GREER GALLOWAY
CONSULTING ENGINEERS

Environmental Impact Study Report

2564 Papineau Lake Road Development

County of Hastings

Prepared for:

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1. Introduction

The Greer Galloway Group has been retained by Josie and Grabriel D'Agostino to prepare an Environmental Impact Study to address the potential impacts associated with the planned upgrade of the existing cottage deck, located at 2564 Papineau Lake Road, Maple Leaf, County of Hastings.

The County of Hastings (The County) has requested an Environmental Impact Study as the property is adjacent to Papineau Lake.

The purpose of this report is to characterize the existing conditions of the property and adjacent lands, by assessing background information and field assessments and evaluating the environmental impacts that the proposed development may cause on the natural features. Based on the Terms of Reference for an EIS included in the County of Hastings Official Plan (Section 7.8.6), the report contains the following information:

- Review of available background information describing the historical and existing uses on the subject property as well as any other information available for the property.
- A list of applicable policies and regulations to identify opportunities and constraints within the subject property.
- A site visit during the growing season (May-July) for identification of ELC vegetation communities using the methodology of the Ecological Land Classification for Southern Ontario (Lee et al., 1998).
- General site description including soils, topography, physiography, drainage, and vegetation.
- Identification and description of any natural hazards.
- Incidental observations of wildlife (breeding birds, amphibians, mammals, reptiles, and insects) and habitat assessment.
- Species at risk screening and habitat assessment depending on the SAR screening.
- Identification of wetlands, waterbodies, watercourses, drainage features, recharge, and discharge areas.
- General assessment of Fish habitat.
- Description of proposed alterations and Identification of recommended alteration location if applicable.
- Identify and delineate key features and apply recommended/applicable setbacks in relation to the proposed alterations and key features.
- Identify the direct and indirect impacts that the proposed alteration may have on the natural features and their ecological functions including no net loss of fish habitat by identifying any measures to mitigate or compensate any possible negative impacts.
- A discussion of potential negative impacts from the proposed addition to key features and recommendation of mitigation measures to prevent and/or minimize the impacts.

2. Background

The approximately 0.5 ha property is located on Part of Lot 1, Concession 11 Wicklow, Municipality of Hastings Highlands, County of Hastings. The irregular-shaped property is located approximately 1 km north of the Village of Maple Leaf and 30 km northeast of Bancroft. The Property is bounded to the north and south by private properties and forest, to the east by forest and to the west by Papineau Lake.

The historical use of the property is seasonal residential. Currently, the property is covered with vegetation except for the area occupied by the cottage/deck, access walking path, out house, wood storage shed, and boat rail.

According to information provided by The County, a legal non-conforming structure is a use that was created prior to any zoning bylaw or created at a time that met the applicable zoning bylaw. A legal non-conforming structure is permitted to continue as is and replaced with the same use, with the same building envelope (including the same dimensions), in the same footprint and in the same location.

The County indicated the existing dwelling was built in 1958. The Former Township of Bangor, Wicklow, and McClure Zoning By-law was passed in the 1970's which required a dwelling to be at least 30 metres from the high-water mark of Papineau Lake. The existing dwelling was built prior to any Zoning By-law and is therefore a legal non-conforming use. The enlargement or expansion of a legal non-conforming use requires a Permit Application.

According to the Hastings County Official Plan the property is zoned Rural/Waterfront. According to the Municipality of Hastings Highlands Comprehensive Zoning By-law, the property is zoned Waterfront Residential (WR).

The Ministry of Natural Resources and Forestry (MNRF) NHIC online mapping shows the property is not in or adjacent to a Provincially Significant Wetland (PSW). The closest wetland is located approximately 800 m north of the property and has not been evaluated.

3. Environmental Policy Context

This EIS report has been prepared according to the legislation and policies described in the following subsections:

Provincial Policy Statement

The Ontario Planning Act (1990) requires that planning decisions be consistent with the Provincial Policy Statement, 2020 (PPS). Section 2.1 of the PPS specifies policy related to the protection of natural heritage features and functions.

Subsection 2.1.4 Development and Site Alteration shall not be permitted in:

a. *Significant wetlands in Ecoregions 5E, 6E and 7E; and*
b. *Significant coastal wetlands.*

Subsection 2.1.5 Development and Site Alteration shall not be permitted in:

a. *Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);*
b. *Significant wildlife habitat; and*
c. *Significant areas of natural and scientific interest unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*

Subsection 2.1.6 states that development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

Subsection 2.1.7 states that development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

Subsection 2.1.8 states that 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.

Species at Risk Act

The purposes of the Species at Risk Act (SARA) are to prevent wildlife species in Canada from disappearing; to provide for the recovery of wildlife species that are extirpated (no longer exist in the wild in Canada), endangered, or threatened as a result of human activity; and to manage species of special concern to prevent

them from becoming endangered or threatened. A series of measures applicable across Canada provides the framework to accomplish these goals. Some of these measures establish how governments, organizations, and individuals in Canada work together, while others implement a species assessment process to ensure the protection and recovery of species.

Endangered Species Act

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

County of Hastings

The property is located within the jurisdiction of the County of Hastings. The County's Official Plan (August 3, 2018) describes the planning policies for land use and their application to meet the specific needs of the communities. The predominant use of land in the area is seasonal residential.

The Municipality of Hastings Highlands Comprehensive Zoning By-law 2004-035 (August 11, 2004) establishes a land use designation of Waterfront Residential (WR). Permitted and non-permitted uses are described in Section 10 of the Zoning By-law document.

4. Proposed Development

Mrs. and Mr. D'Agostino, own the property located at 2564 Papineau Lake Road. The owners of the property are proposing to update the existing cottage deck as the existing deck is aging and needs to be repaired/replaced. The deck upgrade includes reconstructing the existing deck and enlargement of it to the west and south. The existing deck is an elevated deck attached to the cottage. The deck and stairs occupy an area of 14.8 m². An additional area of approximately 31 m² will be required for the proposed extension. See Figure 2 and Appendix A for the existing conditions and proposed addition.

The County requires a Site Evaluation Report as development and site alteration are not permitted within 30 m (98.4 feet) from top of a steep and/or unstable slope. A site-specific Zoning By-law Amendment or Minor Variance is required for the proposed deck extension.

5. Study Approach

5.1 Study Area

The total area of the property is approximately 0.5 ha. The study area for this EIS is the area proposed for the deck and adjacent area to be affected by the construction work.

The comprehensive desktop review included the following sources:

- Ontario Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) geographic, species and natural areas information queries.
- Ontario Ministry of Natural Resources (MNR) Wetland Evaluation Reports.
- Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2022).
- Ontario Breeding Birds Atlas (OBBA) – First and Second Atlas, Birds Studies Canada.

- Atlas of the Mammals of Ontario (Dobbyn, 1994).
- Geology, topography, hydrogeology, hydrology maps and reports.
- Existing aerial photography.
- County of Hastings Official Plan (August 3, 2018).
- Municipality of Hastings Highlands Comprehensive Zoning By-law No. 2004-035 (August 11, 2004).
- Provincial Policy Statement, 2020

5.2 Field Survey

The natural features were evaluated through a site investigation. A Site investigation was carried out to determine the existing conditions of the natural features, document migratory birds, and other wildlife, and determine the general characteristics of the study area. The site investigation was performed on May 23rd, 2024 from 8:30 am to noon. Weather conditions during the site investigation were sunny with a temperature of 15 °C and breeze, no rain, some clouds.

The following methodology was applied to evaluate the natural features:

5.3 Vegetation Community Mapping

Vegetation communities were determined using a combination of aerial photography and information from field investigation. Aerial imagery allowed the delineation of distinct community boundaries and field assessments allow the collection of data to classify each community type. The Ecological Land Classification for Southern Ontario (Lee et al., 1998) was used to classify the vegetation communities. All the vegetation communities within the property were classified to at least the “ecosite” level when possible.

5.4 Wildlife Surveys

Specific Wildlife surveys were not conducted. All the observed species were documented, including birds, reptiles, amphibians and mammals. Any sightings or signs (i.e., scat, tracks, vocalizations) indicating the potential use of the site by wildlife were documented.

5.5 Species at Risk

Species at Risk (SAR) included those species listed in the SARO and Schedule 1 of the SARA. An assessment was conducted to determine the presence and potential habitat for SAR in the study area. An initial desktop review for potential Species at Risk (SAR) was conducted. The MNRF online NHIC map was consulted to identify the SAR likely present in the property and adjacent land. Available information was reviewed for additional records of SAR. No species-specific surveys were conducted for SAR.

6. Existing Conditions

The property is located approximately 30 km northeast of the Town of Bancroft. There is a cottage, a wood storage shed, an out house, and a boat rail on the property. The use of the cottage is seasonal. Access to the property is via Papineau Lake Road. The property is split in two areas as Papineau Lake Road crosses the property in a north to south direction. The cottage and structures are located close to the lake and the rest of the property to the east is covered with vegetation. All the development between the lake and the road is between the 30 m from the high-water mark. Stairs built with stones allow access to the property from Papineau Lake Road to the east side of the cottage then wood stairs allow access to the main entrance of the cottage and stairs for the elevated deck.

The elevated deck is attached to the cottage with additional support provided by two posts. Wood outdoor stairs with railing allow access to the deck and cottage second level.

Most of the property was observed to be covered with vegetation except for the area occupied by the cottage/deck, structures, boat rail as well as the area where bedrock is exposed. Minimal vegetation is present between the cottage and the structures.

Bedrock is exposed in the area from the cottage up to the shoreline with vegetation to be present approximately 3.5 m from the shoreline. Topsoil over bedrock was minimal. A steep slope is present from Papineau Lake Road to the shoreline except in the area where the cottage and structures are present. This area has flat to moderate slope.

The area under the existing deck and part of where the addition is proposed has minimal ground vegetation cover. A retained wall built with stones is in the area proposed for the extension.

Land adjacent to the property is mainly covered with forest except in the areas with development. All development is present between the Papineau Lake Road and Papineau Lake shoreline. A photolog showing the existing conditions of the study area is included in Appendix B.

6.1 Geology and Soils

The landscape in the area has been shaped by glacial processes over the past 2 million years of the Pleistocene Epoch. Most of the topographic features and overburden materials date from the latter part of the most recent glacial period known as the Wisconsinan glaciation; however, older structural features exist in the underlying limestone bedrock. The maximum ice extent occurred approximately 23,000 years ago when glacial ice covered all of Ontario and extended as far south as Ohio, USA. The ice sheet melting in the area laid down a locally thick layer of stony, sandy silt to silty sand-textured till on the ice-scoured bedrock. Post-glacial soils consist of recent alluvial deposits and organic soils within low-lying or poorly drained areas.

The bedrock geology in the vicinity of the property consists of Precambrian-age rock of the Grenville Province. Ontario Geological Survey mapping shows the property as Precambrian exposed bedrock undifferentiated igneous and metamorphic rock, exposed at surface or covered by a discontinuous, thin layer of drift. Exposed bedrock was observed in most of the property and adjacent land.

The overburden geology is composed of a thin layer of Monteagle soil found in small deposits, and deeper soil within the rock crevices, as well as muck and Kenabeek sandy loam. Monteagle soil consists of well drained gravelly sandy loam glacial till containing high percentage of stones (Gillespie et al., 1962). Dark organic soil was observed close to the water within the rock crevices. Reddish-brown soil was observed on the area where the deck extension is proposed but it is minimal.

6.2 Topography and Drainage

The topography in the area varies from moderate to steep sloping. Rock outcroppings are few to many in the area (Gilliespie et al., 1962). Elevations in the property were determined from the Ontario Base Mapping (MNRF), ranging from 343 to 317 metres Above Sea Level (mASL). The highest elevation is reported at the northeast corner of the property, and the lowest on Papineau Lake. In the southwest part of the property, the substrate was composed of boulders with black organic topsoil.

Drainage in the property is determined by the slope. Based on topography, drainage on the property is mostly to the southwest toward the lake. Regionally, the surface drainage is to Papineau Lake and other lakes, with flow direction depending on the local topography.

A culvert crossing Papineau Lake Road, on the south part of the property, drains into the property. The culvert catches surface water runoff from the northeast side of the road.

6.3 Hydrology and Hydrogeology

The property is adjacent to Papineau Lake. Papineau Lake is approximately 831 ha in size with a maximum depth of 64 m. On the north side, the lake is connected to Bark Lake through creeks and Hicks Lake and Potash Lake. Several watercourses drain into the lake including the Little Papineau Creek.

The metamorphic rock forms the primary source of exploitable groundwater in the area. A search of the Well Record Database from the Ministry of the Environment, Conservation and Parks (MECP) resulted in eight (8) well records within a 1 km radius of the property. The MECP records suggest that water is found at depths ranging from 10 to 75.3 m mostly within granite bedrock. The well yields ranged from 19 to 45 L/min. Most of the successful wells were more than 30 m deep, with most being from 42 to 79 m.

6.4 Vegetation Communities

The property is located within the Bancroft Ecodistrict 5E-11, where the landscape is dominated by mixed and coniferous forest and agricultural fields near Madoc. The vegetation in this district is diverse with mixed and coniferous forests composed of sugar maple (*Acer saccharum*), yellow birch (*Betula alleghaniensis*), red maple (*Acer rubrum*), and eastern hemlock (*Tsuga canadensis*). On drier warmer sites tree species found in the forest include eastern white pine (*Pinus strobus*), red pine (*Pinus resinosa*), trembling aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), northern red oak (*Quercus rubra*), and bur oak (*Quercus macrocarpa*). On upland sites, tree species include large-toothed aspen (*Populus grandidentata*), American beech (*Fagus grandifolia*), white spruce (*Picea glauca*), balsam fir (*Abies balsamea*), and eastern hop-hornbeam/ironwood (*Ostrya virginiana*) (Wester et al., 2018).

As previously mentioned, most of the property is covered with vegetation. Areas impacted by anthropogenic disturbance include where the cottage and other structures are located and the area between the cottage and the structures as well as the area where Papineau Lake Road crosses the property.

The property is well vegetated with small areas where the vegetation changes due to moist conditions. In general, moist conditions prevail in the forest. Vegetation characteristic of moist/wet conditions are present close to the water. Plant species growing in open areas with a thin layer of soil over bedrock are also present. The vegetation in the property was classified as one community. See Figure 3: Vegetation Communities.

FOD9 – Fresh-Moist Oak - Sugar Maple Deciduous Forest

This community was dominant in the property and adjacent land. Red oak and sugar maple are the representative species. Associate tree species found include white American basswood (*Tilia americana*), large-toothed aspen, ironwood, striped maple (*Acer pensylvanicum*), white spruce, eastern white pine, Scots pine (*Pinus sylvestris*), eastern white cedar (*Thuja occidentalis*), balsam fir, red pine, and paper birch.

Shrubs and herbaceous species are also found in the property. The shrub layer is represented with saplings of the tree species as well as staghorn sumac (*Rhus thyphina*), speckled alder (*Alnus incana*), round-leaved dogwood (*Cornus rugosa*), red-berried elderberry (*Sambucus pubens*), and creeping juniper (*Juniperus horizontalis*). Herbaceous species include sarsaparilla (*Aralia nudicaulis*), black currant (*Ribes americanum*), common dandelion (*Taraxacum officinale*), red clover (*Trifollium pratense*), great mullein (*Verbascum thapsus*), wild carrot (*Daucus carota*), wild strawberry (*Fragaria virginiana*), Canada mayflower (*Maianthemum canadense*), blue cohosh (*Caulophyllum thalictroides*), broad-leaved meadowsweet (*Spirea latifolia*), sweetgale (*Myrica gale*), violet (*Viola sp.*), smooth Solomon's seal (*Polygonatum biflorum*), gay wings (*Polygala paucifolia*), poverty oatgrass (*Danthonia spicata*), oak fern (*Gymnocarpium dryopteris*), sweet fern (*Comptonia peregrina*), eastern bracken fern (*Pteridium aquilinum*), early saxifrage (*Micranthes virginiensis*), wood sedge (*Carex blanda*), mosses, lichens, and grasses.

6.5 Terrestrial Wildlife

6.5.1 Breeding Birds

A total of six (6) species of birds were recorded as incidental observations. Bird species include eastern phoebe (*Sayornis phoebe*), black-capped chickadee (*Poecile atricapillus*), turkey vulture (*Cathartes aura*), red-eyed vireo (*Vireo olivaceus*), black and white warbler (*Mniotilta varia*), black-throated warbler (*Setophaga caerulescens*), and ovenbird (*Seiurus aurocapilla*). A bird house was observed in a tree.

6.5.2 Mammals

An American red squirrel (*Tamiasciurus hudsonicus*) and an eastern chipmunk (*Tamias striatus*) were the two species of mammals observed in the property. No signs of other mammals were reported.

6.5.3 Amphibians

No amphibians were observed during the site investigation.

6.5.4 Reptiles

No turtles and snakes were observed during the site investigation. Logs and other objects were randomly lifted and inspected. No snakes were observed. No habitat for turtles is present in and adjacent to the property.

6.5.5 Species at Risk

General reports were obtained from the MNRF online NHIC database regarding records of SAR within the area. A list of SAR records is included in the following Table 1.

Table 1: Potential Endangered and Threatened Species within the Study Area.

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
Birds					
Bobolink	*Dolichonyx oryzivorus*	Threatened	Threatened	Low	Habitat includes hayfields, pastures, fallow or abandoned fields, meadows, tall grass prairie remnants, savannahs and alvar grasslands (COSEWIC, 2010). Suitable habitat for Bobolink is not found on the property.
Barn Swallow	*Hirundo rustica*	Threatened	Special Concern	Low	The natural habitat of Barn Swallow includes caves, holes, crevices and ledges in cliff faces. However, anthropogenic features are often used in farmlands, rural, suburban areas, and villages where they build the nest around many kinds of structures, especially barns and other farm outbuildings, under bridges, wharves, boat-houses, and culverts (COSEWIC, 2011). Suitable habitat is not found on the property.
Eastern Wood-pewee	*Contopus virens*	Special Concern	Special Concern	High	The Eastern Wood-Peewee prefers mature and intermediate-age deciduous and mixed forests having an open understorey (COSEWIC, 2012a). Suitable

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
					habitat is found in the property and adjacent land.
Wood Thrush	*Hylocichla mustelina*	Threatened	Not Listed	High	Wood Thrush nests mainly in second growth and mature deciduous and mixed forests, with saplings and well-developed understorey layers. The species prefers large forest mosaics and small forest fragments (COSEWIC, 2012b). Wood Thrush was not heard but nesting habitat is found on the property and adjacent land.
Whip-poor-will	*Antrostomus vociferus*	Threatened	Threatened	Low	The whip-poor-will uses forested areas for roosting and nesting. Nesting areas include most types of forest at early stages of succession or edges of forests with a dense tree cover but showing similar structure at the ground level, rock or sand barrens with scattered trees, savannahs, old burns, as well as sparse conifer plantations. Also, the species can nest in cultivated fields, orchards, urban parks, mine tailings and along gravel roads and railways (Environment Canada, 2015). Suitable habitat for this species is not found on the area for the deck extension but it can be present in the rest of property.
Canada Warbler	*Cardellina canadensis*	Threatened	Special Concern	Low	Canada Warbler is found in wide variety of forest types but is it common in wet, mixed deciduous-coniferous forest types having a well-developed shrub layer, often as a result of canopy gaps and suitable drainage and soil moisture conditions. This species can be found in wet red maple stands, cedar and spruce swamps, aspen stands, mixed aspen/birch/fir forests, beaver ponds, brushy slopes, riparian woodlands, and dense forested ravines (COSEWIC, 2020). Suitable habitat is not found on the property.
Peregrine Falcon	*Falco peregrinus anatum*	Special Concern	Special Concern	Low	Suitable habitat includes steep cliff edges close to Lake Ontario or crevices. In recent decades, this species has been observed using buildings, bridges and other structures used as nest sites. It breeds only in suitable habitat to sufficient prey. The most commonly occupied habitats feature cliffs for nesting, open areas for foraging and nearby water (Environment and Climate Change Canada, 2017). Suitable habitat is not found on the property.
Reptiles					
Snapping Turtle	*Chelydra serpentina*	Special Concern	Special Concern	Low	The Snapping Turtle prefers slow-moving water with soft mud bottom and dense aquatic vegetation. Snapping turtles can be found in almost every kind of freshwater habitat. Nesting occurs on sand and gravel banks along waterways, including artificial

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
					dams and railway embankments. Hibernation takes place beneath logs, sticks/overhangs, banks, stumps, submerged logs, deep anoxic mud in marshy areas, and floating mats of vegetation. The nesting season occurs through June into July with hatchlings emerging in late September–early October (COSEWIC, 2008). Suitable habitat for Snapping Turtles is not found on the property or in the lake adjacent to the property.
Midland Painted Turtle	*Chrysemys picta marginata*	Special Concern	No Listed	Low	Habitats include ponds, marshes, lakes and slow-moving creeks. Midland Painted Turtles prefer waterbodies with soft bottoms and areas to bask like logs and rocks protruding from the water (COSEWIC, 2018). Suitable habitat for Midland Painted Turtle is not found on the property or in the lake adjacent to the property.
Eastern Hog-nosed Snake	*Heterodon platirhinos*	Threatened	Threatened	Medium	Eastern Hog-nosed Snake used a variety of habitat in forested and open areas that have well- drained soils such as loose or sandy soil, open vegetative cover such as open woods, brushland or forest edge, proximity to water, high ground surface temperatures, and abundant shrub, debris and rick cover (COSEWIC, 2021). Suitable habitat is not found in the property where the deck addition is proposed. However, it can be found within the crevices and under rocks.
Eastern Milksnake	*Lampropeltis triangulum*	Special Concern	No Listed	Medium	The milksnake is known to occur in rural areas, in and around buildings, especially old structures. However, it is found in a wide variety of habitats, from prairies, pastures, and hayfields, to rocky hillsides and various forest types. Essential features of good milksnake habitat are proximity to water, and suitable locations for basking and egg-laying. Milksnakes preferentially use open and edge habitats as these provide characteristics that aid in thermoregulation. Suitable hibernation sites include mammal burrows, old buildings foundations, crawl spaces, old wells and cisterns, stone walls, gravel and dirt banks hollow logs, rotting stumps or rock crevices COSEWIC, 2014). Eastern Milksnake was not seen but it is possible to see this species on the property.
Mammals					
Northern Myotis	*Myotis septentrionalis*		Endangered	Low	Hibernation roosts for the three species are found in caves, hollow trees, abandoned

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
Little Brown Myotis	*Myotis lucifugus*		Endangered	Low	buildings, and abandoned mines. Most species choose maternity roosts in woodlands with appropriate tree cavities, caves, crevices, under loose bark, and cracks in cliffs. Little Brown Myotis is found in buildings and rocky habitats (COSEWIC, 2013). Suitable habitat for bats is not found within the area proposed for the deck addition.
Tri-coloured Bat	*Perimyotis subflavus*		Endangered	Low	
Plants					
Hill's Pondweed	*Potamogeton hillii*	Special Concern	Special Concern	Low	Hill's Pondweed is found in cold, clear, calcareous streams, ponds and ditches with an alkalinity of 53.0 to 316.7 mg/L HCO_3. It is usually located where there is dolomitic limestone (COSEWIC, 2005). Suitable habitat for this species is not found in the lake near to the property.

No species at Risk were observed and/or heard during the site investigation. It is the potential for some species to be found in the property and adjacent land but not in the area where the addition is proposed, as the area required for the addition is minimal.

Four (4) Species at Risk have the potential to be found in and adjacent to the area proposed for the addition. These species include eastern wood-pewee, wood thrush, eastern hog-nosed snake, and eastern milksnake. Wood Thrush is listed as Threatened in Schedule 1 of the SARA. Eastern Wood-pewee is listed as a Special Concern under the SARO and Schedule 1 of the SARA. Eastern Hog-nosed Snake is listed as a Threatened under the SARO and Schedule 1 of the SARA. Eastern Milksnake is listed as Special Concern in Schedule 1 of the SARA. The species listed as Special Concern are not protected under the Ontario Endangered Species Act. Measures should be applied to protect the species and their habitat.

Eastern Wood-pewee and Wood Thrush were not heard or observed during the site investigation. Impacts to these species are not expected as the area to be impacted by the project is minimal.

Eastern Hog-nosed Snake and Eastern Milksnake were not seen during the site investigation. The forest provides habitat for these species and so it is possible to find snakes on the property. Impacts on these species are not expected; however, recommended measures should be applied to ensure the species are not harmed.

Roosting habitat for bats is not present in the tree(s) potentially to be affected by the deck extension and immediate area. Bats can be found in the forest and buildings and structures in neighbouring properties. Impacts on bats are not expected.

If an impact on a Species at Risk or its habitat cannot be avoided, a person(s) should contact MECP and/or MNNRF to discuss options, including applying for an authorization under the ESA. In situations where an activity is not registered with or authorized by the MECP, a person(s) must comply with the ESA by modifying proposed activities to avoid impacts to Species at Risk and habitat protected under the ESA.

6.6 Aquatic Habitat

The property is adjacent to Papineau Lake. The Papineau Lake is approximately 831 ha in size with a maximum depth of 64 m. On the north side, the lake is connected to Bark Lake through creeks and Hicks Lake and Potash Lake. Several watercourses drain into the lake including the Little Papineau Creek.

The property frontage to Papineau Lake. The aquatic habitat near the property was observed to be open water with substrate composed of sand, gravel and boulders. A barrier built with boulders was observed in the water. The owner indicated that the barrier was there when they purchased the property. The barrier creates a pool-like area, protected from the waves. At the time of the site investigation most of the barrier was covered with water. Review of satellite imagery shows the barrier. No garbage was observed deposited over the riparian area, and the water was observed clear with some foam produced by waves. The water gets deep near shore.

Aquatic vegetation was not observed in the nearby area that could provide habitat to fish. No fish were observed. According to Fish ON-Line mapping, fish species found in the lake include brown bullhead (*Ameiurus nebulosus*), burbot (*Lota lota*), cisco (*Coregonus artedi*), lake trout (*Salvelinus namaycush*), lake whitefish (*Coregonus clupeaformis*), northern pike (*Esox lucius*), pumpkinseed (*Lepomis gibbosus*), rock bass (*Ambloplites rupestris*), smallmouth bass (*Micropterus dolomieu*), and white sucker (*Catostomos commersonii*). The lake is not listed in the County of Hastings Official Plan as at Capacity Lake Trout.

The riparian area in the east part of the property was observed covered with herbaceous species, small shrubs and trees providing shade to the water. On the west side the riparian area is mainly exposed bedrock; vegetation is present approximately 3.5 m from the shoreline. The area with exposed bedrock is steep. The bedrock was observed covered with moss, lichens and grasses.

7. Significant Natural Heritage Features and Functions

7.1 Significant Woodlands

Significant Woodlands have been identified on Schedule B of Hastings County's Official Plan. No significant Woodlands are identified on the property or adjacent lands. The area surrounding the property and shoreline properties is crown land in its natural state. Therefore, no impacts to Woodlands are anticipated as a result of the proposed deck enlargement.

The property is mainly occupied with forest with the impacted areas restricted to the cottage, sheds, boat rail, and area within these structures. The area proposed for the deck extension is impacted, resulting in a minimal vegetation to be removed which include two red oaks and potentially a four more trees and two shrubs that are within the working area.

7.2 Significant Wetlands

The property is not located within a Provincially Significant Wetland (PSW). The closest unevaluated wetlands are located approximately 800 m north of the property. Therefore, impacts to wetland are not expected.

7.3 Areas of Natural and Scientific Interest (ANSI)

The property is not within an Area of Natural and Scientific Interest (ANSI).

7.4 Significant Habitat for Provincially Endangered and Threatened Species

The general habitat of species that are listed as endangered or threatened is automatically protected under the Endangered Species Act (ESA), 2007. Development shall not be permitted within the habitat of endangered and threatened species, except in accordance with applicable provincial and federal requirements. Special Concern species listed under the ESA are not protected. The Ministry of Natural Resources and Forestry (MNRF) issues authorizations regarding wildlife identified in the schedules (Ont. Reg. 669/98) under the Fish and Wildlife Conservation Act (FWCA). Some species under the ESA (Endangered, Threatened and Special Concern) are also listed in the FWCA schedules. In the case of ESA Special Concern species, the FWCA

prevails as the ESA does not provide protection to Special Concern species. Measures should be applied to avoid harm to the species and their habitat.

No species at Risk were observed and/or heard during the site investigation. The site has the potential for SAR species to be found in the property and adjacent land but not in the area where the addition is proposed, as a small area is required for the addition.

Four (4) Species at Risk have the potential to be found in the property, adjacent to the area proposed for the addition. These species include eastern wood-pewee, wood thrush, eastern hog-nosed snake, and eastern milksnake. However, measures should be applied if these species or other SAR are encountered during the construction of the deck.

7.5 Significant Wildlife Habitat

Wildlife habitat are areas where plants, animals, and other organisms live, and find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual or life cycle; and areas which are important to migratory or non-migratory species (PPS, 2020).

Significant Wildlife Habitats (SWH) have been identified on Schedule B of Hastings County's Official Plan. The property is not within a SWH. The owners are proposing to upgrade the existing deck. The area required for the addition is minimal; therefore, impacts to wildlife are not expected.

8. Opportunities and Constraints

8.1 Natural Heritage System

The property is not within an Area of Natural and Scientific Interest or PWS, but it is adjacent to Papineau Lake. The existing cottage was built close to the shoreline on an area characterized by exposed Precambrian bedrock with a thin layer of overburden. The owners are proposing to upgrade the existing deck and extend it. In addition to the area that the existing deck occupies, 31 m^2 will be required for the proposed extension of the deck.

The area for the extension is currently impacted as it is the access area to the cottage and the stairs to access the deck area. Two red oaks will need to be removed and four more trees and a couple of shrubs potentially will be affected as they are located in close proximity to the proposed extension and in the working area.

Future impacts to vegetation include the removal or trimming of some trees to allow a view of the lake from the extended deck area. If trees are removed, they should be replaced with native shrubs species.

Overall, the proposed extension of the deck will not cause significant impacts to the natural features. The ecological functions of the forest surrounding the cottage will continue.

8.2 Regulated Areas

According to the record provided the County, the existing cottage was built in 1958. The cottage was built prior to the current Zoning By-law. The cottage is permitted to continue as is and replaced with the same use, with the same building envelope (including the same dimensions), in the same footprint and in the same location.

The Township of Bangor, Wicklow, and McClure Zoning By-law approved in the 1970's required a dwelling to be at least 30 metres from the high-water mark of Papineau Lake. The existing cottage was built prior to the approval of the zoning By-law; therefore, is still permitted.

The owners are proposing to extend the existing deck and according to the current Zoning By-law, the extension is not permitted as it will be within the 30 m setback required to protect structures and people from hazard land

(steep slope and erosion). In addition, development is not permitted within the 30 m to protect water quality and aquatic habitat.

The owners are not proposing any other development. The current elevated deck is aging and needs to be repaired/replaced. An extension of the deck will allow the owner to enjoy the view of the lake. The minimal distance from the shoreline to the deck has been calculated as 8.3 m. In the area for the extension, soil over bedrock is minimal. Topography in the property, on the side of the lake, is steep except for the area where the cottage and structures are located which is flat to moderate. It is considered that the deck extension will not cause erosion as the only area to be affected will be the deck footings.

Vegetation present in the property provides protection from erosion. It is not expected that additional vegetation will be affected by the project. Therefore, risk of erosion is considered low. The owners should ensure that the vegetation cover is maintained around the property.

8.3 Development-Related Impacts

Development related impacts are not expected as a large area is not required for the extension of the elevated deck. The proposed extension is within the 30 m setback from the high-water mark; however, exposed bedrock and minimal presence of overburden will result in low risk of erosion. Also, due to the steep slope from the shoreline to where the extension will be located, the risk of flooding is also low.

The impacts related to the proposed extension is the removal of vegetation, it is expected that a tree and a sapling will be removed and potentially some other trees and a couple shrubs will be affected as they are in proximity of the deck extension area and within the working area. It is the potential to affect additional vegetated areas to allow transport of machinery and material to the project area. Future impacts will be related to the removal or pruning of trees that will interfere with the view.

As the area proposed for the extension of the deck is currently impacted, impacts to wildlife are not expected. Disturbance to wildlife during construction will be minimal and temporal.

9. Impact Assessment and Recommendations

The owners are proposing upgrade the existing deck which with include an extension. The following measures are recommended to be applied to prevent, minimize and compensate the impacts that the extension will have in the natural features.

- Minimize the area to be impacted.
- Apply erosion and sedimentation control measures to prevent sediment or construction material from entering the waterbody.
- erosion and sedimentation control measures should be regularly inspected to ensure that adjacent areas are not affected by construction activities.
- Removal of erosion and sediment control structures once the vegetation has stabilized.
- Restoration of areas affected by construction activities with native plant species.
- Removal of invasive species that may be established in the affected areas.
- Avoid the disposal of vegetation in the forest and lake.
- It is recommended that construction workers be briefed on the potential species to be found in the area for development and made them familiar with the regulations of the ESA.

- Best practices should be implemented during construction to ensure species are not harmed by equipment or workers activities.
- Prior to beginning activities each day, checks for wildlife should be conducted thorough a visual inspection of the work area and immediate surroundings.
- Minimize the area that will be required to allow view of the lake in the area for the extension. Pruning trees is recommended and it should be performed by a professional to ensure the trees are not seriously damaged.
- Trees to be removed to improve view should be replaced with native shrub species.
- Minimize any disturbance to the surrounding areas.
- Keep secure stockpile materials, vehicles and structures against wildlife entry.
- Construction waste, litter and other waste material must be appropriately contained and promptly disposed of.
- Avoid harm to any SAR. Many species are protected under provincial and/or federal legislation. Legal protection of egg-laying species applies to their eggs as well. Penalties for contravening these Acts are severe.
- If wildlife is encountered, stand back and allow the animal to leave the site. Wildlife may be encouraged to move away from the work area by shouting, waving of arms, clapping of hands or gentle redirection using a broom.
- Many species of snake are protected under provincial and/or federal legislation. If a snake is found in the work area, it should be gently herded out to a safe location.
- Remove vegetation prior to birds nesting season (April 15th – August 31st) or after the nesting season.
- The use of 'Clean Equipment Protocol' during construction activities is strongly recommended to reduce the spread of exotic species of plants.
- Minimize the use of outdoor lights during post-construction activities.
- Outdoor lighting should be low wattage, energy efficient and producing minimal glare to prevent impacts on wildlife.
- Property owners should be aware of the importance of preserving natural features.
- Property owners should ensure that the wastewater from the cottage and outhouse is properly treated and/or disposed to protect the water quality of the lake.
- Any new development should be consistent with the requirements of the County Official Plan and Zoning By-law.

10. Policy Conformity and Conclusions

The proposed extension of the deck does not comply with the PPS policies and The County of Hastings Official Plan and the Municipality of Hasting Highlands Zoning By-law as it is proposed within the 30 m setback from the high-water mark from Papineau Lake established to protect any development from steep slopes and erosion as well as to protect the water quality of the lake. However, the extension will require a small area (31 m^2), it will continue to be elevated, on an area currently impacted, and over bedrock and minimal soil. Therefore, the extension of the deck will result in low impacts to natural heritage features and water quality of the lake. Also, the risk of erosion and flooding is considered low.

Based on the review of background information and the field investigation, Significant Wetland, Significant Woodlands, and Habitat for Endangered and Threatened species will not be impacted by the proposed extension of the deck.

Recommendations to avoid and/or mitigate potential impacts have been proposed and are considered adequate. Therefore, it is our opinion that the proposed extension of the deck will have low impact on the natural features and their ecological functions.

I trust that this brief report is complete within our terms of reference and sufficient for your present requirements. Please contact me at your convenience if you have any questions about this report or our recommendations.

THE GREER GALLOWAY GROUP INC.
CONSULTING ENGINEERS

Yazmin Ramirez Avila, M.Sc.
Biologist

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Figures

PAPINEAU LAKE

PAPINEAU LAKE ROAD

SCALE 1:250 -5m 0 5m 10m

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)

GREER GALLOWAY
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NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
2. ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

A / B — A DETAIL NO. / B DRAWING NO. – WHERE DETAILED

PROPERTY BOUNDARY

REVISION	DESCRIPTION	DATE
01	–	YY/MM/DD

NORTH

STAMP

PROJECT
2564 PAPINEAU LAKE RD

MALE LEAF, COUNTY OF HASTINGS, ON

DRAWING TITLE
SITE LOCATION MAP

DESIGNED BY: Y. RAMIREZ
DRAWN BY: B. CRUZ-FUENTES
REVIEWED BY: Y. RAMIREZ
APPROVED BY: Y. RAMIREZ
PROJECT DATE: 2024/06/05 (YYYY/MM/DD)
PROJECT #: 24-1-2806

DRAWING # FIGURE 1

DRAWING SCALE (ISO A1)
HOR: 1 : 250
VER: N/A

CAD PLOTTER: Bernardo Cruz-Fuentes
FILE PATH: P:\Belleville Project\4000\2412806 – 2564 Papineau Lake Road\24-1-2806-Report Figures.dwg
PLOT SCALE: 1:1
DATE PLOTTED: 2024 / 06 / 18 @ 10:21 AM
BORDER SIZE: ISO A1 (841mm x 594mm)

SCALE 1:250 -5m 0 5m 10m

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A — A DETAIL NO.
B — B DRAWING NO. – WHERE DETAILED

PROPERTY BOUNDARY

REVISION	DESCRIPTION	DATE
01	–	YY/MM/DD

NORTH

STAMP

PROJECT
2564 PAPINEAU LAKE RD
MALE LEAF, COUNTY OF HASTINGS, ON

DRAWING TITLE
EXISTING
SITE CONDITIONS

DESIGNED BY
Y. RAMIREZ

DRAWN BY
B. CRUZ-FUENTES

REVIEWED BY
Y. RAMIREZ

APPROVED BY
Y. RAMIREZ

PROJECT DATE
2024/06/05
(YYYY/MM/DD)

PROJECT #
24-1-2806

DRAWING #
FIGURE 2

DRAWING SCALE (ISO A1)
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CAD PLOTTER: Bernardo Cruz-Fuentes
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PLOT SCALE: 1:1
DATE PLOTTED: 2024 / 06 / 18 @ 10:21 AM
BORDER SIZE: ISO A1 (841mm x 594mm)

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)

SCALE 1:250 -5m 0 5m 10m

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A / B — A DETAIL NO. / B DRAWING NO. – WHERE DETAILED

PROPERTY BOUNDARY

FOD9-1-FRESH-MOIST OAK-SUGAR MAPLE DECIDUOUS FOREST

REVISION	DESCRIPTION	DATE
01	–	YY/MM/DD

NORTH

STAMP

PROJECT
2564 PAPINEAU LAKE RD
MALE LEAF, COUNTY OF HASTINGS, ON

DRAWING TITLE
VEGETATION COMMUNITIES

DESIGNED BY Y. RAMIREZ

DRAWN BY B. CRUZ-FUENTES

REVIEWED BY Y. RAMIREZ

APPROVED BY Y. RAMIREZ

PROJECT DATE 2024/06/05 (YYYY/MM/DD)

PROJECT # 24-1-2806

DRAWING # FIGURE 3

DRAWING SCALE (ISO A1)
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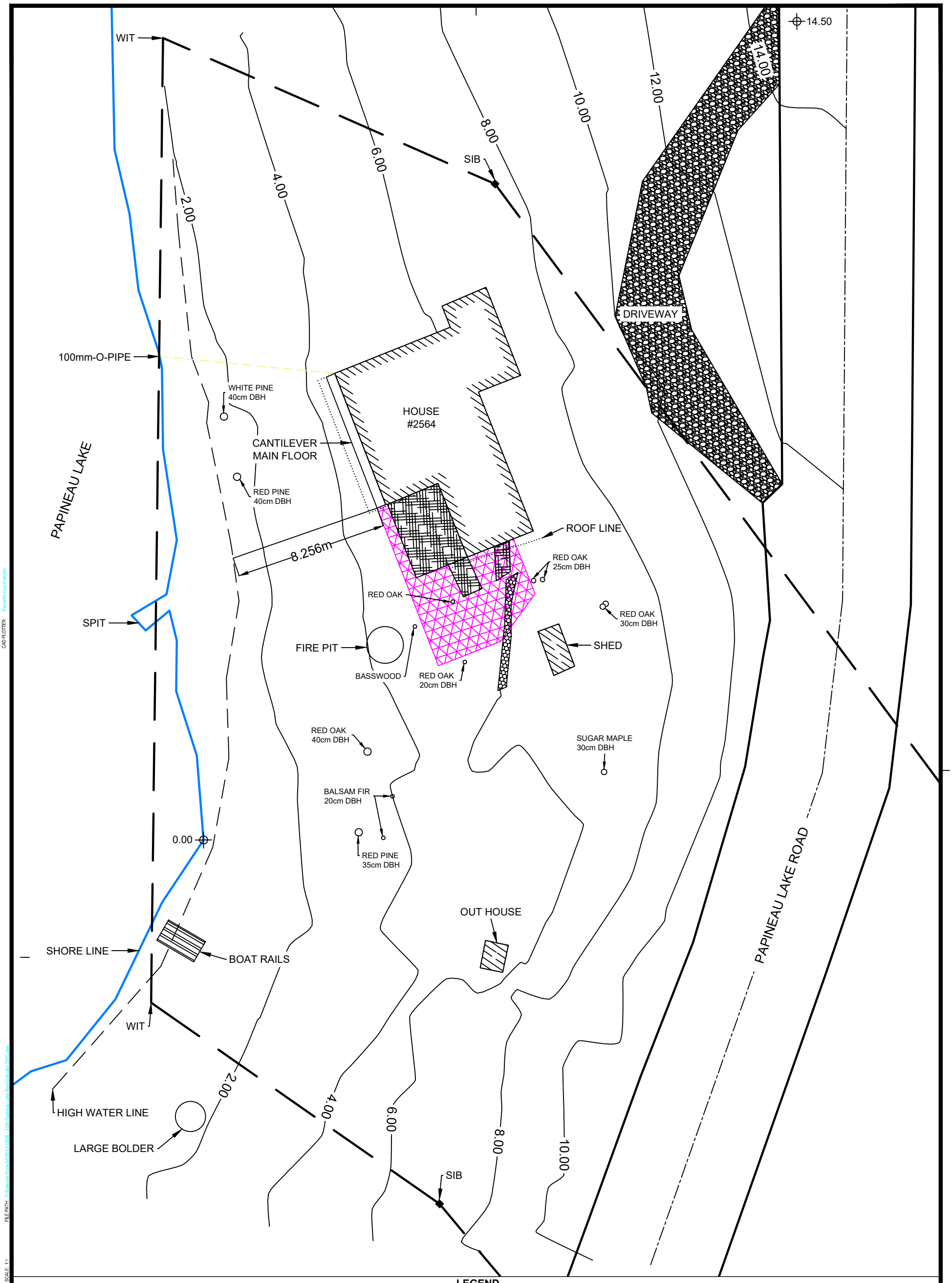
VER: N/A

CAD PLOTTER: Bernardo Cruz-Fuentes
FILE PATH: P:\Belleville Project\4000\2412806 - 2564 Papineau Lake Road\24-1-2806-Report Figures.dwg
PLOT SCALE: 1:1
DATE PLOTTED: 2024 / 06 / 18 @ 10:21 AM
BORDER SIZE: ISO A1 (841mm x 594mm)

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)

Appendix A
Site Plan



STAMP

PROJECT
SITE PLAN
2564 PAPINEAU LAKE, ON.
CLIENT: HARLEY FOULDS

DRAWING TITLE
BUILDING LOCATION SURVEY
2564 PAPINEAU LAKE ROAD

ISSUE: PERMISSION APPLICATION
DATE YYYY/MM/DD: 2024-02-28

DRAWN BY: JC
REVIEWED BY: TL
DRAWING #: 24-1-2806
REV #: 1
PROJECT #: 21-3-6486

0 5 10 Meters

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(METRIC SCALE - ALL DIMENSIONS IN METERS U.N.O.)

Appendix B
Site Photolog

Photo 1. View of the property and cottage adjacent to Papineau Lake.

Photo 2. View of the existing conditions in the area where the deck extension is proposed.

Photo 3. View of the area proposed for the deck extension.

Photo 4. View of the Deciduous Forest found in the property on the lake side.

Photo 5. View of the forest found west of the cottage.

Photo 6. View of the exposed bedrock and slope on the riparian area.

Photo 7. View of the shed where wood is stored.

Photo 8. View of the out house.

Photo 9. View of the boat rail located close to the water.

Photo 10. View of the stairs to access the cottage from Papineau Lake Road.

Photo 11. Looking northwest the lake and riparian area.

Photo 12. Looking southwest Papineau Lake.