have the strongest correlation with humidity levels and warmer temperatures (COSEWIC, 2013). In the spring and summer, Tri-colored Bat utilize trees, rock crevices and buildings for maternity colonies. Foraging is mainly done over watercourses and streamside vegetation (COSEWIC, 2013).

Based on the presence of suitable forested habitat within the study area, there is a potential for the Tri-colored Bat to occur on the property, primarily for foraging or non-maternal roosting. Impacts to Tri-colored Bats are primarily associated with the loss of forested habitat, encroachment, and increased wildlife-human interaction.

Mitigation measures intended to protect tri-colored bat from impacts of the proposed development are discussed in Section 7.

6.4.8 Black Ash

Black ash (*Fraxinus nigra*) is a medium-sized tree that can reach heights of up to 27 m. It is distinguished by its compound leaves, typically made up of 9 stalkless, hairless leaflets, as well as its soft, corky bark.

The Canadian range for black ash extends from western Newfoundland to southeastern Manitoba (Ontario, 2023a). It is a shade-intolerant species that is typically found on moist to wet sites, including swamps, bogs and riparian areas.

Black ash trees were observed within the mixedwood forest and wetland communities (Ecosite: G059, G130). A scoped black ash inventory was not completed as part of this EIS. Areas noted to have black ash saplings or adult trees were incidentally demarcated during the 2025 survey

work. Under the current development plan, it is anticipated that a portion of these communities will be impacted by the proposed development, including the loss of black ash.

Any construction, disturbance or destruction within the critical root zone of a black ash tree will require a black ash health assessment to be completed, and potentially, if the tree is deemed healthy, will require permitting with the MECP.

Mitigation measures intended to protect black ash from impacts of the proposed development are presented in Section 7.

6.4.9 Butternut

Butternut (*Juglans cinerea*) is a relatively short lived, medium-sized tree that can reach heights of up to 30 m. It is easily distinguished by its compound leaves, made up of 11 to 17 leaflets, arranged in a feather-like pattern. Each leaflet is 9 to 15 centimetres in length. The bark is grey and smooth on young trees, becoming more ridged with age. Butternut is a member of the walnut family and produces edible nuts in the fall.

The Canadian range for Butternut extends through southern Ontario into southern Quebec, and New Brunswick (COSEWIC, 2003). Butternut is a shade intolerant tree that is commonly found in riparian habitats, and sites in a regenerative state. Butternut can also be found on rich, moist, well-drained gravels, favouring those of limestone origin. Common associates of Butternut trees include: basswood, black cherry, beech, black walnut, elm, hickory, oak, red maple, sugar maple, yellow poplar, white ash and yellow birch.

A total of two butternut were observed on-site during the 2025 field investigations within suitable habitat of the mixedwood forest community (Ecosite: G059). The identified butternut are not within the area of proposed development and are not anticipated to be impacted.

Any construction, disturbance or destruction within the critical root zone of a butternut tree will require a butternut health assessment to be completed, and potentially, if the tree is deemed healthy, will require permitting with the MECP.

Mitigation measures intended to protect butternut from impacts of the proposed development are presented in Section 7.

6.5 Cumulative Impacts

Cumulative impacts to the natural environment at the site are anticipated to include a minor increase in habitat fragmentation, increased human presence, increased wildlife and human interaction and increased noise, and increased road mortality for particularly for herptile species.

Cumulative impacts such as those listed above can be mitigated by implementing the recommended mitigation measures outlined in Section 7 below.

7.0 RECOMMENDED AVOIDANCE AND MITIGATION MEASURES

The following avoidance and mitigation measures have been recommended by GEMTEC in order to minimize or eliminate potential environmental impacts identified in Section 6. As such, the following avoidance and mitigation measures should be enforced throughout the development through application of Site Plan Controls.

For the purpose of this report, a setback is defined as the minimum required distance between any structure, development or disturbance and a specified line. A buffer, for the purpose of this report, is defined as the area located between a natural heritage feature and the prescribed setback. For the purpose of the following subsections, buffers should be located between natural heritage features and lands subject to development or alteration, be permanently vegetated by native or non-invasive, self sustaining vegetation and protect the natural heritage feature against the impact of the adjacent land use.

Vegetated buffers, particularly buffers that are vegetated with a mix of grassy herbaceous vegetation and shrubby or woody vegetation are most effective in mitigating impacts associated with anthropogenic activities in adjacent lands (Beacon, 2012). Buffers recommended in the following subsections and illustrated on Figure A.6, are done so within the context of the existing environmental disturbances but also to promote reasonable natural rehabilitation. In the subsections below, where possible, literature references for studies used as the basis of the recommended buffer widths are provided.

7.1 Unevaluated Wetlands

No negative impacts on the integrity of local unevaluated wetlands are anticipated as a result of the proposed development if all mitigation measures recommended below area implemented and best management practices followed. The local unevaluated wetlands can be protected against potential impacts of the proposed development through the implementation of a construction setback.

Beacon Environmental Review of Ecological Buffers (2012) provides a range for buffer widths to protect various natural heritage features based on the current science. The buffers are presented in a way that determines the risk of not achieving the desired buffer function (i.e. high, moderate and low). The functions analysed include water quality, screening or human disturbance/changes in land use, hazard mitigation zone and core habitat protection. Impacts to the local unevaluated wetlands on-site and off-site were identified to include potential impacts to water quality, human disturbance and core habitat protection. Wetland buffer widths have a moderate risk of not providing adequate mitigation for water quality impacts at widths equal to or greater than 10 m. Wetland buffer widths have a low risk of not providing adequate mitigation for human disturbance/land use change impacts at widths equal to or greater than 30 m. Wetland buffer widths have a moderate risk of not providing adequate mitigation for core habitat protection at widths greater than 20 m but less than 30 m.

A minimum 30 m setback from all local wetlands is recommended and is illustrated on Figure A.6 of Appendix A. The recommended 30 m setback provides sufficient protection for mitigating water quality impacts and human disturbances. At 30 m, the protection the buffer offers for core habitat protection falls into the low risk of not achieving desired buffer function. The minor development of low impact pathway to existing lookouts is not anticipated to negatively impact the core habitat functions of the wetlands, associated watercourses and adjacent woodlands. No other construction outside of the low impact pathways is to be permitted within the 30 m setback.

General mitigation measures recommended for the protection of water quality include:

- Buffers should remain vegetated and where possible, be comprised of a mixture of native, self-sustaining trees, shrubs and tall grasses.
- In order to maintain the function of the buffer post development, it is recommended that the setbacks are re-zoned to environmental protection.
- All future development and construction activities within the study area, including ditching, culvert installation, erosion and sediment control and storm water management should be completed in accordance with Ontario Provincial Standard Specification 182 and OPSS 805.
- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks to prevent machinery encroachment and sediment transport.
- Install and maintain effective sediment and erosion control measures before starting work.
- Schedule work to avoid wet, windy and rainy periods.
- When native soil is exposed, sediment and erosion control work in the form of heavy-duty sediment fencing shall be positioned along the down gradient edge of any construction envelopes adjacent to waterbodies.
- Site grading plans should direct runoff to roadside ditches and not towards adjacent surface water features.
- The development plan should include lot-side swales and/or roadside ditches designed to promote infiltration.
- Downspouts should be directed towards lot-side swales that are in turn directed to roadside ditches and not adjacent surface water features.
- Maintain as much permeable surface area as possible in future development plans to limit the generation of stormwater runoff.
- In order to protect aquatic habitat from contamination, it is recommended that all machinery be maintained in good working condition and that all machinery be fueled a minimum of 30 m from the high-water mark.
- Any temporary storage of aggregate material shall be set back from the water's edge by no less than 40 m and be contained by heavy-duty silt fencing.
- Septic systems shall be installed no closer than 30 m from the high-water mark of any surface water feature and not located in areas of exposed bedrock.

- Best practices for siting of septic systems should be adhered to and be installed by a licenced septic system contractor ensuring all applicable regulations are met and required permits obtained.
- A stormwater management plan is to be prepared by a qualified engineer with the purpose of reducing suspended sediment, as applicable.
- The water service plan is to be prepared by a qualified engineer and is to ensure drawn down rates do not reduce surface water levels beyond permissible levels.

7.2 Significant Wildlife Habitat

7.2.1 Confirmed Turtle Wintering Area SWH

Mitigation measures presented in Section 7.1 to aid in mitigating and/or offsetting impacts to unevaluated wetlands are sufficient to protect turtle wintering habitat on-site.

To further protect migrating herptiles species on-site, exclusion fencing should be installed around the entire construction area prior to construction commencing to prohibit the movement of turtles and amphibians into the construction area. Exclusion fencing should follow guidelines established in *Species at Risk Branch Best Practices Technical Note – Reptile and Amphibian Exclusion Fencing* (OMNRF, 2013b). Stockpiled materials should be covered with a geotextile to prevent turtles from nesting in the material between May 1 and August 1 of any year. Any newly installed culverts must be sized to allow turtle crossing for turtle species identified in Section 4.3.1.3. All new roadways are to have turtle crossing signage. It is noted that existing turtle crossing signage is installed on Stones Lake Road adjacent to the G145 community.

7.2.2 Confirmed Woodland and Wetland Amphibian Breeding SWH

Mitigation measures presented in Section 7.1 and 7.2.1, are sufficient to mitigate and/or offset impacts to the aquatic component of on-site amphibian habitat (woodland and wetland).

Impacts to the forested component of woodland amphibian breeding habitat can be mitigated through minimizing tree clearing to the extent possible. Where tree clearing is required and opportunities for revegetation are present, consideration is to be given to replanting with native shrub and tree species to replace lost canopy cover.

7.2.3 Habitats of Special Concern and Rare Wildlife Species

7.2.3.1 Eastern Wood-Pewee, Wood Thrush

To protect nesting and foraging avian species of special concern on-site, vegetation removal should occur outside of March 31 to August 31 to avoid the key breeding bird period as identified by Environment Canada. If vegetation clearing activities must take place during the aforementioned timing window, then a nest survey shall be conducted by a qualified professional.

7.2.3.2 Snapping Turtle

Mitigation measures presented in Section 7.1 and 7.2.1 are sufficient to mitigate and/or offset impacts to potentially present snapping turtle on-site.

7.2.4 Animal Movement Corridors – Amphibian and Cervid

Mitigation measures presented in Section 7.1, 7.2.1, 7.2.2, and 7.3 are sufficient to mitigate and/or offset impacts to potentially present animal movement corridors (amphibian and cervid) on-site.

Establishment of a 30 m development setbacks from surface water features on-site will allow amphibian species and deer to continue to migrate along natural riparian corridors. The watercourse and wetland setbacks will in effect create a wildlife movement corridor around the proposed development, provided access to habitats of the greater study area in all directions. The wildlife travel corridor provides a variety of habitat throughout its span, including each of identified wetland and forested habitats. The availability of treed edge and riparian habitat maintained through the setbacks is anticipated to provide good quality cover for amphibians and cervids passage. Furthermore, to eliminate potential entrapment of deer within the proposed development, consideration for the prohibition of fences will help mitigate against deer migration impacts (MNRF, 2014b). Of note, additional potential for animal movement can be found along the periphery of the subject property, where there will be no barriers to animal passage.

As outlined in Section 7.1 above, to ensure that buffered areas are protected from alteration and are able to maintain the functions of a wildlife travel corridor, it is recommended that the areas within the buffer be zoned as Environmental Protection.

7.3 Fish Habitat

Mitigation measures as prescribed in Section 7.1 for the protection of the local unevaluated wetlands are sufficient to protect a portion of fish habitat on-site. In consideration of the unnamed watercourses and the portion of Stones Lake on-site, a 30 m setback is proposed for the protection of fish habitat.

General mitigation measures recommended for the protection of water quality and fish habitat include:

- Buffers should be comprised of a mixture of native, self-sustaining trees, shrubs and tall grasses.
- All future development and construction activities within the study area, including ditching, culvert installation, erosion and sediment control and storm water management should be completed in accordance with Ontario Provincial Standard Specification 182 and OPSS 805.
- Culvert crossings must be sized in such a way to ensure continued fish passage at pre-construction flows.

- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks to prevent machinery encroachment and sediment transport.
- Install and maintain effective sediment and erosion control measures before starting work.
- Schedule work to avoid wet, windy and rainy periods.
- When native soil is exposed, sediment and erosion control work in the form of heavy-duty sediment fencing shall be positioned along the down gradient edge of any construction areas adjacent to waterbodies.
- The development plan should include lot-side swales and/or road side ditches designed to promote infiltration.
- In order to protect fish habitat from contamination, it is recommended that all machinery be maintained in good working condition and that all machinery be fueled a minimum of 30 m from the high water mark.
- Any temporary storage of aggregate material shall be set back from the water's edge by no less than 40 m and be contained by heavy-duty silt fencing.
- Maintain as much permeable surface area as possible in future development plans to limit the generation of stormwater runoff.
- Best practices for siting of septic systems should be adhered to and be installed by a licensed septic system contractor ensuring all applicable regulations are met and required permits obtained.
- A stormwater management plan is to be prepared by a qualified engineer with the purpose of reducing suspended sediment, as applicable.
- The water service plan is to be prepared by a qualified engineer and is to ensure drawn down rates do not reduce surface water levels beyond permissible levels.

7.4 Species at Risk

Based on the moderate to high potential for nine threatened or endangered species at risk to occur within the study area, an Information Gathering Form is required to be submitted to the MECP to determine if the proposed development plan requires an authorization under the ESA. The outcome of the IGF submission will determine the need for additional permitting or survey works to address species at risk concerns. General mitigation measures anticipated for the protection of SAR include;

- All development on the proposed severances should occur outside of the prescribed 30 m wetland and watercourse setbacks. This is to ensure that all development occurs outside of potentially regulated habitat on-site and outside of the prescribed wetland setbacks. The setbacks are intended to provide relief from encroachment, minimize human-wildlife interaction and disturbance, protect regulated habitat, as well as maintain a vegetated buffer for on-site wetlands. The maintenance of a vegetated buffer will provide mitigation for impacts associated with sediment and nutrient loading to the wetlands.

- Vegetation removal should occur outside of the turtle active season, of April 1 to October 31, of any given year.
- All construction staff working on-site should be provided Species at Risk training to identify species at risk which a potential to occur on-site including: Blanding's turtle, SAR bats, butternut, and black ash. Training will also outline the stop work procedures and MECP reporting/consultation prior to resuming work.
- During construction if any SAR is identified on-site, all work should stop and a qualified professional and the MECP should be contacted for next steps. SAR sightings should be reported to the MECP and the NHIC.
- Following construction completion, property owners, staff, and guests will be provided with or access to information and awareness packages for SAR that have the potential to occur on the property. Information and awareness packages will include information on species identification, life-history, and habitat use for all species at risk with a potential to occur on-site, including Blanding's turtle, SAR bats, butternut, and black ash. Information packages will also include contact/reporting options to the MECP and NHIC if species are encountered.

Species specific mitigation measures anticipated to be implemented are discussed in the subsections below.

7.4.1 Blanding's Turtle

The following species-specific mitigation measures are anticipated at a minimum, and are expected to be implemented to avoid contravention of the ESA:

- Prior to any site work, reptile and amphibian exclusion fencing should be installed around the entire perimeter of any active construction areas to prevent the migration of herptile species and other wildlife into the construction zone. Given the size and scale of the proposed development, it is anticipated that portions of the development will be built up at different times, it is assumed to begin that active roadways will be fenced. As phases start to become developed, they should be fenced around the property boundary, or 30 m setback (where applicable). Placement is to be determined by the contractor and a qualified professional during construction. Temporary fencing will provide a visual demarcation of the work area for workers during construction. Exclusion fencing should follow the protocols outlined in the Species at Risk Branch: Best Practices Technical Note: Reptile and Amphibian Exclusion Fencing Version 1.1 (MNRF, July 2013).
- Each day of construction a daily pre-work sweep of the construction area should occur to ensure no SAR are present and to remove any wildlife from inside the construction area.
- Septic system installation should follow best practices to avoid impacts to water quality.
- Heavy-duty silt fencing should be installed and maintained during construction and whenever soil is exposed; the incorporation of lot-side swales and gravel laneways are

intended to promote infiltration and direct stormwater runoff to roadside ditches instead of towards adjacent waterbodies.

- Cover all stockpiled material with a geotextile to prevent turtles from nesting in the material between May 1 and August 1 of any year.
- To protect aquatic habitat for Blanding's turtles, machinery should be maintained in good working condition and all machinery should be fueled a minimum of 30 metres from the high water mark.

7.4.2 Eastern Red Bat, Eastern Small-footed Myotis, Hoary Bat, Little Brown Myotis, Silver-haired Bat, and Tri-Colored Bat

Regulated habitat for SAR bats is assumed to be present within the on-site forested community (Ecosite: G059) based on suitable habitat conditions. The following species-specific mitigation measures are anticipated at a minimum, and are expected to be implemented to avoid contravention of the ESA:

- As no critical habitat (i.e. overwintering caves or crevasses, or maternity roosts) were identified on-site, in accordance with MECP best management practices, to protect roosting and foraging bats, tree removal where required shall take place outside of the spring and summer active season (typically March 15 to November 30), when bats are more likely to be using forest habitat.
- To further protect bat species during vegetation removal, trees and vegetation (during the appropriate timing window) should be cleared in stages, working from the outer edge, in towards the centre, in order to provide wildlife in the forest time to migrate out.

7.4.3 Black Ash

As indicated in Section 6.4, black ash was identified within the study area. A scoped black ash inventory and health assessment were not completed as part of this EIS. Based on the observations from the site investigation, there is potential for young black ash saplings to occur within the proposed development. The following species-specific mitigation measures are anticipated at a minimum, and are expected to be implemented to avoid contravention of the ESA:

- Any black ash identified during the proposed works are to require a construction setback around the critical root zone of the individual. A qualified professional is to conduct a Black Ash Health Assessment (BAHA) to be submitted to the MECP. The results of the BAHA will identify healthy specimens on-site, which will require protection or compensation.
- Removal of healthy individual black ash will require additional mitigation measures, including planting of black ash saplings (following the rations and planting requirements outlined in the ESA), tending and monitoring the seedlings for a determined period of time following planting, and maintaining records relating to planting, tending and monitoring. Records must be submitted to the MECP.

7.4.4 Butternut

As indicated in Section 6.4, butternut was identified within the study area. No butternut were observed within the proposed development area. The following species-specific mitigation measures are anticipated at a minimum, and are expected to be implemented to avoid contravention of the ESA:

- Any butternut identified during the proposed works are to require a construction setback around the critical root zone of the individual. A qualified professional is to conduct a Butternut Health Assessment (BHA) to be submitted to the MECP. Following the BHA submission there is a 30-day period where no butternut trees can be removed, harmed or taken.
- Following the 30-day period, unless otherwise directed by MECP staff, all Category 1 trees may be harmed, removed or taken, if required.
- Following the 30-day period, a Notice of Butternut Impact must be submitted to the Kemptville MECP if a Category 2 is required to be removed, harmed or taken. The Notice of Butternut Impact must be submitted before the Category 2 tree is removed, harmed or taken. Additionally, if Category 2 trees will be impacted by the proposed project additional regulations apply including: planting butternut seedlings (following the rations and planting requirements outlined in the ESA), tending and monitoring the seedlings for a period of 2 years following planting, and maintaining records relating to planting, tending and monitoring. Records must be submitted to the MECP within 14 days of receiving a request.

7.5 Wildlife

The following avoidance and mitigation measures are provided in effort to minimize impacts to on-site and off-site wildlife:

- Vegetation removal if required should occur outside of March 15 - November 30 to avoid the key breeding bird period and bat summer active season. The timing windows provides protection of migratory birds, roosting bats and avoids contravention of the Migratory Bird Convention Act and Endangered Species Act. If vegetation clearing activities must take place during the aforementioned timing window than a nest and roost survey shall be conducted by a qualified professional.
- To minimize impacts on the natural, forested area surrounding the proposed development, outdoor lighting within the development should be limited. To minimize light pollution following construction, the use of bright, external lighting (e.g. flood lights) should be avoided. Development plans should incorporate dark night lighting in order to minimize light pollution.
- Cover all stock piled material with a geotextile to prevent turtles from nesting in the material between May 1 and August 1 of any year.

- Should any species at risk be discovered throughout the course of the proposed works, the species at risk biologist with the local MECP district shall be contacted immediately and operations ceased to avoid any negative impacts to species at risk or their habitat until further direction is provided by the MECP.

7.6 Best Practice Measures for Mitigation of Cumulative Impacts

The following best practice measures are provided for the mitigation of cumulative impacts resulting from any general construction, landscaping, and development activities;

- To protect trees identified to be retained during future activities, the Critical Root Zone (CRZ) should be identified and fenced. The CRZ is defined as 10 cm from the base of the tree for every centimetre in diameter of the tree trunk measured at breast height.
- Maintain as much permeable surface as possible in future development plans to minimize the generation of stormwater runoff.
- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks and to prevent machinery encroachment and sediment transport.
- Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized.

In effort to offset the effect of vegetation clearing, consideration should be given to landscape planting with native tree species indicative of the Great Lakes – St. Lawrence Forest Region, such as White Cedar, White Spruce, Red Maple, and Red Oak.

8.0 CONCLUSIONS

The proposed project supported by this EIS is the proposed development of a hotel and spa complex on a 6.3 ha portion of the 114 ha subject property. The proposed development includes new internal roadways, low impact permeable pathing, two parking lots, a distillery, a storage facility, commercial storefront, a water treatment plant, a six-storey hotel, and outdoor spa cabins with amenities. It is understood that future development will occur under a Phase 2 application. Should any aspect of the current proposed development change, this EIS should be revised to reflect the development plan.

Based on the results of the impact analysis, impacts to the natural environment are anticipated to be minor and mitigatable. Provided that mitigation measures recommended in Section 7 are implemented and MECP requirements regarding ESA are satisfied, no significant residual impacts are anticipated from the proposed development.

Following review of the information pertaining to the natural heritage features of the site, the following general conclusions are provided by GEMTEC in regard to the Environmental Impact Statement.

- No significant impacts to natural heritage features identified on-site, including fish habitat, significant wildlife habitats, or habitats of species at risk are anticipated as a result of future residential development.
- The proposed project complies with the natural heritage policies of the Provincial Planning Statement.
- The proposed development complies with the natural heritage policies of the Township of Greater Madawaska and the County of Renfrew Official Plan (2020).

9.0 LIMITATION OF LIABILITY

This report and the work referred to within it have been undertaken by GEMTEC Consulting Engineers and Scientists Ltd (GEMTEC), and prepared for Rick and Heather Rump and is intended for the exclusive use of Rick and Heather Rump. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Rick and Heather Rump. Nothing in this report is intended to provide a legal opinion.

The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This report has been prepared for the application noted and it is based, in part, on visual observations made at the site, all as described in the report. Unless otherwise stated, the findings contained in this report cannot be extrapolated or extended to previous or future site conditions, or portions of the site that were unavailable for direct investigation.

Should new information become available during future work, including excavations, borings or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions presented herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.



Luca Fiorindi, B.A., G.Cert.
Junior Biologist



Zachary Anderson, B.Sc., CAN-CISEC
Biologist

10.0 REFERENCES

Beacon Environmental. 2012. Ecological Buffer Guideline Review – Prepared for Credit Valley

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

Canada, Government of (Canada). 1985. Fisheries Act. R.S.C. 1985, c. F-14.

Chapman, L.J., and Putnam, D.F. 1984. The Physiography of Southern Ontario. Ontario Geological Survey, Special Volume 2.

COSEWIC. 2016. COSEWIC assessment and status report on the Blanding's Turtle *Emydoidea blandingii*, Nova Scotia population and Great Lakes/St. Lawrence population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xix + 110 pp. (<http://www.registrelepsararegistry.gc.ca/default.asp?lang=en&n=24F7211B-1>).

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

COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle *Chelydra serpentina* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp. (www.sararegistry.gc.ca/status/status_e.cfm).

Crins, J., William., P. A. Grey, P. W. Uhlig, and M.C. Wester. 2009. The Ecosystems of Ontario, Part I: Ecozones and Ecoregions. Ontario Ministry of Natural Resources, Peterborough, Ontario.

Department of Fisheries and Oceans (DFO). 2019. Aquatic Species at Risk Map. Viewed online: October 6, 2022. Available online: <http://www.dfo-mpo.gc.ca/species-especies/sara-lep/map-carte/index-eng.html>

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

eBird Canada. 2020. Explore Hotspots Map. Accessed: October 6, 2022. Available online: <https://ebird.org/canada/map>.

Fraser E., MacKenzie, A., and Davy, C. 2007. Photo Field Guide to the Bats of Ontario. Published by St. Thomas Field Naturalists Club Incorporated.

Humphrey, C. 2017. Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibii*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. Vii + 76 pp.

Oldham, M.J and W.F. Weller. 2000. Ontario Herpetofaunal Atlas.

Ontario, Government of (Ontario). 2019a. Eastern small-footed Myotis. Viewed online: September 17, 2025. Available online: <https://www.ontario.ca/page/eastern-small-footed-myotis>

Ontario, Government of (Ontario). 2019b. Little Brown Myotis. Viewed online: September 17, 2025. Available online: <https://www.ontario.ca/page/little-brown-myotis>

Ontario, Government of (Ontario). 1990. Conservation Authorities Act. R.S.O. 1990. Chapter C.27. Last amendment: 2011, C.9 Sched. 27, S. 22.

Ontario Legislative Assembly. 2007. Endangered Species Act.

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2024. Provincial Planning Statement – Under Planning Act, Toronto. May.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2020a. Wildlife Values Area. Accessed from Ontario GeoHub, viewed online September 17, 2025. Available from: <https://geohub.lio.gov.on.ca/datasets/wildlife-values-area?geometry=-117.696%2C38.917%2C-51.778%2C58.786>

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2020b. Wildlife Values Site. Accessed from Ontario GeoHub, viewed online September 17, 2025. Available from: <https://geohub.lio.gov.on.ca/datasets/wildlife-values-site>

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2018. Natural Heritage Information Request Guide.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2015a. Significant Wildlife Habitat Ecoregion 5E Criterion Schedules.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2014a. Make a Map: Natural Heritage Areas.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2014b. Significant Wildlife Habitat Mitigation Support Tool.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2013. Natural Heritage Information Centre (NHIC) Biodiversity Explorer.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2011. Land Information Ontario (LIO).

Ontario Ministry of Natural Resources (OMNR). March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.

Ontario Ministry of Natural Resources (OMNR). 2009. Draft Northern Ontario Ecological Land Classification. Ministry of Natural Resources.

Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Technical Guide.

Ontario Geological Survey 2019. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV

Ontario Nature, 2019, Ontario Reptile and Amphibian Atlas. Viewed online: Viewed online September 17, 2025. Available online: <https://www.ontarioinsects.org/herp/index.html?Sort=1&area2=squaresCounties&records=all&myZoom=5&Lat=42.95&Long=-81.01>

County of Renfrew. (Renfrew County). 2020. County of Renfrew Official Plan, March 26, 2020.

Rowe, J.S. 1972. Forest Regions of Canada. Canadian Forestry Service Publication no. 1300. Publishing Division, Information Canada.

APPENDIX A

Report Figures

Figure A.1 – Site Location

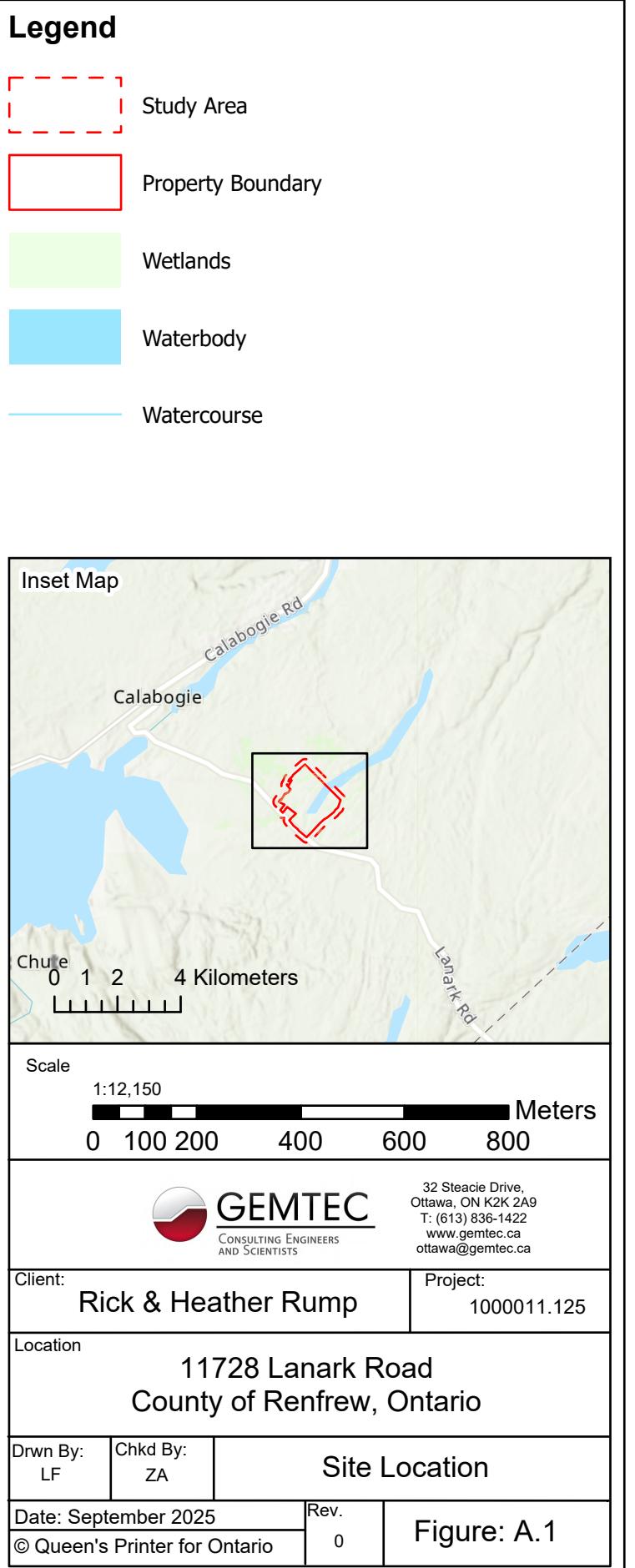
Figure A.2 – Site Layout

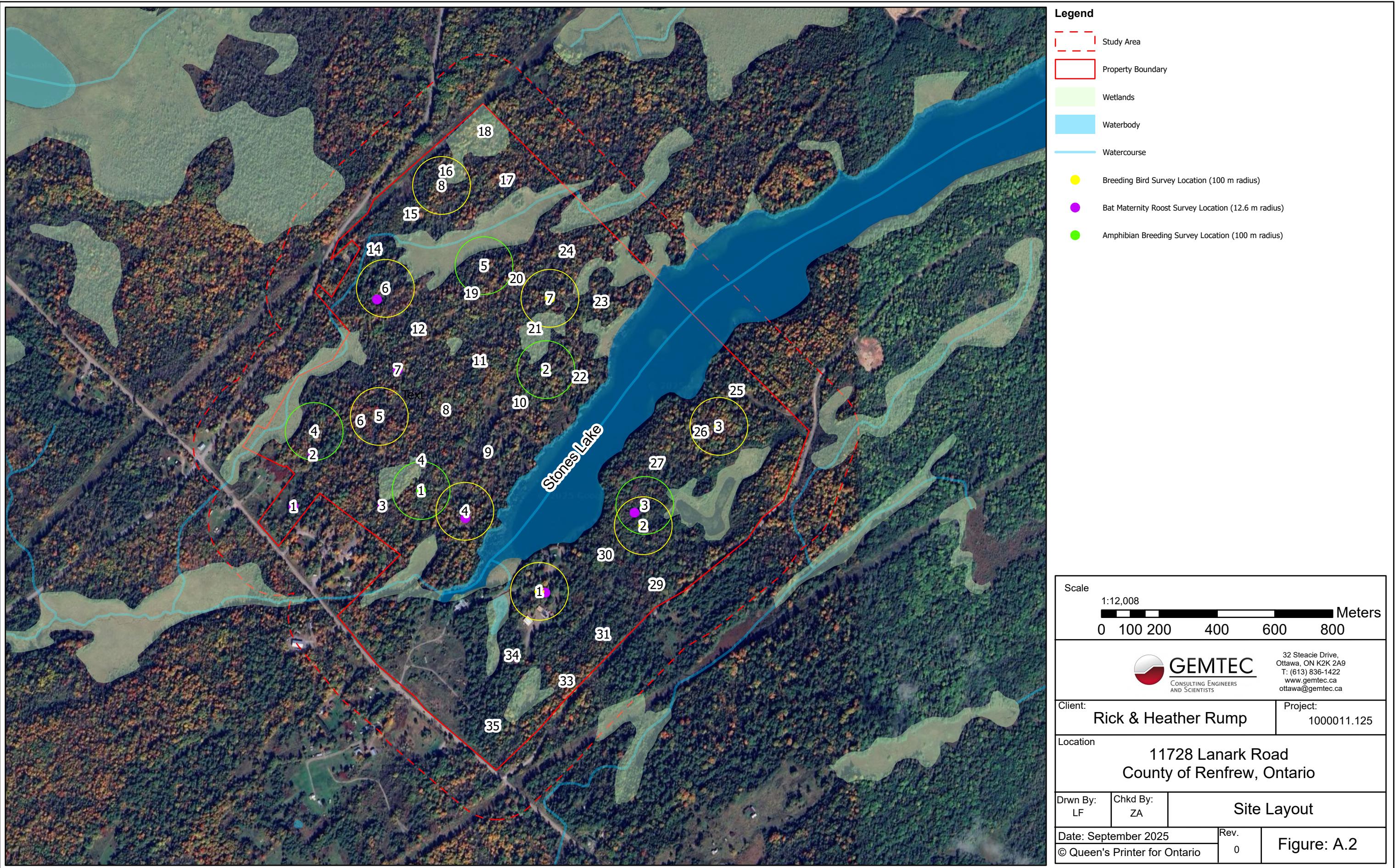
Figure A.3 – Vegetation Communities

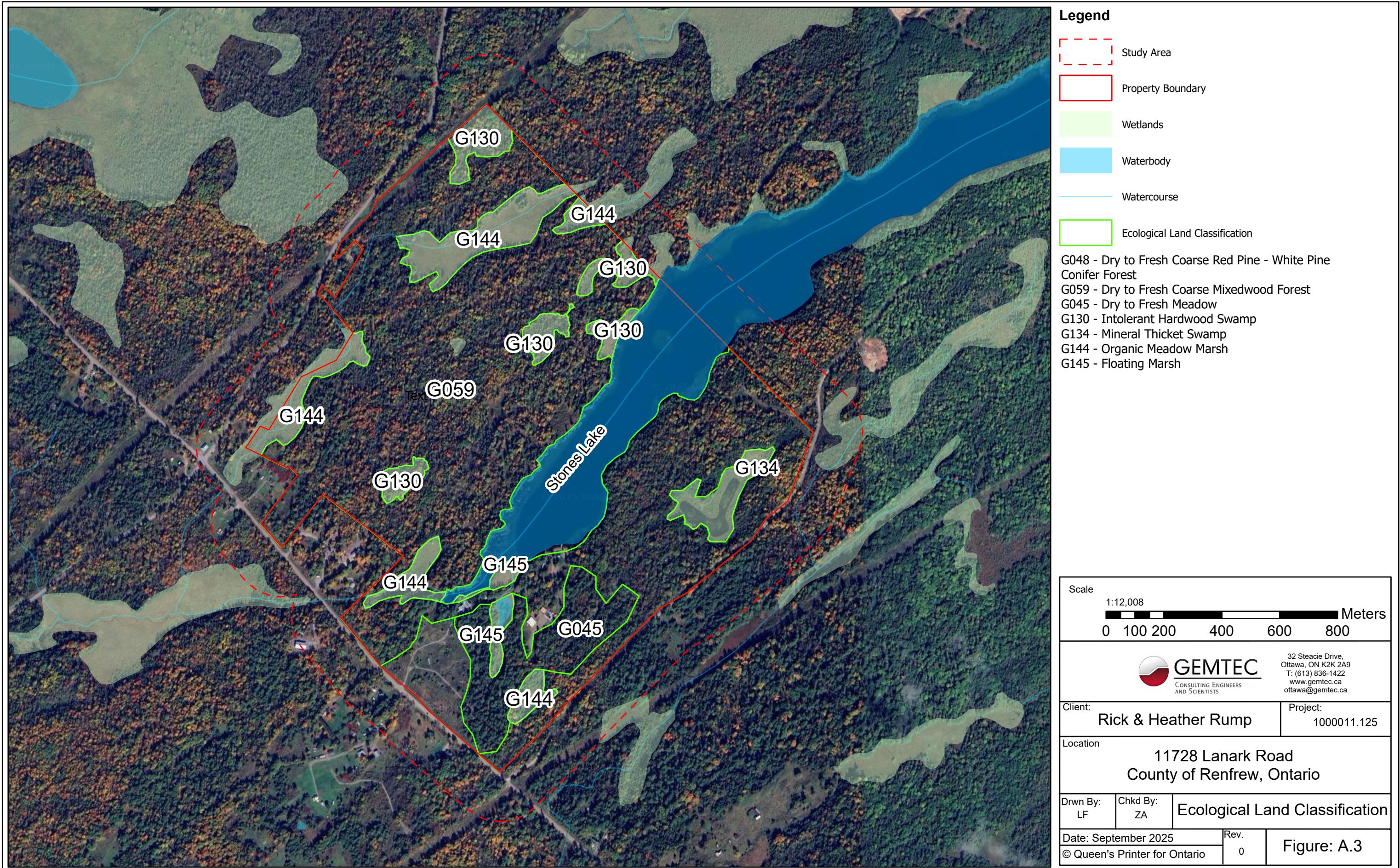
Figure A.4 – Natural Heritage Features

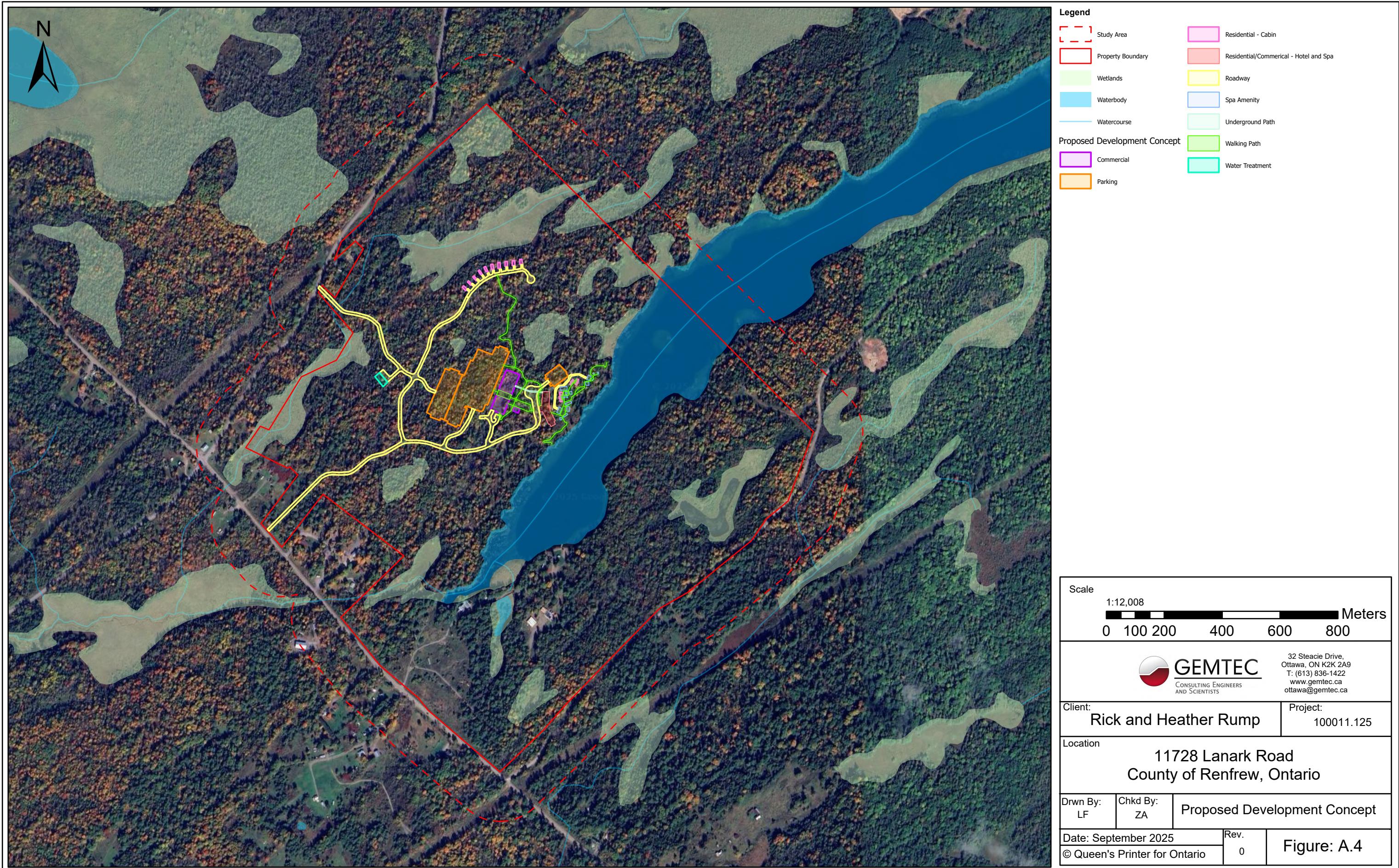
Figure A.5 – Development Concept

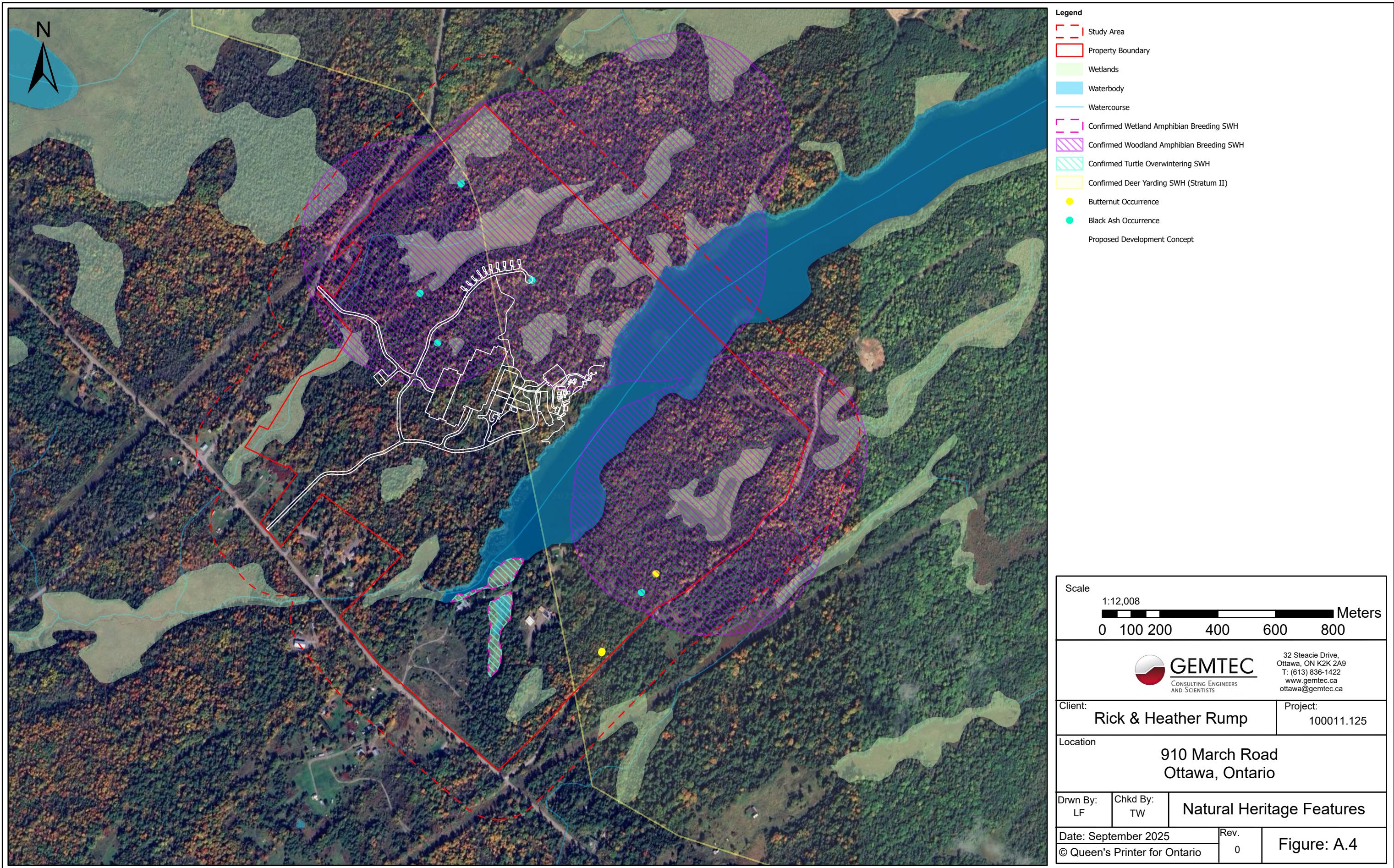
Figure A.6 – Mitigation Measures

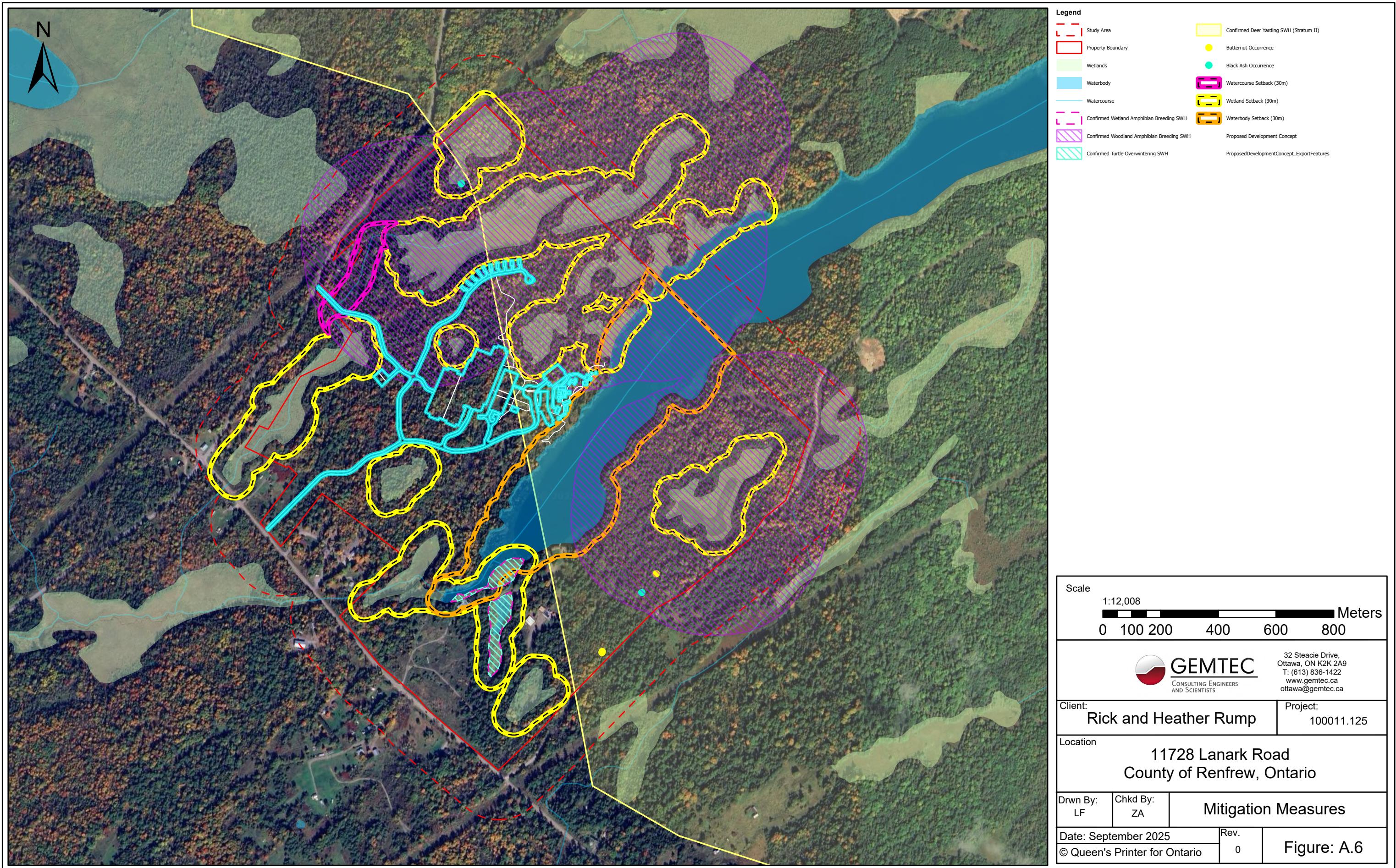














APPENDIX B

Site Photographs

West

◎ 272°W (T) ◎ 45.28154, -76.674296 ±3m ▲ 146m



25 Jun 2025, 7:52:14 a.m.

Site Photograph 1: G045 - Dry to Fresh Coarse – Meadow

South East

◎ 157°SE (T) ◎ 45.281523, -76.674271 ±3m ▲ 145m



25 Jun 2025, 7:52:15 a.m.

Site Photograph 2: G045 - Dry to Fresh Coarse – Meadow

South

◎ 177°S (T) ◎ 45.281572, -76.674418 ±6m ▲ 134m



04 Jun 2025, 12:20:12 p.m.

Site Photograph 3: G045 - Dry to Fresh Coarse – Meadow

West

◎ 274°W (T) ◎ 45.281579, -76.674442 ±8m ▲ 134m



04 Jun 2025, 12:20:11 p.m.

Site Photograph 4: G045 - Dry to Fresh Coarse – Meadow



Site Photograph 5: G048 - Dry to Fresh Coarse – Red Pine – White Pine Conifer Forest



Site Photograph 6: G048 - Dry to Fresh Coarse – Red Pine – White Pine Conifer Forest



Site Photograph 7: G059 - Dry to Fresh Coarse – Mixedwood Forest



Site Photograph 8: G059 - Dry to Fresh Coarse – Mixedwood Forest



Site Photograph 9: G130 – Intolerant Hardwood Swamp



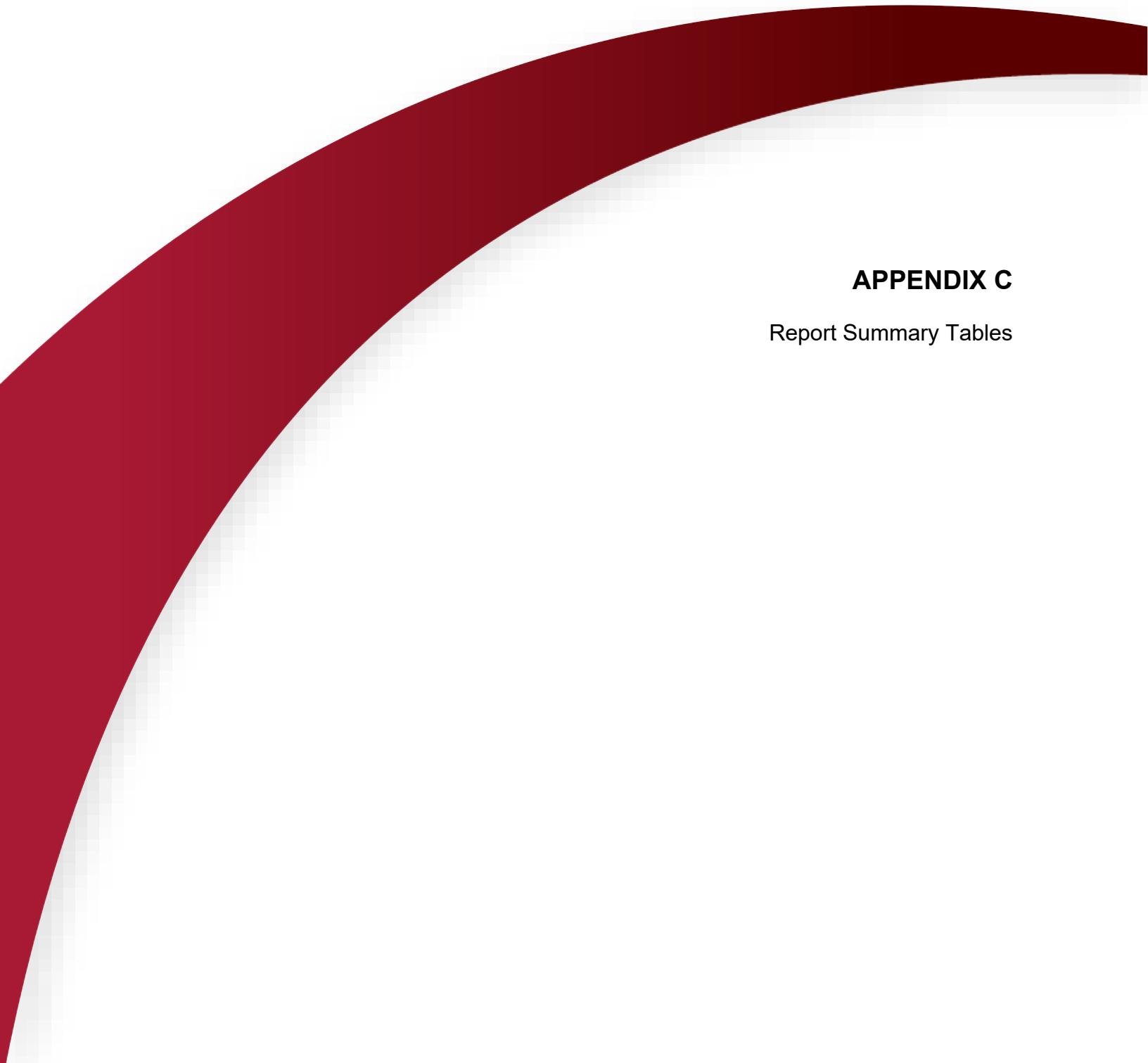
Site Photograph 10: G134 - Mineral Thicket Swamp



Site Photograph 11: G144 – Organic Meadow Marsh



Site Photograph 12: G145 – Floating Marsh



APPENDIX C

Report Summary Tables

TABLE C.1
SUMMARY OF WILDLIFE OBSERVED ON-SITE AND ADJCENT TO SITE

Common Name	Scientific Name	S-Rank	Evidence
<i>Avian Species</i>			
Alder Flycatcher	<i>Empidonax alnorum</i>	S5B	
American Crow	<i>Corvus brachyrhynchos</i>	S5	Heard calling
American Goldfinch	<i>Spinus tristis</i>	S5	
American Redstart	<i>Setophaga ruticilla</i>	S5B	
Black-and-white Warbler	<i>Mniotilla varia</i>	S5B	Heard calling
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5	Heard calling
Black-throated Green Warbler	<i>Setophaga virens</i>	S5B	
Blue Jay	<i>Cyanocitta cristata</i>	S5	Heard calling
Canada Goose	<i>Branta canadensis</i>	S5	Heard calling
Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>	S5B	Heard calling
Common Loon	<i>Gavia immer</i>	S5	Heard calling
Common Raven	<i>Corvus corax</i>	S5	
Common Yellowthroat	<i>Geothlypis trichas</i>	S5B,S3N	Heard calling
Eastern Phoebe	<i>Sayornis phoebe</i>	S5B	Heard calling
Eastern Wood-peewee	<i>Contopus virens</i>	S4B	Heard calling
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	S5B	Heard calling
Hermit Thrush	<i>Catharus guttatus</i>	S5B,S4N	
Nashville Warbler	<i>Leiothlypis ruficapilla</i>	S5B	
Northern Flicker	<i>Colaptes auratus</i>	S5	Heard calling
Northern Waterthrush	<i>Parkesia noveboracensis</i>	S5B	Heard calling
Magnolia Warbler	<i>Setophaga magnolia</i>	S5B	Heard calling
Mourning Dove	<i>Zenaida macroura</i>	S5	Heard calling
Ovenbird	<i>Seiurus aurocapilla</i>	S5B	Heard calling
Red-eyed Vireo	<i>Vireo olivaceus</i>	S5B	Heard calling
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S5	Heard calling
Scarlet Tanager	<i>Piranga olivacea</i>	S5B	Heard calling
Song Sparrow	<i>Melospiza melodia</i>	S5	Heard calling
Veery	<i>Catharus fuscescens</i>	S5B	Heard calling
White-throated Sparrow	<i>Zonotrichia albicollis</i>	S5	Heard calling
Wood Thrush	<i>Hylocichla mustelina</i>	S4B	
Yellow Warbler	<i>Setophaga petechia</i>	S5B	Heard calling
<i>Herptile Species</i>			
American Toad	<i>Anaxyrus americanus</i>	S5	Heard calling
American Bullfrog	<i>Lithobates catesbeianus</i>	S4	Heard calling
Gray Treefrog	<i>Dryophytes versicolor</i>	S5	Heard calling
Green Frog	<i>Lithobates clamitans</i>	S5	Heard calling, Observed on-site
Midland Painted Turtle	<i>Chrysemys picta marginata</i>	S4	Observed on-site
Northern Leopard Frog	<i>Lithobates pipiens</i>	S5	Observed on-site
Spring Peeper	<i>Pseudacris crucifer</i>	S5	Observed on-site
Wood Frog	<i>Lithobates sylvaticus</i>	S5	Observed on-site
<i>Mammalian Species</i>			
Coyote	<i>Canis latrans</i>	S5	Scat observed on-site
Eastern Chipmunk	<i>Tamias striatus</i>	S5	Observed on-site
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	S5	Observed on-site
Moose	<i>Alces alces</i>	S5	Scat observed on-site
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	S5	Observed on-site
White-tailed Deer	<i>Odocoileus virginianus</i>	S5	Scat observed on-site

Notes:

Subnational Conservation Status Ranks:

S1 - Critically Imperilled, at very high risk of extirpation, very few populations or occurrences or very steep population decline

S2 - Imperiled, at high risk of extirpation, few populations or occurrences or steep population decline

S3 - Vulnerable, at moderate risk of extirpation, relatively few populations or occurrences, recent and widespread population decline

S4 - Apparently Secure, at a family low risk of extirpation, many populations or occurrences, some concern for local population decline

S5 - Secure, at very low or no risk of extirpation, abundant populations or occurrences, little to no concern for population decline

Qualifiers:

S#B - Conservation status refers to the breeding population of the species

S#N -Conservation status refers to the non-breeding population of the species

S#M - Migrant species, conservation status refers to the aggregating transient population of the species

TABLE C.2
SCREENING RATIONALE FOR HABITATS OF SEASONAL CONCENTRATION AREAS

Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Stopover and Staging Areas: Terrestrial	No	No suitable habitat located on-site or within the study area to support terrestrial colonial bird nesting.
Waterfowl Stopover and Staging Areas: Aquatic	Yes	Suitable wetland habitat (ELC code: G144, G145) present on-site that may support waterfowl stopover and staging area (aquatic) SWH. Candidate habitat assessed through breeding bird surveys.
Shorebird Migratory Stopover Area	No	Shorebird stopover sites are typically well-known and have a long history of use. The site does not contain suitable shoreline habitat for shorebird foraging.
Raptor Wintering Area	No	Site contains combination both upland habitat adjacent to forest habitat, meeting the minimum size criteria of greater than 20 ha. However, the identified meadow habitat (ELC code: G045) does not meet defining use criteria.
Bat Hibernacula	No	Cave and crevice habitat is not present on-site or within the study area.
Bat Maternity Roost Colonies	Yes	Woodlands on-site were identified as potentially suitable candidate habitat. Candidate habitat evaluated through bat maternity roost surveys.
Turtle Wintering Areas	Yes	Potentially suitable open water wetlands (ELC code: G134, G144) are present on-site to support turtle wintering areas. Candidate habitat assessed through targeted basking turtle surveys.
Reptile Hibernacula	No	No structures such as large rock piles, bedrock outcrops, cervices or other karstic features have been identified on-site.
Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)	No	No suitable habitat on-site to support bank and cliff colonially nesting habitat.
Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)	No	Suitable habitat may be present on-site to support tree and shrub colonial nesting habitat. No nests nor nesting pairs were observed. Typically sites are only known colony in area and are used annually.
Colonial - Nesting Bird Breeding Habitat (Ground)	No	No suitable rocky island or peninsula habitat to support ground colonial nesting habitat.
Deer Yarding Areas	Yes	While there are stands of coniferous woodlands on-site, as outlined in the Significant Wildlife Habitat Criteria Schedules (OMNRF, 2015) winter deer yards and deer management are an MNRF responsibility. Based on review of publically available data from the OMNRF on Land Information Ontario Geo-hub, the site and study area falls within both Stratum I and Stratum II deer yards.

TABLE C.4
SCREENING RATIONALE FOR SPECIALIZED WILDLIFE HABITATS

Specialized Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Nesting Area	Yes	Suitable combination of wetland (Ecosite: G130, G134, G142) and upland (Ecosite: G045, G048, G059) habitat is present on-site to support waterfowl nesting area. Candidate habitat assessed through breeding bird surveys.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	While potentially suitable habitat is present in the study area, no bald eagle or osprey nests were observed on-site or in study area.
Woodland Nesting Raptor Habitat	Yes	Site may provide suitable forest (Ecosite: G048, G059) and forested swamp (Ecosite: G130, G134) habitat for woodland raptor nesting. No indicator species were observed on-site. Additionally, no stick nests were observed to confirm nesting habitat.
Turtle and Lizard Nesting Areas	No	No suitable habitat (exposed mineral soil with minimal vegetation cover) is present within 100 m of the wetlands on-site. Exposed gravel roadways are located on-site adjacent to the wetlands, however, nesting areas on the sides of municipal or provincial road embankments and shoulders are not considered SWH (OMNRF, 2015).
Seeps and Springs	No	No seeps or spring were identified on-site during the site investigations.
Aquatic Feeding Habitat	No	Suitable forest habitat adjacent to water may be present on-site. MRNF has not identified any aquatic feeding habitat on-site.
Mineral Licks	No	No groundwater upwelling or seepage areas identified on-site during the site investigations.
Denning Sites for Mink, Otter, Marten, Fisher and Eastern Wolf	No	No denning sites for mink, otter, marter, fisher, or eastern wolf were identified on-site. None of the species were observed during investigations.
Woodland Amphibian Breeding Habitat	Yes	Suitable wetland and pond habitat within or adjacent to a woodland occurs on-site may support woodland amphibian breeding habitat. Candidate habitat assessed through breeding amphibian surveys.
Wetland Amphibian Breeding Habitat	Yes	Identified shallow marsh wetlands and Stone Lake are considered to provide suitable wetland amphibian breeding habitat. Candidate habitat assessed through breeding amphibian surveys.
Mast Producing Areas	No	Defining ELC ecosites are not present on-site or within study area.

TABLE C.5
SCREENING RATIONALE FOR HABITAT FOR SPECIES OF CONSERVATION CONCERN

General Habitats of Species of Further Considered Conservation Concern	in EIS	Rationale
Marsh Breeding Bird Habitat	Yes	Wetlands on-site: mineral meadow marsh (Ecosite: G144, G145) and hardwood swamp (green heron) (Ecosite: G130) are considered to provide appropriate habitat for the majority of listed marsh breeding bird species. Candidate habitat was assessed through targeted breeding bird surveys.
Open Country Breeding Bird Habitat	No	Meadow habitat on-site does not meet the > 30 ha area requirement to support SWH presence.
Shrub/Early Successional Breeding Bird Habitat	No	Candidate early successional breeding bird habitat typically includes fallow fields transitioning to early successional forest habitats that are > 30 ha but have not been actively used for farming. No meadow habitat is present on-site to support successional breeding bird habitat.
Special Concern and Rare Wildlife Species	Yes	The following species of special concern were identified on-site during the site investigation: eastern wood-peewee and wood thrush. NHIC occurrence data indicates the presence of snapping turtle. No other species of special concern were identified on-site during the site investigations or during the desktop review occurrence data.

TABLE C.6
SCREENING RATIONALE FOR ANIMAL MOVEMENT CORRIDORS

General Habitats of Species of Further Considered Conservation Concern	in EIS	Rationale
Amphibian Movement Corridor	Yes	Potential for amphibian movement corridors is present on-site. Candidate habitat was assessed through breeding amphibian surveys.
Cervid Movement Corridors	Yes	Cervid movement corridors have been identified on-site during the site investigation. MNRF identified Stratum I and II deer yards on-site and in the study area, as such corridors exist for fall migration and spring dispersion.
Furbearer Movement Corridor	No	No furbearer movement corridors have been identified on-site during the site investigation, nor has it been identified by MNRF mapping.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPECIES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Avian				
Bank Swallow	Threatened	Colonial nester, burrows in eroding silt, to sand banks, sand pit walls, etc.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Barn Swallow	Special Concern	Nests in barns and other semi-open structures. Forages over open fields and meadows.	Low	Suitable habitat for species within the study area. No occurrence data for species within 1 km of the study areas. Species not observed during the site investigations.
Bobolink	Threatened	Nests in dense tall grass fields and meadows, low tolerance for woody vegetation.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Canada Warbler	Special Concern	Prefers wet forests with dense shrub layers	Low	Suitable habitat for species within the study area. No occurrence data for species within 1 km of the study areas. Species not observed during the site investigations.
Cerulean Warbler	Threatened	Prefers mature deciduous forest habitat.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Chimney Swift	Threatened	Nests in traditional-style open brick chimneys.	Low	No suitable nesting structures on-site or within the study area. NHIC screening data for species within 1 km of the study area. Species was not observed during site investigations.
Common Nighthawk	Special Concern	Nests in a variety of open sites: beaches, fields and grave rooftops.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Eastern Meadowlark	Threatened	Nests and forages in dense tall grass fields and meadows, higher tolerance to woody vegetation.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Eastern Whip-poor-will	Special Concern	Nests on the ground in open deciduous or mixed woodlands with little underbrush, and bedrock outcrops.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Eastern Wood-Pewee	Special Concern	Woodland species, often found near clearings and edge habitat.	High	Suitable habitat for species within the study area. NHIC screening data for species within 1 km of the study area. Species was observed during the site investigations.
Evening Grosbeak	Special Concern	Nests in trees or large shrubs, preference to large coniferous forests, will use deciduous. Overwinters in Ottawa.	Low	Suitable habitat for species within the study area. No occurrence data for species within 1 km of the study areas. Species not observed during the site investigations.
Golden Eagle	Endangered	Nests on remote, bedrock cliffs, overlooking large burns, lakes or tundras	Low	Suitable nesting habitat does not occur on-site.
Golden-winged Warbler	Special Concern	Ground nesting, edge species. Breeds in successional scrub habitats surrounded by forests.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Grasshopper Sparrow	Special Concern	Ground-nesting grassland species. Prefers fields with low sparse vegetation on sand, alvars or poor soils.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Henslow's Sparrow	Endangered	Prefers open, moist, tallgrass fields.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Least Bittern	Threatened	Prefers marshes, shrub swamps, usually near cattails	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Loggerhead Shrike	Endangered	Prefers grazed pastures with short grass and scattered shrubs, especially hawthorn.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Northern Bobwhite	Endangered	Inhabits open areas, such as agricultural fields and grasslands.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Olive-sided Flycatcher	Special Concern	Forest edge species, forages in open areas from high vantage points in trees.	Low	Suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Peregrine Falcon	Special Concern	Nests on cliffs near water and on more anthropogenic structures such as tall buildings, bridges, and smokestacks.	Low	Suitable nesting habitat does not occur within the study area. Site lacks suitable high topography component.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPECIES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Red-headed Woodpecker	Special Concern	Prefers open deciduous woodlands, particularly those dominated by oak and beech.	Low	Suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Rusty Blackbird	Special Concern	Wet wooded or shrubby areas (nests at edges of Boreal wetlands)	Low	Suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Short-eared Owl	Special Concern	Ground nester, prefers open habitats, fields and marshes.	Low	No suitable habitat for species within the study area. No occurrence data for species within 1 km of the study area. Species not observed during the site investigations.
Wood Thrush	Special Concern	Prefers deciduous or mixed woodlands.	High	Suitable habitat for species within the study area. NHIC screening data for species within 1 km of the study area. Species was observed during the site investigations.
Mammalian				
Eastern Red Bat	Endangered	Inhabits coniferous and mixed forests. Roosts near the tops of trees and forage next to clearings or open water.	Moderate	Potentially suitable anthropogenic structures and forested habitat adjacent to the study area. Species was not observed during site investigations.
Eastern small-footed Myotis	Endangered	Roosts in rock crevices, barns and sheds. Overwinters in abandoned mines. Summer habitats are poorly understood in Ontario, elsewhere prefers to roost in open, sunny rocky habitat and occasionally in buildings (Humphrey, 2017).	Moderate	Potentially suitable anthropogenic structures and forested habitat adjacent to the study area. Species was not observed during site investigations.
Hoary Bat	Endangered	Occupies coniferous and deciduous forest habitats. Roosts near the tops of trees and forage next to clearing or open water. Females do not congregate in maternal roost colonies.	Moderate	Potentially suitable anthropogenic structures and forested habitat adjacent to the study area. Species was not observed during site investigations.
Little Brown Myotis	Endangered	Maternal colonies known to use buildings, may also roost in trees during summer. Affinity towards anthropogenic structures for summer roosting habitat and exhibit high site fidelity (Environment Canada, 2015).	Moderate	Potentially suitable anthropogenic structures and forested habitat adjacent to the study area. Species was not observed during site investigations.
Northern myotis (Northern Long-eared Bat)	Endangered	Occurs throughout eastern North America in associated with Boreal forests. Roosts mainly in trees, occasionally anthropogenic structures during summer (Environment Canada, 2015). Overwinters in caves and abandoned mines.	Low	Species affinity is for Boreal forests and rarely roosts in anthropogenic structures.
Silver-haired Bat	Endangered	Prefers edge habitats in forested regions near water. Roosts alone or in small groups near tops of trees, under bark, or in woodpecker holes.	Moderate	Potentially suitable anthropogenic structures and forested habitat adjacent to the study area. Species was not observed during site investigations.
Tri-colored Bat	Endangered	Roosts in trees, rock crevices and occasionally buildings during summer. Overwinters in caves and mines.	Moderate	Potentially suitable anthropogenic structures and forested habitat adjacent to the study area. Species was not observed during site investigations.
Reptilian				
Blanding's Turtle	Threatened	Inhabits quiet lakes, streams and wetlands with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Moderate	Suitable aquatic habitat within the study area. NHIC occurrence data for species within 1 km of site, Stone Lake. Species not observed during the site investigations.
Eastern Musk Turtle	Special Concern	Wetlands. Highly aquatic habitats.	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Eastern Ribbonsnake	Special Concern	Marshy edges of wetlands and watercourses.	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Northern Map Turtle	Special Concern	Highly aquatic species, found only in lakes and large rivers.	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Snapping Turtle	Special Concern	Highly aquatic species, found in a wide variety of wetlands, water bodies and watercourses.	Moderate	Suitable aquatic habitat within the study area. NHIC occurrence data for species within 1 km of site. Species not observed during the site investigations.
Spotted Turtle	Endangered	Secretive wetland species.	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Wood Turtle	Endangered	Primarily terrestrial forest species. Associated with clear, gravelly streams.	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPECIES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Plants				
American Ginseng	Endangered	Rich, moist, relatively mature deciduous forests.	Low	No suitable habitat on-site or within study area. Species not observed during the site investigations.
Black Ash	Endangered	Predominantly a wetland species, found in swamps, floodplains and fens.	High	Suitable wetland habitat on-site. NHIC occurrence data for species within 1 km of site. Species observed during the site investigations.
Butternut	Endangered	Inhabits a wide range of habitats including upland and lowland deciduous and mixed forests.	High	Suitable forested habitat within the study area. NHIC occurrence data for species within 1 km of site. Species observed during the site investigations.
Lichens				
Pale-bellied Frost Lichen	Endangered	Grows on the bark of hardwood trees such as white ash, black walnut, American elm and ironwood. Can also be found growing on fence posts and boulders.	Low	No occurrence records for species within 1 km of site. Species not observed during the site investigations.
Fish				
American Eel	Endangered	Primarily nocturnal, hiding in soft substrate or submerged vegetation during the day.	Low	Site lacks suitable aquatic habitat to support species presence. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Bridle Shiner	Special Concern	Prefers clear water with abundant vegetation over silty or sandy vegetation	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Channel Darter	Special Concern	Prefers clear water with abundant vegetation over silty or sandy vegetation	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Cutlip Minnow	Threatened	Lives in warmer rivers and creeks with clear, slow-moving water and rocky or gravel bottoms.	Low	Suitable aquatic habitat within the study area. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Lake Sturgeon	Endangered	Large lakes and rivers. Forages in cool water, 4-9m deep over soft substrates. Spawns in shallower, fast-flowing areas over rocks or gravel.	Low	Site lacks suitable aquatic habitat to support species presence. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Northern Brook Lamprey	Special Concern	Prefers shallow areas with warm water. Larvae burrows in soft substrate for up to 7 years.	Low	Site lacks suitable aquatic habitat to support species presence. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
River Redhorse	Special Concern	Prefers fast-flowing, clear rivers over rocky substrate	Low	Site lacks suitable aquatic habitat to support species presence. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Silver Lamprey	Special Concern	Larvae live 4-7 years in burrows, preference to soft substrate.	Low	Site lacks suitable aquatic habitat to support species presence. No occurrence data for species within 1 km of site. Species not observed during the site investigations.
Insects				
Bogbean Buckmoth	Endangered	Preferred food plant is bog bean, present in a variety of wetlands including bogs, swamps and fens.	Low	Preferred food species not observed. Species not observed during site investigations.
Gypsy Cuckoo Bumble Bee	Endangered	Inhabits a wide range of habitats: open meadows, agricultural and urban areas, boreal forests and woodlands.	Low	Currently the only known population is in Pinery Provincial Park.
Monarch Butterfly	Special Concern	Caterpillars require milkweed plants confined to meadow and open areas. Adult butterflies use more diverse habitat with a variety of wildflowers	Low	Potentially suitable foraging habitat available for Monarch within the five study areas. Species not observed during site investigations.
Mottled Duskywing	Endangered	Larval food plant (New Jersey Tea) found in sandy areas and alvars.	Low	Sandy areas and alvars not present in any of the five study areas.
Nine-spotted Lady Beetle	Endangered	Habitat generalist	Low	No recent occurrence reports in the Ottawa area, thought to be locally extirpated. No documented occurrence in the Province since the mid 1990's.
Rusty-patched Bumble Bee	Endangered	Habitat generalist	Low	Currently the only known population is in Pinery Provincial Park.
Traverse Lady Beetle	Endangered	Habitat generalist	Low	No new records of Traverse Lady Beetle in Ontario, species thought to be absent in former habitats. No documented occurrence in the Province since the mid 1990's.
West Virginia White Butterfly	Special Concern	Requires mature moist deciduous woods with larval host plant toothwort.	Low	Necessary vegetation and toothwort plant not present within any of the five study areas.
Yellow-banded Bumble Bee	Special Concern	Habitat generalist: mixed woodlands, variety of open habitat	Low	Potentially suitable foraging habitat available for yellow-banded bumblebee within the study area. No occurrence records for species within 1 km of site. Species not observed during site investigations.

experience • knowledge • integrity



civil	civil
geotechnical	géotechnique
environmental	environnement
structural	structures
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité

