



# ENVIRONMENTAL IMPACT STUDY

Abott Property  
Hastings Highlands  
July 2024



**RIVERSTONE**  
ENVIRONMENTAL SOLUTIONS INC.





# RIVERSTONE

ENVIRONMENTAL SOLUTIONS INC.

July 09, 2024  
RS# 2024-041

**Doug Abbott**

***SUBJECT: Environmental Impact Study, 68 Circle Road, Municipality of Hasting Highlands,  
Hastings County***

Dear Mr. Abbott,

RiverStone Environmental Solutions Inc. is pleased to provide you with the attached report.

Please contact us if there are any questions regarding the report, or if further information is required.

Best regards,

RiverStone Environmental Solutions Inc.

Bev Wicks, Ph. D.  
Principal / Senior Ecologist



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**REPORT SUMMARY**

<b>Type of Study</b> Environmental Impact Study		<b>Date</b> July 9, 2024
<b>Project Manager</b> Bev Wicks	<b>Legal Description</b> 68 Circle Road, Part of Lot 6, Concession 11, Municipality of Hastings Highlands, County of Hastings	<b>Development Proposed</b> Addition to an existing cottage.
	<b>Approval Authorities</b> Municipality of Hastings Highlands, County of Hastings	<b>Owner/Agent</b> Doug Abbott

**Report Summary**

This Environmental Impact Study has been prepared as part of a development application to add an addition of an existing cottage within 30 metres of the high-water mark of Lake Saint Peter. During the onsite review of existing conditions, it was determined that the subject property contained or were adjacent to the following natural heritage features:

1. Potential habitat of endangered and threatened species.
2. Fish Habitat (Lake Trout Lake at capacity)

Potential impacts of the proposed application on the identified natural heritage features and species of conservation interest were evaluated. Potential negative impacts resulting from the proposed development can be mitigated using the recommendations contained within **Section 4** of this report (reiterated below).

## **1 BACKGROUND**

RiverStone Environmental Solutions Inc. (hereafter “RiverStone”) was retained by Doug Abbott to complete an Environmental Impact Study (EIS) for the property located at 68 Circle Road with frontage on Lake St. Peter in the Municipality of Hastings Highlands. The legal description of the property is Part Lot 6, Concession 11, Geographic Township of Herschel, Municipality of Hastings Highlands, County of Hastings (hereafter “subject property”) (**Figure 1**).

According to the Municipality of Hastings Highlands Zoning By-law 2004-35 (December 2020) the subject property is zoned Waterfront Residential (WR). It is RiverStone’s understanding that the proposal is to a 320 square foot addition to an existing nonconforming cottage, and that the proposed development is set back 17 m (56 ft) from Lake St. Peter which is a lake trout lake at capacity for development.

Based on communications with Planning Staff at the Municipality of Hastings Highlands, the minor variance application requires the completion of an EIS to assess the potential impacts of the proposal on identified natural heritage features. The EIS is scoped to an assessment of existing vegetation and classification, species at risk, fish habitat, and water quality. RiverStone has interpreted “species of concern” to include both endangered and threatened species.

This EIS is required to demonstrate how the proposed development of can occur while still protecting the components of the natural environment that require protection and provide mitigation measures to minimize impacts to natural features and the ecological functions. RiverStone has prepared this EIS as scoped above, to address the requirements outlined in the County of Hastings Official Plan policies, as well as the Provincial Policy Statement.

## **2 APPROACH AND METHODS**

The general approach used to complete this EIS involved the following:

1. Gather background biophysical information for the subject property and adjacent lands (~ 120 m from subject property boundaries) to become familiar with existing mapping of natural heritage features and occurrences of species of conservation interest prior to the site investigation.
2. Conduct site investigations to field-verify the presence or absence of natural heritage features and/or habitat for species of conservation interest identified during background information gathering, and to identify any additional significant features (where present).
3. Determine the potential for negative impacts associated with implementation of the proposed development and provide recommendations on how identified negative impacts can be mitigated via avoidance, minimization, and/or compensation measures (as necessary).
4. Determine whether the proposed application addresses applicable municipal, provincial, and federal environmental policies.

### **2.1 Information Sources Used to Assess Site Conditions**

Background biophysical information pertaining to the subject property and adjacent lands was collected from a variety of sources. This includes:

- **County of Hastings Official Plan (December 2017)** for natural features mapping including:



- Schedule B – Natural Heritage Features and Areas
- **Municipality of Hasting Highlands Comprehensive Zoning By-law** (2004-035) (Consolidated February 2024) for applicable zoning and environmental protection areas mapping
- **Ministry of the Environment, Conservation and Parks (MECP) information request** for occurrences of species at risk in and adjacent to the subject property.
- **MNRF Natural Areas Mapping and Natural Heritage Information Centre (NHIC) database** regarding information on occurrences of species at risk (SAR), provincially tracked species, and natural heritage features near the subject property (square: 17QL3322 accessed February 26, 2024 at [https://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](https://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US))
- **Species at Risk in Ontario List** as provided by Ministry of the Environment, Conservation and Parks: <https://www.ontario.ca/page/species-risk-ontario> (last accessed December 2023)
- **Ontario Breeding Bird Atlas (OBBA) database and the Atlas of the Breeding Birds of Ontario, 2001–2005** (Cadman et al. 2007) regarding birds that were documented to be breeding near the Site between 2001–2005 (square: 17TQL32 accessed at: <http://www.birdsontario.org/atlas/squareinfo.jsp>).
- **Ontario Reptile and Amphibian Atlas** database regarding records of reptiles and amphibians that have been observed within the vicinity of the subject property (square: 17QL32; accessed June 6, 2024, at <https://www.ontarioinsects.org/herp/>).
- **iNaturalist Mapping and Online Database** regarding citizen scientist observations documented in the vicinity of the subject lands accessed June, 2024 at: <https://inaturalist.ca/projects/nhic-rare-species-of-ontario>
- **Atlas of the Mammals of Ontario** (Dobbyn 1994) regarding mammals recorded near the subject property.
- **Great Lakes Conservation Blueprint for Terrestrial Biodiversity, Volume 2** (Henson and Brodribb (2005) regarding terrestrial biodiversity within Ecodistrict 5E.
- **Great Lakes Conservation Blueprint for Aquatic Biodiversity, Volume 2** (Phair et al. (2005) regarding aquatic biodiversity.
- **Physiography of Southern Ontario** (Chapman and Putnam 2007) for information pertaining to the physiography and soils within and adjacent to the subject property.
- **Digital Ontario Base Maps (OBMs; 1:10,000).**
- **Historical and Current Aerial Photographs** of the subject property and adjacent lands.
- RiverStone’s **in-house databases and reference collections.**
- On-site investigations by RiverStone staff (see **Section 2.2**)

## 2.2 Site Investigation

### 2.2.1 General Approach

The results of background information gathering outlined above in **Section 2.1** helped direct on-site data collection activities associated with a site investigation carried out on April 26, 2024, by B. Howe (Ecologist). Data collection was focused on reviewing existing vegetation communities, identifying natural features that exist on the property (upland vegetation communities, potential species at risk (SAR), drainage and nearshore and deep water fish habitat) as well as site physical features (topography, slope, soil). Representative site photos taken during this investigation are assembled in **Appendix 1**. Overall, the level of effort expended on-site was deemed appropriate to document the features and functions given the location and scale of the proposed development.

#### 2.2.1.1 *Habitat-based Approach*

RiverStone's primary approach to site assessment is habitat-based. This means that our field investigations first focus on evaluating the potential for features within an area of interest to function as habitat for species considered potentially present, rather than searching for live specimens. An area is considered potential habitat if it satisfies several criteria, usually specific to a species, but occasionally characteristic of a broader group (e.g., several turtles of conservation interest use sandy shorelines for nesting, numerous fish species use areas of aquatic vegetation for nursery habitat). Physical attributes of a site that can be used as indicators of its potential to function as habitat for a species include structural characteristics (e.g., physical dimensions of rock fragments or trees, water depth), ecological community (e.g., meadow marsh, rock barren, coldwater stream), and structural connectivity to other habitat features required by the species. Species-specific habitat preferences and/or affinities are determined from status reports produced by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Cadman et al. (2007), published and unpublished documents, and direct experience.

In instances where habitat features are such that either (i) a species presence cannot be easily determined through an assessment of habitat feature alone, or (ii) habitat features are such that they suggest a species may be present in an area where development is proposed and impacts are likely, RiverStone adds an additional level of rigor to our work by completing further species-specific assessments in accordance with industry standard methods and protocols.

Natural features of interest (e.g., vegetation community boundaries) and survey markers were delineated in the field with a high accuracy GPS. Features of interest were photographed, and all information collected was catalogued for future reference.

### 2.2.2 Terrain, Drainage, and Soils

Geology is a significant factor in the formation of soil, the physical characteristics of a watershed, and ultimately surface water quality. The bedrock and overlying deposits influence surface runoff and infiltration, directly influencing the nutrient balance of receiving water bodies. Knowledge of the existing terrain in a study area is important in understanding how a property and its associated natural environment will respond to development pressures. The geophysical setting of the property was reviewed using OBMs, soils mapping, and aerial photography, and subsequently verified on-site with a soil probe for depth. Soil conditions are generally related to the suitability for septic system.

### 2.2.3 Water Quality and Fish Habitat

Our field approach for fish habitat is also habitat-based. That is, we do not conduct site visits to observe fish use of the shoreline habitat over their entire life cycle to conclude whether the habitat is used or is significant. Instead, we conduct a site visit during the time of year when habitat features are visible, to document feature characteristics and types (**Table 1**).

While some habitats are specifically used by individual species at key times in their life history (e.g., rocky wind-swept shoals exposed to wind used by lake trout for spawning), other habitats are used by several species at various important times in their development (e.g., aquatic vegetation is used by various species for spawning, nursery, and/or feeding habitat). Characteristics of the open water shoreline that relate to habitat use by fish include substrate type, slope / water depth, presence of woody debris / fallen trees and large boulders, aquatic vegetation, confluence with watercourses, and exposure to the wind. During our assessment, these features are surveyed from land and/or the water, taking note of the key habitat features described above.

Existing information on Lake St. Peter was reviewed based on data published through the Ministry of Natural Resources (MNR). The key habitat features, along with the state of the riparian vegetation, are documented and recorded during onsite assessments and compared with the specific and general habitat requirements of the fish that are known to occur, to establish the fish habitat type (**Table 1**). Where available, our classification is compared with that of the MNR. For the subject property, mapping was not available from the MNR for this section of shoreline.

**Table 1.** Classification of Fish Habitat Types.

Classification Type	Description
Type 1	Habitats have high productive capacity, are rare, in space and/or time, are highly sensitive to development, or have a critical role in sustaining fisheries (e.g., spawning and nursery areas for some species, and ground water discharge areas for summer and/or winter thermal refuges).
Type 2	Habitats are moderately sensitive to development and, although important to the fish population, are not considered critical (e.g., feeding areas and open water habitats of lakes).
Type 3	Habitats have low productive capacity or are highly degraded, and do not currently contribute directly to fish productivity. They often have the potential to be improved significantly (e.g., a portion of a waterbody, a channelized stream that has been highly altered physically).

### 2.2.4 Endangered and Threatened Species

This report considers those species listed as endangered or threatened on the Ontario Species at Risk List (*O. Reg. 230/08*) that receive protection under s.9 and s.10 of the provincial *Endangered Species Act, 2007* (ESA). As described in **Section 2.2.1.1**, RiverStone's approach to site assessment is primarily habitat-based. The results of these assessments are provided in **Appendix 2**.

## 2.3 Impact Assessment

RiverStone employs the following approach to carry out a standardized assessment of impacts associated with the proposed development (as described in **Section 4**):

1. *Predict* impacts to existing biophysical features and functions on site based on the proposed development plan (from construction to post-completion), including both direct (e.g., vegetation clearance, etc.) and indirect (e.g., light pollution, encroachment post-development, etc.) impacts.
2. *Evaluate* the significance of predicted impacts to existing biophysical features and functions based on their spatial extent, magnitude, timing, frequency (how often), and duration (how long).
3. Assess the *probability* or likelihood that the predicted impacts will occur at the level of significance expected (e.g., high, medium, low probability).

In instances where a reasonable potential exists for negative impacts to a significant feature with recognized status, opportunities to mitigate (avoid, minimize, compensate) and/or enhance such features are provided.

## **2.4 Assessment of Conformance with Applicable Environmental Policies**

The relevant municipal and environmental policies that apply to the subject property and proposed development are listed below. Based on the results of the background information gathering, site investigation, impact assessment, and recommendations, RiverStone has advised the extent to which the proposed development conforms to all applicable environmental policies in **Section 5**.

- Federal *Migratory Birds Convention Act*, S.C. 1994, c. 22, including:
  - Migratory Birds Regulations.
- *Provincial Policy Statement*, 2020, pursuant to the *Planning Act*, R.S.O. 1990, c. P.13, including:
  - Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR 2010)
  - The Lakeshore Capacity Assessment Handbook (May 2010)
- Provincial *Endangered Species Act* (ESA), S.O. 2007, c. 6, including:
  - Ontario Regulation 230/08: Species at Risk in Ontario List
  - Ontario Regulation 242/08: “Exemption Regulation”
- County of Hastings *Official Plan* (December 19, 2017)
- Municipality of Hastings Highlands *Comprehensive Zoning By-law 2004-035* (Consolidated February 2024)

## **3 BIOPHYSICAL FEATURES AND FUNCTIONS**

### **3.1 General Site Conditions**

At the time of our site visit on April 26, 2024, development on the subject property consisted of a driveway, a cottage with attached decks and an attached shed, a second cottage, an outhouse, and a play structure with a slide adjacent to Lake St. Peter. The subject property is small and rectangular shaped with little space between the road and Lake St. Peter. The is fronted by Lake St. Peter to the west, Circle Road to the east, and similar properties to the north and south. No watercourses or wetland features were noted on the subject property. Representative photographs taken during the site investigation are provided in **Appendix 1**.

### **3.2 Terrain, Drainage, and Soils**

The subject property is situated within the central portion of Ecodistrict 5E-11 (Bancroft). Soils on the subject property are the result of the advance and retreat of the last continental glaciation of North America. Soils in this region tend to be shallow; however, the depth to bedrock can vary considerably over short distances. In general, soils are stony, sandy, and acidic in nature. Areas of bare bedrock are common at higher elevations where the glacier was thinner and less morainal sediment was deposited. Areas of typically acidic bare bedrock and very shallow mineral material are more common in the south (Wester, et al, 2018). Prominent bedrock knobs and ridges are common in the region and dominate features in some areas. The Precambrian landform expression strongly influences the topographic patterns of the region as well as the local overland drainage characteristics.

Field observations of topography on site reveal that the property is relatively level (0-15%) with steeper slopes (20%) along the shoreline of Lake St. Peter. Overland drainage is directed to the west towards Lake St. Peter (**Figure 2**).

### **3.3 Vegetation Communities**

Existing vegetation communities within the subject property were assessed through a combination of background review and on-site investigation. A desktop exercise was undertaken to map vegetation community boundaries using background information sources and current aerial photographs; the mapped vegetation communities were then ground-truthed to a high level and refined where necessary during the site investigation. Vegetation community mapping with classifications generally based on Lee et al (1998) and descriptions are provided below. Each description includes a list of representative plant species within each community. All species observed within the study area are considered common locally and provincially.

#### **3.3.1 Terrestrial Vegetation Communities**

Vegetation on the subject property is best characterized as Dry to Fresh, Coarse: Red Pine-White Pine (G048Tt) (**Figure 2**) and includes species such as White Birch (*Betula papyrifera*), Red Maple (*Acer rubrum*), Balsam Fir (*Abies balsamea*), Sugar Maple (*Acer saccharinum*), Red Pine (*Pinus resinosa*), Largetooth Aspen (*Populus grandidentata*), Eastern White Cedar (*Thuja occidentalis*). Additional vegetation includes Grey Dogwood (*Cornus racemosa*), Bracken Fern (*Pteridium aquilinum*), White Meadowsweet (*Spiraea alba*), Eastern Teaberry (*Gaultheria procumbens*), Lily sp. (*Lilium sp.*), Daffodil sp. (*Narcissus sp.*), Common Juniper (*Juniperus communis*), Speckled Alder (*Alnus incana*), White Meadowsweet (*Spiraea alba*), Large-leaved Lupine (*Lupinus polyphyllus*), Strawberry sp. (*Fragaria sp.*), Rhubarb (*Rheum rhabarbarum*), and Bristly Haircap Moss (*polytrichum piliferum*).

### **3.4 Fish Habitat**

The subject property has frontage on Lake St. Peter, which is a large cold-water Lake Trout lake, the western basin of which has been identified as at capacity for development. The fish community consists of several major fish species, including Lake Trout (*Salvelinus namaycush*), Black Crappie (*Pomoxis nigromaculatus*), Blue Gill (*Lepomis macrochirus*), Brown Bullhead (*Ameiurus nebulosus*), Burbot (*Lota lota*), Cisco (*Coregonus artedi*), Lake Whitefish (*Coregonus clupeaformis*), Largemouth Bass (*Micropterus salmoides*), Muskellunge (*Esox masquinongy*), Northern Pike (*Esox lucius*), Pumpkinseed (*Lepomis gibbosus*), Rock Bass (*Ambloplites rupestris*), Smallmouth Bass (*Micropterus dolomieu*), Walleye (*Stizostedion vitreum*), White Sucker (*Catostomus commersonii*), and Yellow Perch (*Perca flavescens*).

During our site assessment, we reviewed the entire shoreline of the property to determine the type of nearshore fish habitat present, given the expected fish community. Habitat characteristics are consistent across the frontage. The nearshore habitat features fronting the shoreline of the subject property observed through the ice consist of a mix of gravel and sand substrates. Onshore slopes are gentle in the range of 0-5% in the area directly adjacent to the cottage.

Riparian vegetation observed on site primarily consisted of grass with treed/vegetated areas consisting of juvenile White Birch, Red Pine, Red Maple, Speckled Alder, and White Meadowsweet.

Based on the conditions documented on site, the shoreline frontage is likely classified as Type 2 habitat providing general movement and foraging habitat for a variety of fish species, however, it should be noted that an assessment of aquatic vegetation and nearshore fish habitat was not completed during the growing season (June 15-September 15).

Lake St. Peter supports a Lake Trout population and has been identified as at capacity for development. The impact assessment and mitigation measures section, therefore, focuses on potential impacts to water quality related to the development on the subject property. Lake Trout are sensitive to development activities that decrease water quality; attributed to both increase in phosphorous and decreases in dissolved oxygen in deep water habitat.

### **3.5 Wildlife Habitat**

As noted above, RiverStone assessed the potential for the subject property and adjacent lands to contain habitat for endangered and threatened species (**Appendix 2**).

#### **3.5.1 Endangered and Threatened Species**

The results of RiverStone's desktop, habitat-based, and targeted assessments for endangered and threatened species and their habitat are provided in **Appendix 2**. The preliminary screening identified the potential for nineteen (19) endangered or threatened species to be present on the subject property based on existing records and/or range maps. Based on the results of the onsite habitat assessment, RiverStone identified the potential for four (4) endangered species to be present on the subject property; these species include Little Brown Bat (*Myotis lucifugus*) and Northern Myotis (*Myotis septentrionalis*), Tricolored Bat (*Perimyotis subflavus*) and Ogden's Pondweed (*Pptamogeton ogdenii*). An impact assessment is provided for these species in **Section 4.3**.

## **4 IMPACT ASSESSMENT AND RECOMMENDATIONS**

### **4.1 Development Proposal**

The current landowners are proposing to add a 320 square foot addition to an existing non-conforming cottage that is located 17 m from the shoreline of Lake St. Peter. The addition will be built on Sono tube and anchored to the bedrock. The proposed development also includes the removal of the privy on site. **Figure 3** illustrates the proposed development.

### **4.2 Water Quality and Fish Habitat**

In general, development and site alteration present a series of common potential impacts to water quality, and fish habitat. Mitigation planning for protection of all these features and functions involves similar actions, and so the impact assessment for these natural heritage features is provided under a

single section. Negative impacts to near shore and deep-water fish habitat associated with Lake St. Peter resulting from proposed development have the potential to occur via the following processes:

- stormwater runoff during construction activities resulting in increase sediment and nutrient loading
- modification of drainage patterns or flow rates
- inappropriately located sewage treatment systems that increase nutrient (phosphorous) loading to waterbodies
- increased runoff due to an increase in the extent of hard surfaces (e.g., rooftops, patios, pathways)
- changes to terrestrial vegetation and structural features (e.g., removal of vegetation or soil, importation of aggregates) resulting in increased erosion and reduced nutrient uptake.
- construction of in-water structures (e.g., culverts, docks, bridges)
- changes to in-water structural features (e.g., substrates, woody debris, aquatic vegetation)

Although the land use changes during the construction process have the potential to have negative impacts on water quality and deep-water fish habitat, it is RiverStone's opinion that the mitigation measures recommended below can reduce the risk of negative impacts to an acceptable level. To ensure that the adjacent waterbody is not negatively impacted by development activities on the proposed lot, RiverStone recommends the following measures:

- **All new development and site alteration should be set back 17m from Lake St. Peter given features documented onsite (Figure 2).**
- **Recommend removal of the outhouse (Figure 2)**

#### **Alteration Within Shoreline Buffer**

The following recommendations related to development and site directly adjacent to Lake St. Peter including the existing cottage and shoreline amenity area:

- **A Site Plan Agreement or similar instrument that restricts vegetation removal, site alteration and/or disturbance within the 30 m buffer outside of the development envelope as shown on Figure 3 should be required prior to lot development.**
- **No additional vegetation or trees outside of the development envelope should be removed within the buffer unless they are a safety hazard (assessed by an ISA certified arborist) and debris from clearing or materials to be used in construction will be placed within the existing amenity area and/or driveway.**

#### **4.2.1 Erosion and Hardened Surfaces**

Stormwater runoff from hard surfaces, particularly rooftops, extensive flagstone patios, stairways and walkways, have the potential to impact the water quality and deep-water fish habitat of Lake St. Peter in the long term. To address the potential for erosion and reduced nutrient uptake that results from soil coverage and hardened surfaces RiverStone would provide the following commentary. The potential for erosion can be reduced if concentrated flow from the rooftops is avoided by directing rooftop drainage through downspouts into in-ground infiltration chambers. Infiltration chambers are shallow excavations with perforated pipe cut in half, convex side up, covered with filter fabric and topped with stone to create underground reservoirs. The runoff gradually percolates through the chamber and into the surrounding soil. The chambers reduce the volume of overland runoff, can provide ground water

recharge, and are able to remove suspended solids and phosphorus. The flow from infiltration chambers should be directed away from the shoreline setback, toward vegetated portions of the lot to increase nutrient uptake. Eves-trough should not be piped directly to the lake. Regarding the above, RiverStone recommends that:

- **Final development plans should include eves-trough that directs rooftop leaders upslope into soakaway pits or infiltration trenches.**

To ensure that water quality and fish habitat is not negatively impacted by stormwater runoff during construction activities (e.g., site clearing activities, construction and installation of erosion control measures), RiverStone recommends the following measures:

- **Machinery should arrive on site in clean condition and is to be checked and maintained free of fluid leaks.**
- **Best Management practices should be utilized with all machinery and fill being imported to the site to ensure that material and tracks are free from invasive species (*Phragmites australis*, etc.).**
- **Before native soils are exposed, sediment and erosion control works, in the form of sediment fencing, should be installed in the location shown on Figure 3. These works should be maintained in good working order until the exposed soils have been stabilized..**
- **The sediment fencing should be constructed of heavy fabric and solid posts and should be properly trenched to maintain its integrity during weather events.**
- **Machinery must be refueled, washed, and serviced within the area isolated by sediment fencing away from all waterbodies.**
- **Locate all fuel and other potentially deleterious substances within the area isolated by sediment fencing.**
- **Additional sediment fencing and appropriate control measures (e.g., silt fence) be stockpiled on site so that any breach can be immediately repaired through construction of check dams.**
- **Regular inspection and monitoring will be necessary to ensure that the structural integrity and continued functioning of the sediment control measures is maintained (i.e., proper installation is not the only action necessary to satisfy the mitigation requirements).**
- **Inspections of sediment and erosion control measures be completed within 24 hours of the onset of a storm event.**
- **Sediment control measures be maintained in good working order until vegetation has been established on the exposed soils.**
- **Removal of non-biodegradable erosion and sediment control materials should occur once construction is complete, and the site is stabilized.**



- **A site plan be prepared that illustrates rooftop leaders and outlets, location, materials and extent of all hardened surfaces, and location and detail of sediment and erosion control fencing.**

As part of the impact analysis, the potential to cause serious harm to fish, including fish habitat, was assessed. Although the land use changes and construction practices that are proposed have the potential to have negative impacts on water quality, fish and fish habitat, it is RiverStone’s opinion that the measures recommended above can mitigate potential negative impacts, so that there is no serious harm to fish in the open water feature.

To ensure that fish habitat is not negatively impacted by the proposed development and is in compliance with the *Fisheries Act*, RiverStone recommends the following measures:

- **DFO should be notified immediately if a situation occurs or if there is imminent danger of an occurrence that could cause serious harm to fish. If there is an occurrence, corrective measures must be implemented. This may occur during construction or otherwise.**

### 4.3 Endangered and Threatened Species

**Appendix 2** presents our assessment of potential impacts on species and ecological communities of conservation interest. The results of our analysis suggest that Little Brown Myotis (*Myotis lucifugus*), the Tricolored Bat (*Perimyotis subflavus*) and the Northern Myotis Bat (*Myotis septentrionalis*) had the potential to use features found on the property.

#### 4.3.1 Endangered Bats

Potential habitat for three (3) endangered bats, (Little Brown Myotis, and Northern Myotis and Tricolored Bat, hereafter “endangered bats”) is located across the subject property in the White Pine – Red Pine forested communities, which contain both coniferous and deciduous species. In the absence of detailed site-specific data, and based on RiverStone’s professional experience, forested ecosites throughout the subject property may be expected to support some level of seasonal bat activity, which may include endangered bat species. These communities contain snag trees that could support maternal roosting habitat for each of the endangered bats. As endangered species, individuals cannot legally be killed, harmed, or harassed as per Section 9 of Ontario’s *Endangered Species Act* (ESA). RiverStone provides a simple mitigation approach below (*i.e.*, restrictive vegetation clearing windows) to ensure that individual endangered bats are not killed, harmed, or harassed through the development process (should they be present).

Habitat for endangered or special concern bats is prevalent throughout Hastings County. As a predominantly forested area, habitat for maternal roosting bats is not limited across the landscape. The primary reason for these species of bats being listed under the *ESA* is the prevalence of White-nose Syndrome, which is a fungus that infects bats as they hibernate over winter. This fungus grows on their muzzle, ears and wing-membranes, continually waking them from hibernation and causing dehydration, resulting in mortality.

Bats predictably depart maternity roosts for hibernacula sites in the fall of any given year, meaning that timing restrictions will reliably avoid any direct harm to individuals. Tree clearing, site alteration, and the construction of structures are all proposed as part of the development associated with the current application. To prevent impacts upon the habitat of endangered bats that may be utilizing the forest

communities for maternal roosting habitat on the subject property, RiverStone recommends the following for future development:

- **Trees should only be removed from October 1<sup>st</sup> to April 1<sup>st</sup>.**
- **If tree clearing or demolition must occur between April 1 and October 1, a qualified professional should complete a combination of snag surveys and acoustic monitoring, with technical guidance from the MECP, for the area where tree clearing is proposed.**
- **Limit any tree clearing to condensed development envelope, avoid unnecessary tree removals, and retain trees that are in poor health but do not represent a hazard.**

With the implementation of the above-noted mitigation measures, it is RiverStone’s opinion that the development plan will not result in adverse impacts to any endangered bat species or the availability of their habitat on the local landscape.

## **5 CONFORMANCE WITH APPLICABLE ENVIRONMENTAL POLICIES**

The following commentary summarizes the municipal environmental legislation and policies that are relevant to the proposal being evaluated here and describes how the recommendations provided in this report will permit the proposed land-use changes to comply with these provisions.

### **5.1 Federal Fisheries Act (R.S.C., 1985, amended 2019-08-28)**

The *Federal Fisheries Act* states that:

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

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

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

The recommendations included in this report will keep development and site alteration away from all fish habitat identified on the subject property. As such, it is the opinion of RiverStone that activities proposed on the property will not contravene the *Fisheries Act*, and that an Authorization under the Section 35(2) is not likely required. Should however, during this project, situations arise and lead to occurrences that result in a HADD, persons responsible for the project have a “duty to notify” DFO, take corrective actions, and provide written reports under Section 38 of the *Act*.

### **5.2 Federal Migratory Birds Convention Act, 1994 (MBCA)**

Section 6 of the Migratory Birds Regulations under the MBCA makes it an offence to “disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird.”

Restricting clearing of vegetation for the proposed development to times outside of the period April 1 to August 31, will prevent contravention of Section 6 of the regulations.

If development and site alteration is going to occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by this Act. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.

### **5.3 Provincial Endangered Species Act, 2007 (ESA)**

The *Endangered Species Act, 2007* (ESA) came into effect June 30, 2008, and replaced the previous provincial *Endangered Species Act*. The following excerpt from the explanatory note provided with the Act summarizes the protection afforded to species:

If a species is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species, the Bill prohibits killing, harming, harassing, capturing, taking, possessing, transporting, collecting, buying, selling, leasing, trading or offering to buy, sell, lease or trade a member of the species, or selling, leasing, trading or offering to sell, lease or trade anything that is represented to be a member of the species.

Protection afforded to habitats of species is described as follows:

If a species is listed on the Species at Risk in Ontario List as an endangered or threatened species, the Bill prohibits damaging or destroying the habitat of the species. This prohibition also applies to an extirpated species if the species is prescribed by the regulations. The regulations may specifically prescribe an area as the habitat of a species but, if no habitat regulation is in force with respect to a species, “habitat” is defined to mean an area on which the species depends, directly or indirectly, to carry on its life processes. With respect to certain species that were classified before first reading of the Bill, the prohibition on damaging or destroying habitat does not apply until the earlier of the date a regulation prescribing the habitat of the species comes into force and the fifth anniversary of the date the requirement to establish the Species at Risk in Ontario List comes into existence.

**Appendix 2** lists the species protected under provisions of the ESA that have the potential to occur on the subject property and/or the adjoining lands. As outlined in Section 4.3, the likelihood of contravening the ESA, should the proposed activities be implemented, can be reduced to an acceptable level by following RiverStone’s recommended mitigation measures.

### **5.4 Provincial Policy Statement, 2020, pursuant to the Planning Act, R.S.O. 1990, c. P.13.**

The significant natural features documented on the subject property include potential significant wildlife habitat. Based on this identified feature the following provisions from Section 2.1 of the 2020 PPS are relevant to this assessment:

**2.1.6** *Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*

As per **Section 3.4** fish habitat was identified along the shoreline of the subject property fronting onto Lake St. Peter. Adherence to the recommendations outlined in **Section 4.2** of this report will ensure there are no negative impacts to fish habitat.

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

The impact assessment provided in **Section 4** provides recommendations to avoid impacts to endangered and threatened species. Adherence to the recommendations outlined therein will ensure that these activities do not occur in areas that could be considered habitat of endangered or threatened species which is consistent with policy 2.1.7.

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

The extent of the area evaluated for negative impacts on potentially significant natural heritage features as described in **Section 4** and the associated appendices are more than sufficient to ensure that impacts on adjacent lands were appropriately assessed. Careful evaluation of the ecological function of the lands potentially affected by the permissible development and site alteration on the subject property indicates that the activities will be consistent with policy 2.1.8, as long as the recommended mitigation measures are followed.

## **5.5 Hastings County Official Plan (August 2018)**

The Hastings Official Plan provides recommendations regarding the protection of the natural environment across Hastings County. Many of the recommendations parallel the requirements set out in the ESA and PPS; consequently, the preceding discussion of how a development on the subject property would comply with those requirements similarly applies to policies in the Hastings Official Plan.

Section 4.2.4. of the Official Plan outlines the policies related to fish habitat.

4.2.4.1 Fish habitat provides food, cover and conditions for successful reproduction and support of a species throughout its lifecycle. Lakes, rivers, streams, ponds, shoreline areas and many wetlands provide fish habitat. Intermittent and seasonally flooded areas can also provide important habitat for some fish species at certain times of the year. In addition, in-water structures such as logs, stumps and other woody debris, pools and riffle areas, riparian and aquatic vegetation and ground water recharge/discharge areas also provide habitat. Habitat includes the watercourses that act as corridors that allow fish to move from one area to another.

4.2.4.3 New development and/or site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements. New development and/or site alteration shall not be permitted on adjacent lands within 120 metres of fish habitat unless it has been determined in an approved Environmental Impact Statement (EIS) pursuant to Part A - Section 7.8.6 of this Plan that there will be no negative impacts on the natural features or its ecological functions.

4.2.4.6 The policies of Part A - Section 5.4.5 apply to development and/or site alteration along Waterfront areas and are intended to ensure sensitive development adjacent to fish habitat in the County will not negatively impact on natural features or their ecological functions.

#### 4.2.5 Lakes Managed for Lake Trout

4.2.5.1 The County acknowledges the importance of cold waterbodies in sustaining salmonoid fish species, such as lake trout, and the sensitivity to physical, thermal Hastings County Official Plan – December 2017 Prepared by the Hastings County Planning Department 81 and chemical changes to such waterbodies. Cold waterbodies are less common than other water habitats and are relatively reliant on groundwater discharge/recharge, undisturbed shoreline areas and other naturally occurring dynamics that maintain water quality, base flows and temperatures. Lake trout have two basic water quality requirements, low water temperatures and high levels of dissolved oxygen. Phosphorus loading that tends to promote growth of plants and algae is the key pollutant that can most jeopardize the two key noted water quality requirements.

4.2.5.2 The County and Member Municipalities shall permit development to take place adjacent to lakes managed for lake trout and their associated streams only in a manner that has no adverse effects on habitat essential to the maintenance of a healthy lake trout fishery.

**Interpretation:** The proposed development will increase the footprint within the 30 m setback of Lake St. Peter, which cannot be located elsewhere on site due to the location of the existing development. The recommended measures to reduce overland flow including the use of soak away pits and ease troughs on existing and proposed development will improve water quality resulting in no anticipated impacts to deep water fish habitat compared to existing conditions prior to redevelopment. The subject property is located on a lake that is managed for Lake Trout, however, it is not anticipated that the proposed development will negatively impact Lake Trout populations and is therefore consistent with the intent of the policies..

#### **5.6 Municipality of Hastings Highlands Zoning By-law 2014-14 (Consolidated February 2024)**

The subject property is currently zoned Waterfront Residential (WR), with the current application to add an addition to an existing cottage increasing the footprint within 30 m of a cold water lake trout lake which has been identified as at capacity for development.

Section 5.9 of the Zoning By-law outlines the requirements for “lands adjacent to waterbodies, watercourses, embankments, floodplains and environmentally sensitive lands”. Section 5.9.2 states that no building, structure, or septic tank installation including the weeping tile field (‘no development’) shall be located: i) within 30 metres (98.4 ft.) of the highwater mark of a waterbody or permanent watercourse.

**Interpretation:** A new septic system is not required as part of the proposed development and the existing septic system will continue to be used. Given the constraints on the subject property including the limited lot size and the existing development, there are not alternative locations where the proposed development could be located.

## 6 CONCLUSIONS

Based upon the findings presented in this report and contingent upon the implementation of the recommendations made herein, it is our conclusion that the proposed development application on the subject property will have a very low likelihood of negatively impacting any significant natural heritage features and functions features protected under relevant municipal, provincial, or federal environmental policies as outlined. RiverStone is of the opinion that the proposed development is consistent with the relevant environmental legislation and policies. We suggest that the recommendations in this report be incorporated into the development and site plan agreement for the subject property. Finally, these conclusions are also dependent upon the recommended preventative measures being implemented through a development plan that is subsequently enforced with appropriate by-laws.

## 7 REFERENCES

- Cadman, M. D., D. A. Sutherland, G. G. Beck, D. Lepage, and A. R. Couturier.** 2007. Atlas of the Breeding Birds of Ontario, 2001–2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, Ontario Nature, Toronto.
- COSEWIC.** 2012a. COSEWIC assessment and status report on the Eastern Wood-pewee *Contopus virens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp. .
- COSEWIC.** 2012b. COSEWIC assessment and status report on the Wood Thrush *Hylocichla mustelina* in Canada. Ottawa. ix + 46 pp. pp.
- Henson, B. L. and K. E. Brodribb.** 2005. Great lakes conservation blueprint for terrestrial biodiversity, volume 2: ecodistrict summaries. 344 pp.
- OMNR.** 2010. Natural heritage reference manual for natural heritage policies of the provincial policy statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.
- Wester, M., P. Uhlig, W. Bakowsky, and E. Banton.** 2009. Great Lakes-St. Lawrence Ecosite Fact Sheets (third draft)



**Legend**

**Ontario Base Mapping (OBM)**

- Roads
- 5 m Contours

**Planning Boundaries**

- Subject Property

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:5,000	2024-041	May 23, 2024	JG

0 75 150 Metres

**Figure 1. Location of Subject Property**  
 68 Circle Road, Municipality of Hastings Highlands,  
 County of Hastings

Prepared for: Doug Abbott  
 c/o Dave Butwell

Inset: General Location of Subject Property

**Disclaimers:**

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- this figure is based on best available information and should not be used in place of a professional survey

*Lake St. Peter*



**Legend**

**Ontario Base Mapping (OBM)**

- Roads

**Planning Boundaries**

- Subject Property

**Features Taken from Hand Drawn Site Plan**

- Septic Field
- Septic Tank

**Existing Man-made Features Identified On Site**

- Outhouse (To be Removed)
- Elevated Deck and Play Structure
- Dock

**Natural Heritage Features - Identified by RiverStone**

- Direction of Overland Flow
- G048Tt - Dry to Fresh, Coarse: Red Pine-White Pine
- Shoreline (Site Visit)

**Reference Drawings:**  
 Site Plan  
 updated site plan with septic  
 20240212\_124143\_resized.jpg  
 Courtesy Dave Butwell

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:200	2024-041	May 23, 2024	JG

0      3      6 Metres

**RIVERSTONE**  
ENVIRONMENTAL SOLUTIONS INC.

**Figure 2. Existing Conditions**  
 68 Circle Road, Municipality of Hastings Highlands,  
 County of Hastings

Prepared for: Doug Abbott  
 c/o Dave Butwell

**Disclaimers:**

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- this figure is based on best available information and should not be used in place of a professional survey





N

**Legend**

**Ontario Base Mapping (OBM)**

— Roads

**Planning Boundaries**

▭ Subject Property

**Features Taken from Hand Drawn Site Plan**

▭ Septic Field

▭ Septic Tank

**Existing Man-made Features Identified On Site**

⊠ Outhouse (To be Removed)

▭ Elevated Deck and Play Structure

▭ Dock

**Natural Heritage Features - Identified by RiverStone**

➔ Direction of Overland Flow

⋯ Shoreline (Site Visit)

**Development Setbacks Required by Relevant Approval Authorities**

▭ 30 m Vegetative Buffer from Lake (Hastings Highlands By-Law 10.3c)

▭ 30 m Lake Buffer (Hastings Highlands By-Law 5.9.2)

**Measures Recommended by RiverStone to Prevent and/or Reduce Impacts**

⊠ Erosion and Sediment Control Fencing

**Proposed Development and Site Alteration**

⊠ Addition

**Reference Drawings:**  
 Site Plan  
 updated site plan with septic  
 20240212\_124143\_resized.jpg  
 Courtesy Dave Butwell

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:200	2024-041	May 30, 2024	JG

0      3      6 Metres

**RIVERSTONE**  
ENVIRONMENTAL SOLUTIONS INC.

**Figure 3. Proposed Development and Recommendations**  
 68 Circle Road, Municipality of Hastings Highlands,  
 County of Hastings

Prepared for: Doug Abbott  
 c/o Dave Butwell

**Disclaimers:**

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- this figure is based on best available information and should not be used in place of a professional survey

**Appendix 1. Select Photos from Site Visit**





**Photo 1.** Existing development on the subject property (April 26, 2024).



**Photo 2.** Existing cottage and outbuilding (April 26, 2024).



**Photo 3.** Coniferous forest and existing development (April 26, 2024).



**Photo 4.** Existing development and shoreline conditions (April 26, 2024).



**Photo 5.** Existing shoreline vegetation (April 26, 2024).



**Photo 6.** Existing development forested area (April 26, 2024).



**Photo 7.** Shoreline play area and vegetation (April 26, 2024).



**Photo 8.** Shoreline immediately adjacent to the subject property (April 26, 2024).

## **Appendix 2.** Assessment of Habitat of Endangered and Threatened Species



Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
American Ginseng ( <i>Panax quinquefolius</i> )	END	American Ginseng requires well-drained but moist acidic to neutral soils overlying limestone or marble bedrock. They are obligate understory plants found in undisturbed mature deciduous and mixed forests, and occasionally in coniferous forests and swamps.	YES	NO	NO	NO	No suitable habitat and indicator species are not present. No further assessment undertaken.
Bank Swallow ( <i>Riparia riparia</i> )	THR	The Bank Swallow is a small aerial insectivore bird that nests colonially in burrows they excavate within banks. Colonies will nest in bluffs, riverbanks, aggregate pits, roadside embankments, and topsoil piles near open habitat that provides a steady source of insects. Colony sites must also be near roosting areas in wetland, reed, or cane beds.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Black Ash ( <i>Fraxinus nigra</i> )	END	The Black Ash grows everywhere in Ontario except the Far North. These trees require moisture, and are commonly found in northern swampy woodlands, from eastern Manitoba, throughout Ontario, and as far east as Newfoundland.	NO	YES, NHIC	NO	NO	No individuals of this species were observe within the study area. No further assessment undertaken.
Blanding's Turtle ( <i>Emydoidea blandingii</i> )	THR	Blanding's Turtle are semi-aquatic and use wetland habitats with shallow water and abundant vegetation. Their habitat includes a broad range of wetlands, forest clearings, and meadows. They breed in aquatic habitat and nest in open natural and anthropogenic upland areas.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Butternut ( <i>Juglans cinerea</i> )	END	Butternut is shade intolerant and grows in rich, moist, well-drained loams often along streambanks. Butternut is also found in well-drained gravel sites. It is often found at forest edges where it can access abundant sunlight.	YES	NO	NO	NO	No individuals of this species were observe within the study area. No further assessment undertaken.
Chimney Swift ( <i>Chaetura pelagica</i> )	THR	The Chimney Swift historically nested and roosted in large hollow trees, rock walls, and other vertical surfaces. They now use human-made structures like uncapped chimneys and have high site fidelity to nesting chimneys. 95% of nests are within 1 km of a waterbody.	YES	YES, OBBA	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.

<sup>1</sup>Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Eastern Hog-nosed Snake ( <i>Heterodon platirhinos</i> )	THR	Eastern Hog-nosed snakes require a mosaic of habitats with sandy, well-drained soil and open vegetation close to water with a supply of American Toads. Their Ontario distribution is limited by climate and soil to the French River/Lake Nipissing and Carolinian areas.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Eastern Meadowlark ( <i>Sturnella magna</i> )	THR	Nests and forages in meadows, grasslands, shrubby fields, hayfields and pastureland. Prefers habitat with >80% grass cover. Needs a minimum of 5 ha of continuous habitat.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Eastern Small-footed Myotis ( <i>Myotis leibii</i> )	END	Eastern Small-footed Myotis overwinter in caves and mines in Ontario and do not disperse far from their hibernacula during the summer. They can be found roosting in rocky habitats singly or in groups but will also use human structures as day roosts. They are aerial insectivores and forage in forests, rocky habitats, and ponds.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Eastern Whip-poor-will ( <i>Antrostomus vociferus</i> )	THR	The Eastern Whip-poor-will forages in open natural and anthropogenic habitats and nests in semi open forests and forest edges with well-drained soils and moderate vegetation cover. Habitat immediately at the nest will be a short herbaceous plant, shrub, or sapling providing cover and shade with nearby perches for adults.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Little Brown Myotis ( <i>Myotis lucifugus</i> )	END	Their hibernacula are within caves and abandoned mines, wells, and tunnels. Maternity colonies are within a few kilometers of hibernacula within snag trees, rock crevices, exfoliating tree bark, and anthropogenic structures. Roosts and swarming sites are in similar areas around the hibernacula.	YES	NO	YES	YES	See report for further discussion.

<sup>1</sup>Highlighted species are present on or are likely to be present on the subject property.

Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Mottled Duskywing ( <i>Erynnis martialis</i> )	END	The Mottled Duskywing's host plants are Prairie Redroot and New Jersey Tea. Their habitat must have dry, sandy, or well-drained soils. Their host plants grow in woodlands, roadsides, riverbanks, oak savannahs, shady hillsides, tall grass prairies, and alvars. They are mostly found along the Great Lakes shorelines.	YES	NO	NO	NO	Host plants are absent. No suitable habitat present for this species. No further assessment undertaken.
Northern Myotis/Northern Long eared Bat ( <i>Myotis septentrionalis</i> )	END	Northern Myotis are found below the tree line in Canada and are mostly absent from the prairies. They use live and dead trees near water in forest habitats when active and migrate to caves and abandoned mines for hibernation.	YES	NO	YES	YES	See report for further discussion.
Ogden's Pondweed ( <i>Potamogeton ogdenii</i> )	END	Ogden's Pondweed is an annual, submerged aquatic plant with threadlike rigid stems and no rhizome. They are found only in Hastings County in Ontario. They grow in clear, slow moving water within streams, beaver ponds, and lakes. They prefer alkaline water.	YES	YES	YES	YES	Lake Saint Peter may provide habitat for this species, however, no in water work is proposed as part of the development. No effects to this species and/or habitat are anticipated. No further assessment undertaken.
Red-Headed Woodpecker ( <i>Melanerpes erythrocephalus</i> )	END	The Red-headed Woodpecker lives in open woodland and woodland edges and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, that the bird uses for nesting and perching. The Red-headed Woodpecker is found across southern Ontario, where it is widespread but rare.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Small White Lady's-slipper ( <i>Cypripedium candidum</i> )	END	Small White Lady's-slipper is found in Hastings County and on Walpole Island First Nation. They grow on moist, imperfectly drained, calcareous sandy loam to loam soils in remnant prairie or savannah, or in fens. They require periodic fire or grazing disturbance.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Spotted Turtle ( <i>Clemmys guttata</i> )	END	The Spotted Turtle uses a mix of terrestrial and aquatic habitats. Aquatic habitats include wetlands, ponds, vernal pools, creeks, streams, sheltered bay edges, stormwater ponds, and man-made channels. Their terrestrial habitats are shorelines, rocky outcrops, upland forests, open fields, and meadows.	YES	NO	NO	NO	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.

<sup>1</sup>Highlighted species are present on or are likely to be present on the subject property.



Species	ESA Status	General Description of Habitat and Range	Is the study area within the current known range of the species.	Do applicable databases contain records for this species within or adjacent to the study area.	Is suitable habitat present within the study area.	Is suitable habitat present within lands adjacent to the study area.	Discussion of relevance to proposal
Suckley's Cuckoo Bumble Bee ( <i>Bombus suckleyi</i> )	END	Suckley's Cuckoo Bumble Bee is a nest parasite of the Western Bumble Bee and Yellow-banded Bumble Bee. It is mainly a western species but has occasional records throughout Ontario. They are habitat generalists found in most areas Ontario, and generalist nectar foragers. The bees they parasitize tend to build nests in abandoned rodent burrows.	YES	NO	YES	YES	There are no areas of suitable habitat for this species within the study area. No further assessment undertaken.
Tricolored Bat ( <i>Perimyotis subflavus</i> )	END	The Tri-colored Bat have a scattered distribution and are found as far north as Sudbury. They are found in a variety of forested habitats. They overwinter alone in caves and mines and roost in dead vegetation clumps and lichen in forested habitats near water.	YES	YES	YES	YES	See report for further discussion.

<sup>1</sup>Highlighted species are present on or are likely to be present on the subject property.

## **Appendix 3. Site Plan**

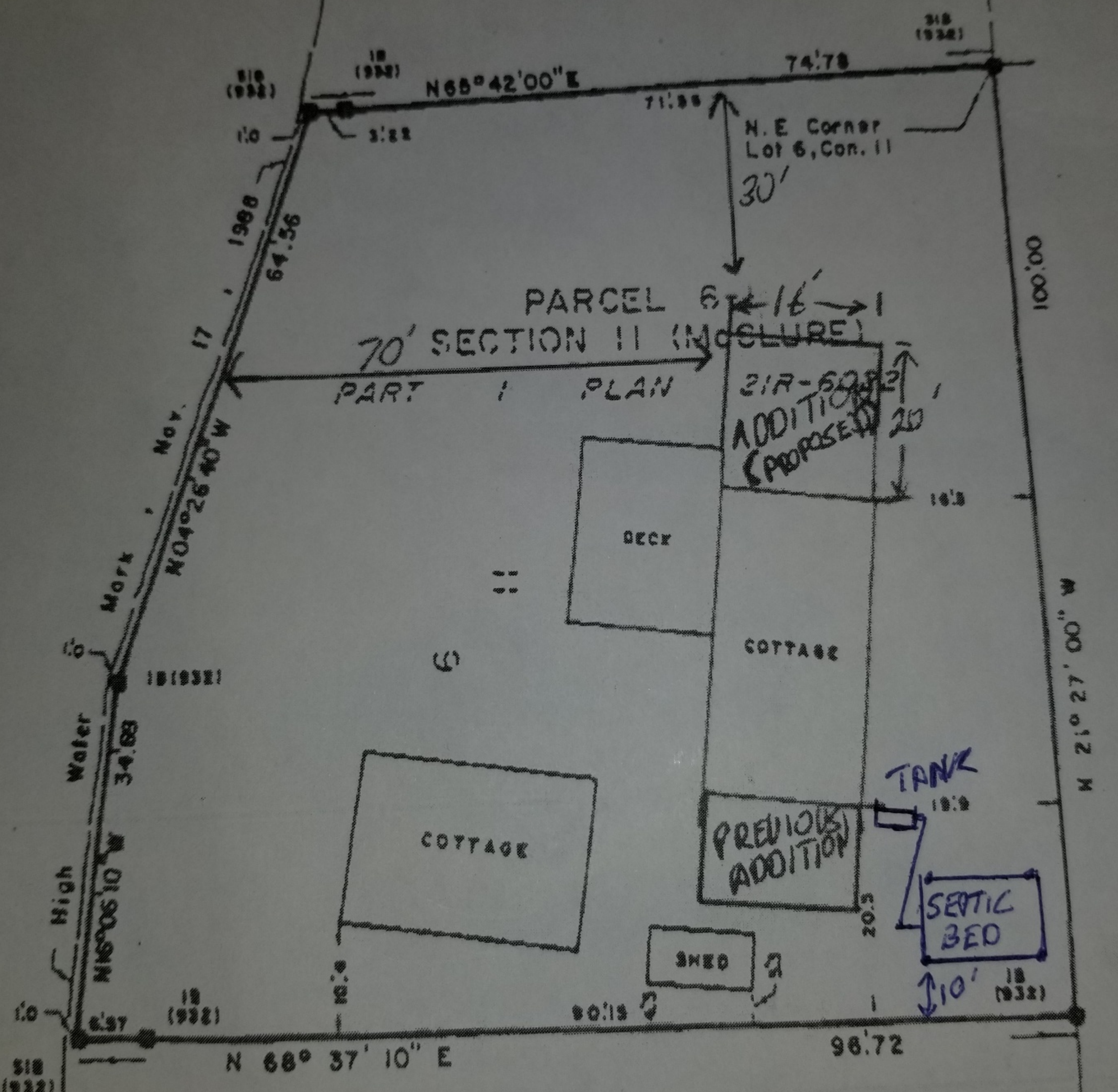


LOT 6  
CONCESSION 12

PART 12 PLAN 21R-3H5R

INST. N.S. 86422

PETER



PARCEL 6-2 SECTION II (McCLURE)

PART 1 PLAN 21R-6087

LOT  
SION

