Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

Canada

# Basic Project Evaluation Report

**for the**

## Abatement and Debris Removal, Michipicoten Island East End Site, Ontario

## Pursuant to Sections 67 of the Canadian Environmental Assessment Act, 2012

**East End Light Station**
**Michipicoten Island, Ontario**
PSPC Project No. R.083149.03

Prepared for
Public Services and Procurement Canada –
Environmental Remediation Services, ESCS, Ontario Region
Government of Canada

**March 31, 2017**

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## PART A: PROJECT INFORMATION

| | |
|---|---|
| **Project Title:** | Remediation of East End Light Station Michipicoten Island |
| **Project Location:** | East End Light Station Michipicoten Island, Ontario |
| **Lead Federal Authority:** | Department of Fisheries and Oceans |
| **Lead Authority Contact:** | Jennifer Sifton |
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| | |
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| **PSPC Project No.** | R.083149.03 |

## PART B: SCOPE OF PROJECT

### *B.1 Project Description*

The purpose of this project is to remediate lead paint and metal/debris dump at the East End Light Station (the Site) located at the east end of Michipicoten Island in Lake Superior in order to limit further lead impacts to the environment at the East End Light Station Michipicoten Island, Ontario. The two main phases of this project are:

- Abatement of paint on the exterior of the lighthouse and appurtenant structures, as well as repainting of all structures.
- Removal of scrap metal (by hand) and debris from dump located to the west of the site.

No demolition of the existing structure or new construction is required. Other than exterior paint and scrap metal, no other remedial activities are proposed as part of this project and excavation of surface soils or vegetation removal will not be required.

Marine access to the site is limited due to the rock shoreline and the side of the existing dock and break walls which limit the size of craft which may safely dock at the site. Accordingly, equipment and materials required for the remediation as well as waste materials will be brought to and from the island by barge and then ferried to the site by small boat. The main equipment that will be required will consist of temporary scaffolding but it is possible that a small excavator will be required to move equipment and debris. Workers will either travel to and from the site via boat or be flown in by helicopter. While work is underway, workers will likely be housed on the island either in temporary shelters (tents) or in the structures present on the site. Other than the transport of personnel, equipment and waste materials, all project activities will be constrained to the subject property.

All work will be conducted by licensed qualified contractors and supervised by an environmental consultant.

### *B.2 Scheduling*

The project is scheduled to be undertaken during the summer of 2017.

### *B.3 Regulatory*

At minimum, the contractor must be cognizant and abide the following regulations during this project:

- Rules and regulations of authorities having jurisdiction.
- Occupational Health and Safety Act and Regulations for Construction Projects, Revised Statutes of Ontario 1990, Chapter O.1 as amended, Workplace Safety and Insurance Act and municipal statutes and authorities.
- Environmental Protection Act, Revised Statutes of Ontario 1990, Chapter E19 as amended, O. Reg. 102/94, Waste Audits and Waste Reduction Work Plans, and O. Reg. 103/94, Industrial, Commercial and Institutional Source Separation Programs.
- CCME (Canadian Council of Ministers of the Environment) Contaminated Sites, Contaminated Soil and Groundwater, and Remediation of Contaminated Sites most current publications.
- Canadian Environmental Assessment Act.
- Canadian Environmental Protection Act (New Substance Notification Regulations).
- Canada Consumers Product Act (Sc. 2010, c.21) as amended
- Surface Coating Materials regulations SOR 2016/123.
- Transportation of Dangerous Goods Act.
- Fisheries Act.
- Migratory Birds Convention Act.
- Migratory Birds Regulations.

The project site is also located within the Mitchipicoten Provincial Park and the Lighthouse itself is a designated as a Classified Federal Heritage Building by Parks Canada. Accordingly, the contractor should give due consideration for the environmental and heritage value of the site and surrounding area.

As part as the PWGSC mandated Health and Safety requirements for this project, the contractor must be cognizant and aware of the following additional regulations:

- .Canadian Standards Association (CSA): Canada
    - CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.
- National Building Code 2010 (NBC):
    - NBC 2010, Division B, Part 8 Safety Measures at Construction and Demolition Sites.
- National Fire Code 2010 (NFC):
    - NFC 2010, Division B, Part 5 Hazardous Processes and Operations, subsection 5.6.1.3 Fire Safety Plan.
- Ontario
    - O. Reg. 490/09, Designated Substances.
    - O. Reg. 278/05 Designated Substances.
- Treasury Board of Canada Secretariat (TBS):
    - Treasury Board, Fire Protection Standard April 1, 2010

As part of the lead-based paint abatement portion of this project, the contractor must be cognizant and aware of the following additional regulations:

- Department of Justice Canada
    - Canadian Environmental Protection Act, 1999 (CEPA).
- Health Canada
    - Workplace Hazardous Materials Information System (WHMIS), Material Safety Data Sheets (MSDS).
- Human Resources and Social Development Canada
    - Canada Labour Code Part II, SOR 86-304 – Occupational Health And Safety Regulations.
- Ontario Ministry of Labour
    - Health and Safety Guideline “Lead on Construction Projects”, April 2011.
- Ontario Ministry of the Environment and Climate Change

  - O. Reg, 347/90 General – Waste Management as amended by O. Reg. 304/14.
  - Environmental Protection Act.
- U.S. Environmental Protection Agency (EPA)
  - EPA 747-R-95-007-1995 (as amended), Sampling House Dust for Lead.
- U.S. Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH)
  - NIOSH 94-113 - NIOSH Manual of Analytical Methods (NMAM), 4th Edition (1994).
- Underwriters' Laboratories of Canada (ULC)
- U.S. Department of Labour – Occupational Safety and Health Administration (OSHA) - Toxic and Hazardous Substances
  - Lead in Construction Regulation - 29 CFR 1926.62-1993.

For the Living Quarters building, it will be required to remove lead-based paint from a transite cladding on the second floor exterior façade. As such, the contractor must be cognizant and aware of the following additional regulations concerning working with asbestos containing materials:

- Ontario Ministry of Labour
  - Buildings and Repair Operations released in November 2007, http://www.labour.gov.on.ca/english/hs/ asbestos/index.html.
  - Ontario Occupational Health and Safety Act.

- Public Works and Government Services Canada.
  - Annex C - Appendix 6 - Work Procedures of PWGSC DM Directive 057 Asbestos Management.
- Canadian General Standards Board (CGSB)
  - CAN/CGSB-1.205-2003, Sealer for Application to Asbestos-Fibre-Releasing Materials.
- U.S. Department of Labour - Occupational Safety and Health Administration - Toxic and Hazardous Substances
  - 29 CFR 1910.1001-2010, Asbestos Regulations.

During the debris removal portion of the project, the contractor must be cognizant and aware of the following additional regulations:

- Canadian General Standards Board (CGSB)
  - CGSB 51-GP-51M-81, Polyethylene Sheet for Use in Building Construction.
- Ontario
  - O.Reg 153/04 Record of Site Condition

For the repainting portion of this project, the contractor must be cognizant and aware of the following additional regulations:

- The Master Painters Institute (MPI)
  - Maintenance Repainting Manual 2004, Master Painters Institute (MPI), including Identifiers, Evaluation, Systems, Preparation and Approved Product List.
- Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).

## PART C: SCOPE OF EVALUATION

PWGSC has determined that the abatement of lead paint at the East End Light Station Michipicoten Island, Ontario is subject to evaluation the Canadian Environmental Assessment Act 2012 (CEAA 2012). The project is not a designated project under CEAA 2012 and is therefore not subject to an environmental assessment. However, CEAA 2012 still requires an evaluation of potential project effects under Section 67. The evaluation non-designated projects under Section 67 may take two forms, an environmental effects evaluation or a basic project evaluation, based on whether or not there is uncertainty around the potential for environmental effects and where mitigation measures are not known to be effective and established (CEAA, 2016).

The primary objective of the project will be the abatement of lead based paint on the lighthouse and the removal of debris and scrap metal from a dump location identified to the west of the site. No demolition of the existing structure is required and no construction will be required beyond temporary scaffolding and possibly lodging for workers. As a result, all project activities will be constrained to the subject property and all potential environmental effects are not considered significant after the implementation of mitigative measures. Additionally, mitigative measures which will be employed are effective and established techniques for lead paint abatement. In the context of an evaluation under Section 67 of CEAA 2012, mitigation measures are considered "effective and established" if they meet all of the following criteria:

- Have been implemented before in similar situations;
- Are well understood and considered reliable; and
- Are 'Avoid' or 'Reduce' type mitigation measures.

Accordingly, based on the scope of the project and the results of the assessment, the project has been classified as a basic project according to the assessment requirements described under Section 67 of the CEAA 2012.

## C.1 Environmental Setting

The Michipicoten Island East End Light Station is a 39.3 hectare property located on the northeast end of Michipicoten Island in Lake Superior, and is found within Michipicoten Island Provincial Park. The Site is situated in an area referred to as Point Maurepas. The Island is located approximately 70 km southeast of Wawa and 14 km from the nearest point of mainland (Figure 1). The project site itself consists of a roughly 1 hectare area that is developed with an unmanned lighthouse, fog alarm building, generator building, equipment shed, tank farm with a concrete dyke, and helicopter pad. There are also foundations from a former radio beacon building, former fuel storage shed, former boathouse, and former dwelling on the site (Figure 2).

The Site is unmanned and is currently owned by the Department of Fisheries and Oceans Canada (DFO). Excluding the site, Michipicoten island as well as a aquatic habitat within a 2.5 km buffer extending into Lake Superior is administered as Michipicoten Provincial Park.

## C.2 Physical Environment

Climate

The nearest weather station to the Site is located in Wawa, ON approximately 70 km southeast of Wawa. It experiences average daily temperatures between -14˚C in January and 15˚C in July Daily average temperatures are above 0˚C during seven months of the year (April to October). The region typically experiences rainfall between April and November, with monthly averages ranging from 47 mm to 107 mm. The water equivalent of the average annual precipitation in this area is 970 mm (Environment Canada 2010). .

Topography

Generally, the Site is relatively flat with a moderate slope towards the shoreline of Lake Superior. The shoreline variably consists of bedrock outcroppings and sloped gravel beaches. Outlying structures (former radio building,

helipad, etc.) away from the main site are also constructed on bedrock outcroppings. Regional surface drainage appears to be generally east towards Lake Superior.

The Site generally consists of overgrown vegetation or gravelly sand covered areas and competent bedrock exposed at surface. Storm water collected on the overgrown vegetative areas, sand/gravel and competent bedrock is anticipated to drain by infiltration and/or overland flow (JW 2006a). BluMetric (2016) noted an ephemeral stream that was dry during the assessment. It was apparent (observed soil erosion, shallow channelization and undercut vegetation, etc.) that this surface water feature results in a periodic flowing stream which runs first southeast and then to the east towards the Site. The habitat assessment conducted by Bowfin (2016) also noted a small channel created from what appeared to be a seep on the northern edge of the Site. The wetted width was 31 cm and the average depth was 3 cm. The substrate and gradient created run and step morphological units. This channel flowed east towards Lake Superior, but it did not reach the shoreline and ended just west of the double dwelling.

Geology and Soils

The surficial soils at the Site consist of glaciolacustrine deposits including sand, gravely sand and gravel, and near-shore beach deposits. Bedrock consisting of igneous and metamorphic rock is exposed at surface or covered by a discontinuous, thin layer of soil. The characteristic permeability of the gravelly sand is high. The bedrock encountered exhibited a high level competency with little to no fractures (JW 2006a and JW 2006b). Along the shoreline, the geology consists of deposits of lacustrine sand and gravel, including pebble and cobble materials (JW 2006b).

The ground surface cover at the various borehole locations in previous investigations generally consisted of gravelly sand, bedrock and/or grass surface cover. As indicated on the borehole records, the soil stratigraphy in the areas investigated generally consisted of organics covering gravelly sand overburden and underlain by competent bedrock. The depth of the overburden encountered within the hand auger locations ranged from 0.1 m to 0.3 m bgs (JW 2006a and BluMetric 2016).

According to JW (2006b) the natural bedrock contour in the vicinity of the site delineates overburden soils in both vertical and horizontal directions.

Contaminated Soils

Multiple assessments have occurred at the site in 2001, 2006 and 2016 (XCG 2001, Jacques Whitford 2006, BluMetric 2016) in order to document the extent of impacted soils at the site. Assessments have identified elevated levels of petroleum hydrocarbons (PHCs), metals and Polycyclic aromatic hydrocarbons (PAHs) distributed across the site. These impacts are associated with historical activities occurring over the long operational history of the site. Delineation of these impacts have been partially successful in estimating the volume of impacted soils present at the site, however exact delineation has not been achieved due to the remote location of the site and environmental conditions at the site.

It was also noted that elevated metal concentrations in site soils may be attributed to metal scrap and debris are distributed in the forest surrounding the site. A scrap metal dump was also identified to the west of the site in a seasonal surface water feature. This metal dump is a potential contributing source of metals impacts in surface soils for areas of the main site down gradient.

Description of Structures

Development at the light station consists of an unmanned lighthouse, fog alarm building, abandoned dwelling, generator building, equipment shed, and decommissioned tank farm with a concrete dyke, and helicopter pad. There are also foundations from a former radio beacon building, former fuel storage shed, former boathouse on

the Site.

The lighthouse itself is a six-sided reinforced concrete structure, approximately 18.7 metres high, braced by six tapered flying buttresses. A structural assessment conducted in 2016 (Novatech, 2016) found that the lighthouse, while in generally satisfactory condition, is experiencing significant concrete deterioration (spalling and corrosion) especially around the exterior platform surrounding the top floor. It is noted that this deterioration presents a potential risk to workers working around the exterior of the lighthouse as a result of falling concrete.

The assessment also notes that the appurtenant structures at the site are generally in good condition.

A designated substances survey (DSS) conducted in 2016 (BluMetric, 2016) confirmed the presence of lead and mercury containing paint on the lighthouse and the surrounding structures. The DSS also identified asbestos containing materials as well as a thermostat containing mercury in the former living quarters.

Access

The Site is currently unmanned and personal and equipment are ferried by helicopter from the main land as required. The shoreline at the site is developed with a breakwater and small concrete wharf and historically the site was accessed by boat. Historically the site was accessed by way of a small craft launched from a larger vessel due to the exposed and shallow nature of the landing site

Marine access requirements for the proposed project are assumed to be limited to the equipment required for remediation (scaffolding, excavator, etc.), the transfer of personnel to and from the island as well as the removal of waste (paint, impacted soil, scrap metal, etc.). Based on these access requirements and following review of the size and condition of existing dock and breakwater a marine engineering assessment of the site (Shoreplan Engineering, 2016) recommended that site access be provided by way of a small landing craft launched from a barge and tug. Equipment would be transferred between the barge and the island by a small landing craft with an approximate capacity of 4.5 tons. In the case of rough conditions, the barge and tug can shelter in Quebec Harbour nearby. Given the remote nature of the site, it is likely that a helicopter will remain on standby in the event of an emergency.

**C.3 Biological Environment**

Ecological habitats at the Site and surrounding area are fairly uniform and consist primarily of coniferous forests with some marsh and bedrock inclusions. The forest is dominated by white birch and the white spruce with an understory consisting of balsam fir, thimbleberry, red-osier dogwood and bunchberry. The ground cover consisted mostly of moss with some lichen.

Very small wetlands and bedrock outcrops or rock barrens were found west and south of the Site. The small wetlands (some roughly 10 m x 4 m; too small to be considered as suitable amphibian breeding habitat) consisted of tall shrub swamp with two vegetation forms, dogwood and thimbleberry.

Bowfin (2016) provided a list of wildlife observations for the Site and surrounding area. Evidence of caribou and wolf in the area was noted (feces), as well as beaver (stumps). Other notable species included: bald eagle, American pipit, blackburnian warbler, black-capped chickadee, palm warbler, pine warbler and yellow-rumped warbler.

The only water bodies reported on the Site during recent investigations include ephemeral channels/streams and small areas of ponded water insufficient to support aquatic life (BluMetric 2016 and Bowfin 2016). The wetlands likely support aquatic life but are located up gradient from the light station and outside the project area.

The Site is bounded on the east by Lake Superior. Shoreline habitat consists of bedrock knolls or cobble/pebble beaches. Only one area on the north side contains vegetation, and generally transitions from rock beach to

narrow strips of grass to broad-leaf species and finally into the forest community. Some of the species observed included: grasses, hawkweed, pearly everlasting, bunchberry, and tall buttercup. This area is noted for lake trout spawning beds, the presence of a fishery (i.e. coho and chinook salmon, herring and lake whitefish), and potential habitat for the species of special concern, which include the deepwater sculpin and the upper great lakes kiyi.

Although no significant wildlife habitats (SWH) were confirmed, Bowfin suggested that the vegetation and habitats encountered could be considered to provide candidate SWH for: bat hibernacula, reptile hibernacula, woodland raptor nesting habitat, seeps and springs, denning sites and/or mast producing areas, cliff and talus slopes, rock barren, and Great Lakes Arctic-Alpine Shoreline type.

Bowfin (2016) identified no Areas of Scientific Interest or Provincially Significant Wetlands on or in the vicinity of the Site.

Bowfin (2016) completed a SAR assessment for the Site. Provincial and federal databases were searched to obtain data on threatened or endangered species on or in the vicinity of the Site. SAR includes the following: Lake Sturgeon, Shortjaw Cisco, Deepwater Sculpin, Whip-poor-will, Barn Swallow, Canada Warbler, Little Brown Myotis, Northern Myotis/Northern Long-eared Bat and Tri-colored Bat. SAR whose habitat is present or may occur in the study area are summarized in Table X. Those species highlighted in red are those who have been documented on the island and those in orange in Table 2 are those whose habitat is present and may occur within the study area. Note that only the Woodland Caribou was confirmed to be present during the site investigations (Bowfin 2016).

Table 1 List of Potential Endangered or Threatened Species for the General Area

| Common Name | Scientific Name | Schedule | SRank | Provincial Status | Federal Status | Preferred Habitat | Reference |
|---|---|---|---|---|---|---|---|
| **FISH** | | | | | | | |
| **Lake Sturgeon** | *Acipenser fulvescens* | No schedule | S2 | THR | No Status | Bottoms of lakes and large rivers. | COSEWIC 2000 |
| **Shortjaw Cisco** | *Coregonus zenithicus* | Schedule 2 | S2 | THR | THR | Deep water species found mostly in great lakes but also in a few larger lakes. | Scott & Crossman 1998 |
| **Deepwater Sculpin** | *Myoxocephalus thompsonii* | Schedule 2 | S3? | | THR | Cold bottom waters of the hypolimnion, on soft sediments in deep lakes. | COSEWIC 2006 |
| **BIRDS** | | | | | | | |
| **American White Pelican** | *Pelecanus erythrorhynchos* | | | THR | | In Ontario this species nests on small (0.4-1.2 ha) low-lying bedrock islands far from mainland to protect it from predation. Islands may be unvegetated or with some trees. Known breeding pairs are located further west than Michipicoten Island. | Sandilands 2005 |
| **Golden Eagle** | *Aquila chrysaetos* | | S2B | END | | Open country, near mountains and lakeshores. | Peterson 1980 |
| **Whip-poor-will** | *Caprimulgus vociferus* | Schedule 1 | S4B | THR | THR | Rock or sand barrens with scattered trees, savannahs, old burns or other disturbed sites in a state of early to mid-forest succession, or open conifer plantations | COSEWIC 2009 |
| **Common Nighthawk** | *Chordeiles minor* | Schedule 1 | S4B | SC | THR | Open habitats, such as sand dunes, beaches, logged areas, burned-over areas, forest clearings, short-grass prairies, pastures, open forests, peatbogs, marshes, lakeshores, gravel roads, river banks, rocky outcrops, rock barrens, railways, mine tailings, quarries, urban parks, military bases, airports, mines and commercial blueberry fields, also present in mixed coniferous forest, and pine stands | COSEWIC 2007 |

| Common Name | Scientific Name | Schedule | SRank | Provincial Status | Federal Status | Preferred Habitat | Reference |
|---|---|---|---|---|---|---|---|
| **Chimney Swift** | *Chaetura pelagica* | Schedule 1 | S4B, S4N | THR | THR | Cities, towns, villages, rural, and wooded areas. | COSEWIC 2007 |
| **Olive-sided Flycatcher** | *Contopus cooperi* | Schedule 1 | S4B | SC | THR | Open areas containing tall trees or snags for perching. | COSEWIC 2007 |
| **Bank Swallow** | *Riparia riparia* | | S4B | THR | No Status | Variety of forest types, most common in wet, mixed deciduous-coniferous forest with a well-developed shrub layer. It is often found in shrub marshes, red maple stands, cedar stands, conifer swamps dominated by black spruce and larch and riparian woodlands along rivers and lakes. It is also associated with ravines and steep brushy slopes near these habitats | COSEWIC 2013 |
| **Barn Swallow** | *Hirundo rustica* | No schedule | S4B | THR | No Status | Open or semi-open lands: farms, field, marshes. | Peterson 1980 |
| **Canada Warbler** | *Wilsonia canadensis* | Schedule 1 | S4B | SC | THR | Variety of forest types, most common in wet, mixed deciduous-coniferous forest with a well-developed shrub layer. It is often found in shrub marshes, red maple stands, cedar stands, conifer swamps dominated by black spruce and larch and riparian woodlands along rivers and lakes. It is also associated with ravines and steep brushy slopes near these habitats | COSEWIC 2008 |
| **Bobolink** | *Dolichonyx oryzivorus* | No schedule | S4B | THR | No Status | Primarily in forage crops, and grassland habitat. | COSEWIC 2010 |
| **MAMMALS** | | | | | | | |
| **Woodland Caribou** | *Rangifer tarandus caribou* | Schedule 1 | S4 | THR | THR | Winter: Mature old-growth coniferous forest. Summer: Occasionally feed in young stands after fire or logging. | COSEWIC 2002 |
| **Wolverine** | *Gulo gulo* | No schedule | | THR | No Status | Large areas of remote wooded wilderness or tundra with an adequate year-round supply of food. | COSEWIC 2003 |

| Common Name | Scientific Name | Schedule | SRank | Provincial Status | Federal Status | Preferred Habitat | Reference |
|---|---|---|---|---|---|---|---|
| **American Badger jacksoni subspecies** | *Taxidea taxus jacksoni* | Schedule 1 | | END | END | Natural and undisturbed grasslands, shrubby areas, and woodlots. | Ontario American Badger Recovery Team 2009 |
| **Little Brown Myotis** | *Myotis lucifugus* | No schedule | S4 | END | END | Buildings, attics, roof crevices and loose bark on trees or under bridges. Always roost near waterbodies. | Eder 2002 |
| **Northern Myotis/Northern Long-eared Bat** | *Myotis septentrionalis* | No schedule | S3 | END | END | Older (late successional or primary forests) with large interior habitat. | Menzel et al. 2002, Broders et al. 2006, SWH 4E Criterion Schedule |
| **Tri-colored Bat** | *Perimyotis subflavus* | No schedule | S3? | END | END | Prefers shrub habitat or open woodland near water. | Eder 2002 |
| **LICHENS** | | | | | | | |
| **Flooded Jellyskin Lichen** | *Leptogium rivulare* | Schedule 1 | S1 | | THR | Periodically inundated bases of trees. | COSEWIC 2004 |
| **PLANTS** | | | | | | | |
| **Pitcher's Thistle** | *Cirsium pitcheri* | Schedule 1 | S2 | THR | END | Optimal habitat is open, dry, loose sand with little other vegetation or duff | Parks Canada Agency 2011 |

Status Updated December 20, 2016

**SRANK DEFINITIONS**

**S1** Critically Imperiled, Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

**S2** Imperiled, Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

**S3** Vulnerable, Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

**S4** Apparently Secure, Uncommon but not rare; some cause for long-term concern due to declines or other factors.

**?** Inexact Numeric Rank—Denotes inexact numeric rank

**S#B** Breeding

**S#N** Non-Breeding

**SARO STATUS DEFINITIONS**

**END** Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.

**THR** Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
**SC** Special Concern: A species with characteristics that make it sensitive to human activities or natural events.

**SARA STATUS DEFINITIONS**

**END** Endangered, a wildlife species facing imminent extirpation or extinction.
**THR** Threatened, a wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
**SC** Special Concern, a wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.

### C.4 Socio-economic Environment

The Site is unmanned and is currently owned by the Department of Fisheries and Oceans Canada (DFO). The entirety of Michipicoten island as well as a 2.5 km buffer extending into Lake Superior is administered as Michipicoten Provincial Park. Park use is relatively low since access to the island is limited to tour operators, commercial fishing vessels, float planes, recreational watercraft, and helicopters. Past activities on the Island included small-scale copper mining, commercial fishing, trapping and operation of the lighthouse (Ontario Parks 2004). There are no permanent residents on the island.

The light station was built in 1911 and began operations in 1912. It operated for 70 years as an attended light station. In 1982 the light station was automated and is now unmanned. However, the lighthouse is a focal point for tourism promotion of the Island. Recreational activities known to occur at the island include boating and sea kayaking tours (Naturally Superior Adventures 2017).

### C.5 Scoping

This basic project evaluation considers the full range of project / environment interactions and the environmental factors that could be affected by the project as defined above and the significance of related effects after mitigation. The environmental effects of a project to be considered include at a minimum, but are not limited to those described under subsection 5(1) and 5(2) of CEAA 2012. The environmental effects considered in this report include:

- Fish as defined under the *Fisheries Act*
- Aquatic Species as defined under the Species at Risk Act
- Migratory Birds as defined under the Migratory Birds Convention Act
- Aboriginal Interests as defined under Section 5(1) of CEAA 2012
- Health and Socioeconomic interests as defined under Section 5(1) of CEAA 2012 Section 5(2)

As well as a number of due diligence concerns including

- Water (ground and surface water)
- Wildlife
- Soil Quality
- Air Quality

The scope of the assessment is restricted to the immediate area of the Site (i.e. federal land) around the site and the associated remediation works. A summary of potential project and environmental effects is provided in Table 2.

**Table 2: Potential Project / Environment Interactions Matrix**

P = Potential Effect of Project on Environment;' - ' = No Interaction

| | *As per Section 5(1)* | | | *Section 5(1c)* | | | | *Section 5(2)* | | | *Due Diligence* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | *Aboriginal Interest* | | | | | | | | | | |
| **Project Phase** / Physical Work/Activity | *Fish (Fisheries Act)* | *Aquatic Species (SARA)* | *Birds (MBCA)* | *Health and Socio economic* | *Physical and cultural heritage* | *Land use* | **HAPA Significance* | *Health and Socio economic (tourism)* | *Health and Socio economic (health and safety)* | *Physical and cultural heritage, HAPA Significance* | *Surface and Ground Water* | *Birds / Wildlife* | *Soil* | *Air Quality* |
| **Remediation Activities** | | | | | | | | | | | | | | |
| *Removal of exterior paints* | - | - | - | - | - | - | - | *P* | *P* | *P* | *P* | - | *P* | *P* |
| *Re-painting* | - | - | - | - | - | - | - | *P* | *P* | *P* | *P* | - | *P* | *P* |
| *Removal of scrap metal/debris* | - | - | P | - | - | - | - | - | - | - | *P* | - | *P* | - |
| **Supporting Activities** | | | | | | | | | | | | | | |
| *Transport of equipment and personnel to/from site* | P | P | - | - | - | - | - | - | - | - | P | - | - | P |
| *Housing of personnel on site* | - | - | P | - | - | - | - | P | - | - | P | P | - | - |
| *Waste Management* | P | P | P | - | - | - | - | P | - | - | P | P | P | - |

*HAPA –*structure, site or thing that is of historical, archaeological, paleontological or architectural significant*

**Table 3: Potential Project / Valued Ecosystem Interactions and Mitigation Measures**

| **Table 3.1 Valued Ecosystem Component -** *Fish (Fisheries Act)* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Harmful effects to fish.* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • Transport of equipment and personnel may result in debris/material entering surface water (Lake Superior)<br>• Contamination of surface water from stored/transported waste material during remediation activities. | • The proposed work plan does not require the construction or modification to any shoreline structures (breakwater/warf) as existing facilities should be sufficient to facilitate site access.<br>• The project does not involve the excavation/disturbance of soils no potential for erosion is anticipated. | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short-term*** | ***Once*** |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | ***None required*** | | | |
| **Comments:** Potential impacts to fish and other aquatic species will be limited to the possibility for spills of deleterious substances (fuels, lubricants, removed paints, etc.) and the associated impacts to surface water. The assessment of the potential impacts to surface water and the associated avoidance measures are described below. | | | | |

| **Table 3.2 Valued Ecosystem Component –** *Aquatic Species (SARA)* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Harmful effects on aquatic species at risk* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • Transport of equipment and personnel may result in debris/material entering surface water (Lake Superior)<br>• Contamination of surface water from stored/transported waste material during remediation activities. | • The proposed work plan does not require the construction or modification to any shoreline structures (breakwater/warf) as existing facilities should be sufficient to facilitate site access.<br>• The project does not involve the excavation/disturbance of soils no potential for erosion is anticipated. | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short-term*** | ***Once*** |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | ***None required*** | | | |
| **Comments:** Potential impacts to fish and other aquatic species will be limited to the possibility for spills of deleterious substances (fuels, lubricants, removed paints, etc.) and the associated impacts to surface water. The assessment of the potential impacts to surface water and the associated avoidance measures are described below. | | | | |

| **Table 3.3 Valued Ecosystem Component** – *Birds (MBSA)* | |
|---|---|
| **Potential Effect:** *Harmful effects on migratory birds or their habitat* | |
| **Potential Interaction** | **Mitigation** |
| • Removal of waste metal and debris may result in possible disturbance to birds and their habitats<br>• Housing of project personnel on site may result in possible disturbance to birds and their habitats<br>• The improper handling and disposal of waste materials may result in disturbance of birds and their habitat | • No vegetation clearing is anticipated to be required; however, should it be required minimizing the clearing of any vegetation including trees (potential nesting for birds and raptors), shrubs (potential forage for wildlife). If required, any clearing of vegetation should take place outside of the breeding bird window (April 15th to August 31st). If this is not possible due to the scheduling of the work, a biologist should be present to identify any birds or nests that may be present prior to vegetation removal and to document nesting success.<br>• Impacts to vegetation can also be minimized by pre-selecting routes onto and off the island and around the area. The site is crossed by numerous concrete walkways.<br>• Avoid impacting the seeps and springs (including the north wetland).<br>• In the event that workers need to be temporarily housed on the site during the remediation they should be housed in existing structures or temporary structures erected within the previously disturbed boundaries of the site.<br>• When possible work will be completed during daylight. If nighttime lights are used they will be installed so as to illuminate the work area only to minimize impacts to nighttime activities of wildlife.<br>• Organic/food waste will be collected daily and stored in closed, animal resistant containers until disposed of at an approved waste disposal site or incinerated on-site according to project permitting standards<br>• Appropriate disposal containers will be available for the prompt disposal of waste.<br>• Full disposal containers will be removed to the appropriate waste disposal facility on a regular basis.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• All heavy mechanical equipment must be fitted with standard and well-maintained noise suppression devices. |

| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
|---|---|---|---|---|
| *Small* | *Reversible* | *Immediate* | *Short Term* | *Once* |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | ***None required*** | | | |

**Comments:** The majority of project activities will be limited to the area immediately around site structures. The removal of the waste metal dump will be accomplished by hand and should not require the removal of vegetation or the disturbance of soils.

| **Table 3.4 Valued Ecosystem Component –** *Aboriginal Interests as defined under Section 5(1) of CEAA 2012* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Effects on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes, or any structure, site or thing that is of historical, archaeological, paleontological or architectural (HAPA) significance.* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • No interactions identified. | • Consultation with First Nations to confirm lack of interest will be undertaken by DFO prior to the initiation of work | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***N/A*** | ***N/A*** | ***N/A*** | ***N/A*** | ***N/A*** |
| **Residual Effects:** | ***Insignificant – No Interactions Identified to Date*** | | | |
| **Monitoring:** | ***Confirmation by DFO*** | | | |
| **Comments: N/A** | | | | |

| **Table 3.5 Valued Ecosystem Component –** *Health and Socioeconomics as defined under Section 5(1) of CEAA 2012 Section 5(2) - Tourism* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Potential effects on the tourism value of the site* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • Project activities and the housing of project personnel on site have the potential to affect the aesthetics and tourism value of the site during remedial activities | • Park use is relatively low since access to the island is limited to tour operators, commercial fishing vessels, float planes, recreational watercraft, and helicopters.<br>• Following lead paint abatement, the lighthouse and appurtenant structures will be repainted in the same colour and style to maintain site aesthetics.<br>• Work site will be maintained in a clean and orderly manner free of garbage/litter.<br>• Work will be scheduled and conducted as quickly as possible to minimize the period of disturbance | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short Term*** | ***Once*** |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | ***None required*** | | | |
| **Comments:** DFO will consult with Parks Canada, Ontario Parks (Michipicoten Provincial Park) in order to confirm lack of impacts prior to the initiation of work. | | | | |

| **Table 3.6 Valued Ecosystem Component –** *Health and Socioeconomics as defined under Section 5(1) of CEAA 2012 Section 5(2) - Health and Safety* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Potential effects on the health and safety of project personnel and visitors to the site* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • Remediation and supporting activities may result in increased risk to worker and public health and safety as a result of site conditions during remediation and improper management of wastes and materials. | • Park use is relatively low since access to the island is limited to tour operators, commercial fishing vessels, float planes, recreational watercraft, and helicopters.<br>• Work site will be maintained in a clean and orderly manner free of garbage/litter.<br>• Work will be scheduled and conducted as quickly as possible to minimize the period of disturbance<br>• Access to the site will be limited to construction personnel during remediation activities.<br>• Identification/labelling, recording, and reporting will be done of any regulated wastes, products and substances, together with hazardous material through a Workplace Hazardous Material Information System assessment (WHMIS).<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• Appropriate disposal containers will be available for the prompt disposal of waste.<br>• Full disposal containers will be removed to the appropriate waste disposal facility on a regular basis.<br>• Wastes that require special handling requirements will be handled in accordance with the appropriate local, provincial and federal legislation.<br>• Organic/food waste will be collected daily and stored in closed, animal resistant containers until disposed of at an approved waste disposal site or incinerated on-site according to project permitting standards<br>• Power tools utilized for the removal of loose or rough lead-containing coatings or materials will be fitted with an effective dust collection system equipped with a HEPA filters.<br>• Exterior scaffolding erected to facilitate paint removal will be fitted with a dust screen/netting in order to prevent the migration of dust. | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short Term*** | ***Once*** |
| **Residual Effects:** | ***Insignificant*** | | | |

| | |
|---|---|
| **Monitoring:** | ***None required*** |
| **Comments:** | |

**Table 3.7 Valued Ecosystem Component –** *Health and Socioeconomics as defined under Section 5(1) of CEAA 2012 Section 5(2) – Heritage and HAPA Significance*

**Potential Effect:** *Effects on physical and cultural heritage, or any structure, site or thing that is of historical, archaeological, paleontological or architectural (HAPA) significance.*

| Potential Interaction | Mitigation |
|---|---|
| • Project activities and the housing of project personnel on site have the potential to affect the aesthetics and heritage value of the site<br>• Remediation activities may have the potential to impact previously undocumented archaeological or heritage resources | • No excavation or disturbance of soils is anticipated as part of the proposed work plan. The areas around the lighthouse and appurtenant structures consist of bedrock and/or previously disturbed areas. As such, undiscovered archaeological resources are unlikely to be present.<br>• If human remains are discovered the local police, the coroner's office, and the Registrar of Cemeteries will be notified immediately.<br>• The lighthouse is a designated Classified Federal Heritage Building based on its design and the relatively unchanged and remote nature of the site. The proposed abatement work will not impact the design of the lighthouse. The heritage designation does not extend to the site or the other structures.<br>• Following paint abatement, the lighthouse structure will be repainted in the same colour style to maintain site aesthetics.<br>• Work will be scheduled and conducted as quickly as possible to minimize the period of disturbance<br>• In the event that previously undocumented archaeological resources are discovered during remediation work will cease work immediately and a licensed archaeologist will be contacted to complete an archaeological review or assessment |

| Magnitude | Reversibility | Geographic Extent | Duration | Frequency |
|---|---|---|---|---|
| ***Small*** | ***Reversible*** | ***Immediate/*** | ***Short-term*** | ***Once*** |

| | |
|---|---|
| **Residual Effects:** | ***Insignificant*** |
| **Monitoring:** | *None required* |

**Comments:** DFO will consult with Parks Canada, Ontario Parks (Michipicoten Provincial Park) in order to confirm lack of impacts prior to the initiation of work.

| **Table 3.8 Valued Ecosystem Component –** *Due Diligence (Water)* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Potential impacts to surface and groundwater* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • Contamination of surface and ground water from temporarily stored materials (scraped paint, stored fuel, etc.) during remediation activities.<br>• Potential for impacts to surface water (Lake Superior) and groundwater under accidental spill or product-loss scenarios. | • All work will be conducted by qualified, licensed contractors. Applicable legislation and regulations will be referenced and adhered to.<br>• Work must be scheduled to avoid periods of heavy precipitation.<br>• Machinery (e.g. generator) must be checked for leakage of lubricants or fuel and must be in good working order.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• Refueling must be done at least 30 m from any water body and on an impermeable surface. existing ground surface will be protected by the placement of tarps/plywood sheeting to prevent discolouration or contamination of surfaces<br>• Basic petroleum spill clean-up equipment must be on-site.<br>• All spills or leaks must be promptly contained, cleaned up and reported to the 24-hour environmental emergencies reporting system 1-800-268-6060).<br>• Fuel levels in equipment and / or on-site fuel storage tanks must be inspected on a daily basis to ensure there is no leakage to the surrounding environment.<br>• Workers must be qualified to respond to accidental spills on site.<br>• Waste materials will be handled in accordance with the requirements of O.Reg. 347, O.Reg. 558 and the Transportation to Dangerous Goods Act.<br>• Waste containing waste paint/metals will be transported within sealed containers for disposal at a licensed facility. | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Long-Term*** | ***Once/*** |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | *The contractor will be required to provide a spills monitoring and response plan.* | | | |
| **Comments:** The mitigation measures above will also be required to mitigate water quality effects on fish and other aquatic species. | | | | |

| **Table 3.9 Valued Ecosystem Component** – *Due Diligence (Terrestrial Wildlife)* | |
|---|---|
| **Potential Effect:** *Disturbance of terrestrial wildlife and their habitats* | |
| **Potential Interaction** | **Mitigation** |
| • Persons present on or surrounding project site may be exposed to hazards.<br>• Operation of the site may cause exposure to hazardous materials. | • No vegetation clearing is anticipated to be required; however, should it be required minimizing the clearing of any vegetation including trees (potential nesting for birds and raptors), shrubs (potential forage for wildlife). If required, any clearing of vegetation should take place outside of the breeding bird window (April 15th to August 31st). If this is not possible due to the scheduling of the work, a biologist should be present to identify any birds or nests that may be present prior to vegetation removal and to document nesting success.<br>• Impacts to vegetation can also be minimized by pre-selecting routes onto and off the island and around the area. The site is crossed by numerous concrete walkways.<br>• In the event that disturbance to vegetation is required complete a plant inventory during the growing season before hand. A revegetation plan should be developed using local species.<br>• Avoid impacting the seeps and springs (including the north wetland.)<br>• Avoid excavating into bedrock unless it is confirmed that there are no snakes or bat hibernacula on the island or surveys are completed to document their presence/absence. At this time, no excavations are anticipated to be required.<br>• In the event that workers need to be temporarily housed on the site during the remediation they should be housed in existing structures or temporary structures erected within the previously disturbed boundaries of the site.<br>• Ensure that any workers brought on for the repairs/removal of the buildings are provided information on the potential wildlife encounters (i.e. caribou, wolves etc.) and that caribou are a protected species.<br>• When possible work will be completed during daylight. If nighttime lights are used they will be installed so as to illuminate the work area only to minimize impacts to nighttime activities of wildlife.<br>• Organic/food waste will be collected daily and stored in closed, animal resistant containers until disposed of at an approved waste disposal site or incinerated on-site according to project permitting standards<br>• Appropriate disposal containers will be available for the prompt disposal of waste.<br>• Full disposal containers will be removed to the appropriate waste disposal facility on a regular basis.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a |

| | |
|---|---|
| | watercourse and has no direct drainage leading to a watercourse. All heavy mechanical equipment must be fitted with standard and well-maintained noise suppression devices. |

| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
|---|---|---|---|---|
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short-term*** | ***Once*** |

| | |
|---|---|
| **Residual Effects:** | ***Insignificant*** |
| **Monitoring:** | *None required.* |

**Comments:** The majority of project activities will be limited to the area immediately around site structures. The removal of the waste metal dump will be accomplished by hand and should not require the removal of vegetation or the disturbance of soils.

| **Table 3.10 Valued Ecosystem Component –** *Due Diligence (Soil)* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Disturbance or impacts to site soils* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| Project activities have the potential to affect surface soils or soil quality at the project site as a result of<br>• Disturbance to soil from equipment use.<br>• Contamination of soil due to temporarily stored material during soil remediation activities.<br>• Contamination of existing soils due to accidents, spills, or leaks from equipment. | • All work will be conducted by licensed and qualified contractors.<br>• Work must be scheduled to avoid periods of heavy precipitation.<br>• Existing ground surface will be protected by the placement of tarps/plywood sheeting to prevent discolouration or contamination of surfaces<br>• All work will be conducted by qualified, licensed contractors. Applicable legislation and regulations will be referenced and adhered to.<br>• Work must be scheduled to avoid periods of heavy precipitation.<br>• Machinery (e.g. generator) must be checked for leakage of lubricants or fuel and must be in good working order.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• Refueling must be done at least 30 m from any water body and on an impermeable surface. existing ground surface will be protected by the placement of tarps/plywood sheeting to prevent discolouration or contamination of surfaces<br>• Basic petroleum spill clean-up equipment must be on-site.<br>• All spills or leaks must be promptly contained, cleaned up and reported to the 24-hour environmental emergencies reporting system 1-800-268-6060).<br>• Fuel levels in equipment and / or on-site fuel storage tanks must be inspected on a daily basis to ensure there is no leakage to the surrounding environment.<br>• Workers must be qualified to respond to accidental spills on site.<br>• Exterior scaffolding erected to facilitate paint removal will be fitted with a dust screen/netting in order to prevent the migration of dust.<br>• Waste materials will be handled in accordance with the requirements of O.Reg. 347, O.Reg. 558 and the Transportation to Dangerous Goods Act.<br>• Waste containing waste paint/metals will be transported within sealed containers for disposal at a licensed facility | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |

| | | | | |
|---|---|---|---|---|
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short-term*** | ***Once*** |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | *None required.* | | | |
| **Comments:** The majority of project activities will be limited to the area immediately around site structures. The removal of the waste metal dump will be accomplished by hand and should not require the removal of vegetation or the disturbance of soils. | | | | |

| **Table 3.11 Valued Ecosystem Component –** *Due Diligence (Air)* | | | | |
|---|---|---|---|---|
| **Potential Effect:** *Potential impacts to air quality* | | | | |
| **Potential Interaction** | **Mitigation** | | | |
| • Use of machinery may cause short-term elevated noise levels and green-house gas emissions at the site, along the transportation route<br>• Remediation activities may cause very slight increase in fugitive dust emissions on site. | • All heavy mechanical equipment must be fitted with standard and well-maintained noise suppression devices.<br>• All construction equipment must be in good working order prior to arriving on site. Excessive noise from machinery will not be permitted.<br>• Appropriate dust suppression methods must be employed when required.<br>• Engines must not be allowed to idle between work periods.<br>• All loads on haul trucks will be covered.<br>• Power tools utilized for the removal of loose or rough lead-containing coatings or materials will be fitted with an effective dust collection system equipped with a HEPA filters.<br>• Exterior scaffolding erected to facilitate paint removal will be fitted with a dust screen/netting in order to prevent the migration of dust. | | | |
| **Magnitude** | **Reversibility** | **Geographic Extent** | **Duration** | **Frequency** |
| ***Small*** | ***Reversible*** | ***Immediate*** | ***Short-term*** | ***Once*** |
| **Residual Effects:** | ***Insignificant*** | | | |
| **Monitoring:** | | | | |
| **Comments:** | | | | |

## PART D: COMMUNICATIONS

### *D.1 Consideration of Public Concerns*

The potential for public concern is possible due to the importance of the lighthouse local tourism and recreation. The lighthouse is also a designated heritage structure. Public consultation was not) completed as part of this screening. DFO will be responsible for any consultation deemed to be necessary prior to the imitation of remediation work.

### *D.2 Aboriginal Interest*

The potential for Aboriginal interest is possible due to the location of the site. Aboriginal consultation was not) completed as part of this screening. DFO will be responsible for any consultation deemed to be necessary prior to the imitation of remediation work.

### *D.3 Government Co-ordination*

Federal and provincial authorities likely to have an interest in the project will contacted by DFO prior to the initiation of work.

Departments and/or provincial ministries will be contacted and asked to identify any concerns they have with respect to the proposed remediation plan.

## PART E: BASIC PROJECT EVALUATION CONCLUSION

Potential impacts of this project are associated with

- Removal of exterior paints
- Re-painting
- Removal of scrap metal/debris
- Transport of equipment and personnel to/from site
- Housing of personnel on site
- Waste Management

It is reasonable to conclude that with appropriate mitigation in place and good work practices, environmental effects will be of short duration and the potential zone of influence will be confined to the immediate vicinity of the work site.

## PART F: ACCURACY AND COMPLIANCE MONITORING

Site accuracy and compliance monitoring for this project won't be completed. All work will be conducted by licensed and qualified contractors overseen by an environmental consultant

## PART G: DETERMINATION

The federal authority is required to provide a determination of the significance of environmental effects as a result of this project. The decision outlined below is based on the interpretation of environmental effects and mitigation measures described in Part D of this report.

**Project Name:** Remediation of East End Light Station
PSPC Project No.: R.083149.03
**Location:** Michipicoten Island, Lake Superior, Ontario

The Federal Authority has evaluated the project for significant adverse environmental effects as required under Section 67 of *Canadian Environmental Assessment Act (CEAA), 2012*. On the basis of this evaluation, the department has determined that the decision opposite the "X" applies to the proposed project.

___ Project not likely to cause significant adverse environmental effects - proceed.

**X** Project not likely to cause significant adverse environmental effects with mitigation - proceed using mitigative measures as determined.

___ Inadequate information available - further study and assessment is required.

___ Project likely to cause significant adverse environmental effects that cannot be justified in the circumstances - project will not proceed.

___ Project likely to cause significant adverse environmental effects that may be justified in the circumstances - refer to the Governor in Council for decision.

## H: SIGNATURE

This document summarizes the results of an basic project evaluation related to the above project that has been performed and completed by the Federal Authority in accordance with the *Canadian Environmental Assessment Act, 2012.*

*Environmental Specialist*: _____ Date: _____
*(Title, Directorate)*

*The above has completed this basic project evaluation report to the best of their ability and knowledge, and ensures that it meets the requirement of the Canadian Environmental Assessment Act, 2012.*

*Project Manager:* _____ Date: _____
*(Title, Directorate)*

*The above has read and understood this basic project evaluation report and acknowledges responsibility for ensuring the implementation of mitigation measures and for ensuring the design and implementation of 'accuracy and compliance monitoring', if any, identified in this report.*

## PART I: REFERENCES

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**APPENDIX A**
FIGURES

# APPENDIX B

RECORD OF PUBLIC PARTICIPATION DETERMINATION

# Record of Public Participation Determination

**Stage of work plan:** Early planning phase of screening (pre-scoping)

| Is there an indication that… | Describe potential indication and issues | Consider public participation? | |
|---|---|---|---|
| *there is an existing or likely public interest in the type, location or potential effects of the project?* | The site is located within a Provincial Park | X Yes | ☐ No |
| *There are members of the public with a history of being involved in past proposed projects in the area?* | It is understood that there is an interest group concerned with the preservation of Ontario Lighthouses with an interest in the site | X Yes | ☐ No |
| *the project has the potential to generate conflict between environmental and social or economic values of concern to the public?* | Remedial work may temporarily affect the tourism value (aesthetics, etc) of the site during work | X Yes | □ No |
| *the project may be perceived as having the potential for significant adverse environmental effects?* [1] | Without consultation, stakeholders may not understand the scope of the project, mitigation measures or the significance of environmental effects | X Yes | □ No |
| *there is potential to learn from community ecological? knowledge or Aboriginal traditional knowledge?* | It is likely that the public and or aboriginal community could provide further information on the socio-economic and historical value of the site. | X Yes | ☐ No |
| *there is uncertainty about potential direct and indirect environmental effects or the significance of identified effects?* | Environmental effects and the associated mitigation measures are well understood | ☐ Yes | X No |
| *the project has been or will be subject to other public participation processes that would meet the objectives of the Ministerial Guideline http://www.ceaa.gc.ca/013/006/ministerial_guideline_e.htm* | The project has not been subject to other public participation processes | □ Yes | X No |
| *there is any other reason why public participation is or is not appropriate?* | The project is unlikely to result in negative environmental impacts | □ Yes | X No |

**As a result of the scan above, is public participation under CEAA appropriate in the circumstances?**

X Yes ☐ No

**Additional comments to support determination:**

[1] *Environmental Effect as per the definition in CEAA (2012) is*

- *Changes to the environment to components of the environment that are within the legislative authority of Parliament (fish as defined by the Fisheries Act, aquatic species under the Species at Risk Act, and migratory birds as defined in the Migratory Birds Convention Act (1994)*
- *Changes to the environment that occur on federal lands, or inter-provincially or outside of Canada.*
- *The effect of any change on health and socio-economic condition, physical and cultural heritage, use of resources for traditional purposes and structures of historical significance are limited with respect to Aboriginal peoples.*

# APPENDIX C

DEFINITIONS AND METHODOLOGIES

Environment (defined in *S.2(1)*) – the components of the Earth, and includes land, water and air, including all layers of the atmosphere; and all organic and inorganic matter and living organisms (and the interacting natural systems of those).

Environmental Effects (defined in *S.5(1)* – 5.(1) For the purposes of this Act, the environmental effects that are to be taken into account in relation to an act or thing, a physical activity, a designated project or a project are

(a) a change that may be caused to the following components of the environment that are within the legislative authority of Parliament:

(i) fish as defined in section 2 of the Fisheries Act and fish habitat as defined in subsection 34(1) of that Act,
(ii) aquatic species as defined in subsection 2(1) of the Species at Risk Act,
(iii) migratory birds as defined in subsection 2(1) of the Migratory Birds Convention Act, 1994, and
(iv) any other component of the environment that is set out in Schedule 2;

(b) a change that may be caused to the environment that would occur:
(i) on federal lands,
(ii) in a province other than the one in which the act or thing is done or where the physical activity, the designated project or the project is being carried out, or
(iii) outside Canada; and
(c) with respect to aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on
(i) health and socio-economic conditions,
(ii) physical and cultural heritage,
(iii) the current use of lands and resources for traditional purposes, or
(iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

(2) However, if the carrying out of the physical activity, the designated project or the project requires a federal authority to exercise a power or perform a duty or function conferred on it under any Act of Parliament other than this Act, the following environmental effects are also to be taken into account:
(a) a change, other than those referred to in paragraphs (1)(a) and (b), that may be caused to the environment and that is directly linked or necessarily incidental to a federal authority's exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of the physical activity, the designated project or the project; and
(b) an effect, other than those referred to in paragraph (1)(c), of any change referred to in paragraph (a) on
(i) health and socio-economic conditions,
(ii) physical and cultural heritage, or
(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Schedule 2 (3) The Governor in Council may, by order, amend Schedule 2 to add or remove a compo-

nent of the environment.

Federal Authority (defined in *S.2(1)*) – a Minister of the Crown in right of Canada; an agency of the Government of Canada or a parent Crown corporation, as defined in subsection 83(1) of the *Financial Administration Act (FAA);* or any department or departmental corporation that is set out in Schedule I or II to the FAA.

Federal lands (defined in *S.2(1)*) – defined as follows:

- lands that belong to Her Majesty in right of Canada, or that Canada has power to dispose of, and all waters on and airspace above those lands, other than lands under the administration and control of the Commissioner of Yukon, the Northwest Territories or Nunavut;
- the internal waters of Canada, in any area of the sea not within a province;
- the territorial sea of Canada in any area of the sea not within a province;
- the exclusive economic zone of Canada, and the continental shelf of Canada; and
- reserves, surrendered lands and any other lands that are set apart for the use and benefit of a band and that are subject to the *Indian Act*, and all waters on and airspace above those reserves or lands.

Mitigation measures (defined in *S. 2(1)*) – measures for the elimination, reduction or control of the adverse environmental effects of a designated project, and includes restitution for any damage to the environment cause by those effects through replacement, restoration, compensation or any other means.

Project (defined in *S. 66*) – a physical activity that is carried out in relation to a physical work and is not a designated project.

Valued Ecosystem Component (defined on Agency - www.ceaa.gc.ca/default.asp?lang=En&n=B7CA71391&offset=3#v) - The environmental element of an ecosystem that is identified as having scientific, social, cultural, economic, historical, archaeological or aesthetic importance.

The value of an ecosystem component may be determined on the basis of cultural ideals or scientific concern. Valued ecosystem components that have the potential to interact with project components should be included in the assessment of environmental effects.

***Methodology***

The environmental effects evaluation methodology used in this report focuses the evaluation on those environmental components of greatest concern. The Valued Ecological Components (VECs) most likely to be affected by the project as described are indicated in **Table 1.** VECs were selected based on ecological importance to the existing environment (above), the relative sensitivity of environmental components to project influences and their relative social, cultural or economic importance. The potential impacts resulting from these interactions are described below.

***Evaluation of Environmental Effects***

The VECs selected in Table 1 are addressed in Tables 2.1 through 2.16* in the EEE. The residual effects of the project on the environment are defined. Similarly, the physical works/activities and required mitigation measures are detailed and the significance of residual (post-mitigation) effects is estimated.

The following ratings are based on:

- **information provided by the proponent;**
- **a review of project related activities;**
- **an appraisal of the environmental setting, and identification of resources at risk;**
- **the identification of potential impacts within the temporal and spatial bounds; and**
- **personal knowledge and professional judgment of the assessor.**

The significance of project related impacts was determined in consideration of their frequency, the duration and geographical extent of the effects, magnitude relative to natural or background levels, and whether the effects are reversible or are positive or negative in nature. These criteria are indicated in Table 2.

**Table 4. Assessment Criteria for Determination of Significance.**

| | | |
|---|---|---|
| **Magnitude** | Magnitude, in general terms, may vary among Issues, but is a factor that accounts for size, intensity, concentration, importance, volume and social or monetary value. It is rated as compared with background conditions, protective standards or normal variability. | |
| | Small | Relative to natural or background levels |
| | Moderate | Relative to natural or background levels |
| | Large | Relative to natural or background levels |
| **Reversibility** | Reversible | Effect can be reversed |
| | Irreversible | Effects are permanent |
| **Geographic Extent** | Immediate | Confined to project site |
| | Local | Effects beyond immediate project site but not regional in scale |
| | Regional | Effects on a wide scale |
| **Duration** | Short Term | Between 0 and 6 months in duration |
| | Medium Term | Between 6 months and 2 years |
| | Long Term | Beyond 2 years |
| **Frequency** | Once | Occurs only once |
| | Intermittent | Occurs occasionally at irregular intervals |
| | Continuous | Occurs on a regular basis and regular intervals |

# APPENDIX D

MITIGATION TABLE

| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| *Fish (Fisheries Act)* | Table 3.1 | • The proposed work plan does not require the construction or modification to any shoreline structures (breakwater/warf) as existing facilities should be sufficient to facilitate site access.<br>• The project does not involve the excavation/disturbance of soils no potential for erosion is anticipated. | Abatement | Contractor |
| *Aquatic Species (SARA)* | Table 3.2 | • The proposed work plan does not require the construction or modification to any shoreline structures (breakwater/warf) as existing facilities should be sufficient to facilitate site access.<br>• The project does not involve the excavation/disturbance of soils no potential for erosion is anticipated. | Abatement | Contractor |
| *Birds (MBSA)* | Table 3.3 | • No vegetation clearing is anticipated to be required; however, should it be required minimizing the clearing of any vegetation including trees (potential nesting for birds and raptors), shrubs (potential forage for wildlife). If required, any clearing of vegetation should take place outside of the breeding bird window (April 15th to August 31st). If this is not possible due to the scheduling of the work, a biologist should be present to identify any birds or nests that may be present prior to vegetation removal and to document nesting success.<br>• Impacts to vegetation can also be minimized by pre-selecting routes onto and off the island and around the area. The site is crossed by numerous concrete walkways.<br>• Avoid impacting the seeps and springs (including the north wetland).<br>• In the event that workers need to be temporarily housed on the site during the remediation they should be housed in existing structures or temporary structures erected within the previously disturbed boundaries of the site.<br>• When possible work will be completed during daylight. If nighttime lights are used they will be installed so as to illuminate the work area only to minimize impacts to nighttime activities of wildlife.<br>• Organic/food waste will be collected daily and stored in closed, animal resistant containers until disposed of at an approved waste disposal site or incinerated on-site according to project permitting standards<br>• Appropriate disposal containers will be available for the prompt disposal of | Abatement | Contractor |

| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| | | waste.<br>• Full disposal containers will be removed to the appropriate waste disposal facility on a regular basis.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• All heavy mechanical equipment must be fitted with standard and well-maintained noise suppression devices. | | |
| *Aboriginal Interests as defined under Section 5(1) of CEAA 2012* | Table 3.4 | • Consultation with First Nations to confirm lack of interest will be undertaken by DFO prior to the initiation of work | Abatement | DFO |
| *Health and Socioeconomics as defined under Section 5(1) of CEAA 2012 Section 5(2) - Tourism* | Table 3.5 | • Park use is relatively low since access to the island is limited to tour operators, commercial fishing vessels, float planes, recreational watercraft, and helicopters.<br>• Following lead paint abatement, the lighthouse and appurtenant structures will be repainted in the same colour and style to maintain site aesthetics.<br>• Work site will be maintained in a clean and orderly manner free of garbage/litter.<br>• Work will be scheduled and conducted as quickly as possible to minimize the period of disturbance | Abatement | Contractor/DFO |
| *Health and Socioeconomics as defined under Section 5(1) of CEAA 2012 Section 5(2) -* | Table 3.6 | • Park use is relatively low since access to the island is limited to tour operators, commercial fishing vessels, float planes, recreational watercraft, and helicopters.<br>• Work site will be maintained in a clean and orderly manner free of garbage/litter. | Abatement | Contractor |

| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| *Health and Safety* | | • Work will be scheduled and conducted as quickly as possible to minimize the period of disturbance<br>• Access to the site will be limited to construction personnel during remediation activities.<br>• Identification/labelling, recording, and reporting will be done of any regulated wastes, products and substances, together with hazardous material through a Workplace Hazardous Material Information System assessment (WHMIS).<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• Appropriate disposal containers will be available for the prompt disposal of waste.<br>• Full disposal containers will be removed to the appropriate waste disposal facility on a regular basis.<br>• Wastes that require special handling requirements will be handled in accordance with the appropriate local, provincial and federal legislation.<br>• Organic/food waste will be collected daily and stored in closed, animal resistant containers until disposed of at an approved waste disposal site or incinerated on-site according to project permitting standards<br>• Power tools utilized for the removal of loose or rough lead-containing coatings or materials will be fitted with an effective dust collection system equipped with a HEPA filters.<br>• Exterior scaffolding erected to facilitate paint removal will be fitted with a dust screen/netting in order to prevent the migration of dust. | | |
| *Health and Socioeconomics as defined under* | 3.7 | • No excavation or disturbance of soils is anticipated as part of the proposed work plan. The areas around the lighthouse and appurtenant structures consist of bedrock and/or previously disturbed areas. As such, undiscovered archaeological resources are unlikely to be present. | Abatement | Contractor/DFO |

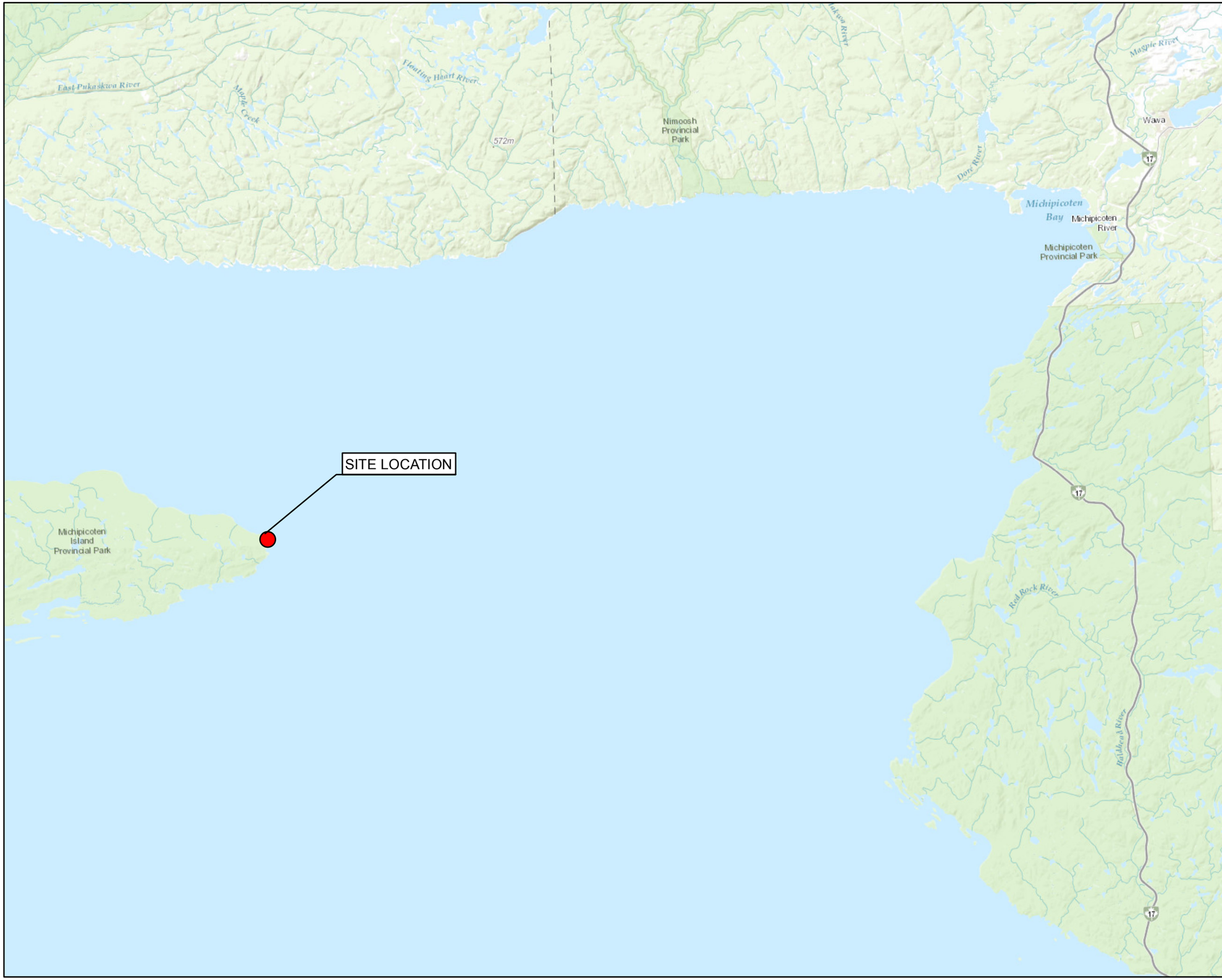
| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| *Section 5(1) of CEAA 2012 Section 5(2) – Heritage and HAPA Significance* | | • If human remains are discovered the local police, the coroner's office, and the Registrar of Cemeteries will be notified immediately.<br>• The lighthouse is a designated Classified Federal Heritage Building based on its design and the relatively unchanged and remote nature of the site. The proposed abatement work will not impact the design of the lighthouse. The heritage designation does not extend to the site or the other structures.<br>• Following paint abatement, the lighthouse structure will be repainted in the same colour style to maintain site aesthetics.<br>• Work will be scheduled and conducted as quickly as possible to minimize the period of disturbance<br>• In the event that previously undocumented archaeological resources are discovered during remediation work will cease work immediately and a licensed archaeologist will be contacted to complete an archaeological review or assessment | | |
| *Due Diligence (Water)* | Table 3.8 | • All work will be conducted by qualified, licensed contractors. Applicable legislation and regulations will be referenced and adhered to.<br>• Work must be scheduled to avoid periods of heavy precipitation.<br>• Machinery (e.g. generator) must be checked for leakage of lubricants or fuel and must be in good working order.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• Refueling must be done at least 30 m from any water body and on an impermeable surface. existing ground surface will be protected by the placement of tarps/plywood sheeting to prevent discolouration or contamination of surfaces<br>• Basic petroleum spill clean-up equipment must be on-site.<br>• All spills or leaks must be promptly contained, cleaned up and reported to the 24-hour environmental emergencies reporting system 1-800-268-6060).<br>• Fuel levels in equipment and / or on-site fuel storage tanks must be inspected | Abatement | Contractor |

| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| | | on a daily basis to ensure there is no leakage to the surrounding environment.<br>• Workers must be qualified to respond to accidental spills on site.<br>• Waste materials will be handled in accordance with the requirements of O.Reg. 347, O.Reg. 558 and the Transportation to Dangerous Goods Act.<br>• Waste containing waste paint/metals will be transported within sealed containers for disposal at a licensed facility. | | |
| *Due Diligence (Terrestrial Wildlife)* | Table 3.9 | • No vegetation clearing is anticipated to be required; however, should it be required minimizing the clearing of any vegetation including trees (potential nesting for birds and raptors), shrubs (potential forage for wildlife). If required, any clearing of vegetation should take place outside of the breeding bird window (April 15th to August 31st). If this is not possible due to the scheduling of the work, a biologist should be present to identify any birds or nests that may be present prior to vegetation removal and to document nesting success.<br>• Impacts to vegetation can also be minimized by pre-selecting routes onto and off the island and around the area. The site is crossed by numerous concrete walkways.<br>• In the event that disturbance to vegetation is required complete a plant inventory during the growing season before hand. A revegetation plan should be developed using local species.<br>• Avoid impacting the seeps and springs (including the north wetland.)<br>• Avoid excavating into bedrock unless it is confirmed that there are no snakes or bat hibernacula on the island or surveys are completed to document their presence/absence. At this time, no excavations are anticipated to be required.<br>• In the event that workers need to be temporarily housed on the site during the remediation they should be housed in existing structures or temporary structures erected within the previously disturbed boundaries of the site.<br>• Ensure that any workers brought on for the repairs/removal of the buildings are provided information on the potential wildlife encounters (i.e. caribou, wolves etc.) and that caribou are a protected species.<br>• When possible work will be completed during daylight. If nighttime lights are used they will be installed so as to illuminate the work area only to | Abatement | Contractor |

| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| | | minimize impacts to nighttime activities of wildlife.<br>• Organic/food waste will be collected daily and stored in closed, animal resistant containers until disposed of at an approved waste disposal site or incinerated on-site according to project permitting standards<br>• Appropriate disposal containers will be available for the prompt disposal of waste.<br>• Full disposal containers will be removed to the appropriate waste disposal facility on a regular basis.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an area within 30 m of a watercourse and has no direct drainage leading to a watercourse. All heavy mechanical equipment must be fitted with standard and well-maintained noise suppression devices. | | |
| *Due Diligence (Soil)* | Table 3.10 | • All work will be conducted by licensed and qualified contractors.<br>• Work must be scheduled to avoid periods of heavy precipitation.<br>• Existing ground surface will be protected by the placement of tarps/plywood sheeting to prevent discolouration or contamination of surfaces<br>• All work will be conducted by qualified, licensed contractors. Applicable legislation and regulations will be referenced and adhered to.<br>• Work must be scheduled to avoid periods of heavy precipitation.<br>• Machinery (e.g. generator) must be checked for leakage of lubricants or fuel and must be in good working order.<br>• A temporary waste storage area will be designated that meets the requirements of the *Environmental Protection Act*, Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities (2007), *Fire Protection and Prevention Act* (Fire Code) and Ontario Regulation 347. The area will be maintained so as to prevent leaks, spills or damage/deterioration to waste containers, has adequate containment, is secure, is protected from weather and is not located in an | Abatement | Contractor |

| Environmental Component | Reference | Mitigation Measures | Phase | Responsibility |
|---|---|---|---|---|
| | | area within 30 m of a watercourse and has no direct drainage leading to a watercourse.<br>• Refueling must be done at least 30 m from any water body and on an impermeable surface. existing ground surface will be protected by the placement of tarps/plywood sheeting to prevent discolouration or contamination of surfaces<br>• Basic petroleum spill clean-up equipment must be on-site.<br>• All spills or leaks must be promptly contained, cleaned up and reported to the 24-hour environmental emergencies reporting system 1-800-268-6060).<br>• Fuel levels in equipment and / or on-site fuel storage tanks must be inspected on a daily basis to ensure there is no leakage to the surrounding environment.<br>• Workers must be qualified to respond to accidental spills on site.<br>• Exterior scaffolding erected to facilitate paint removal will be fitted with a dust screen/netting in order to prevent the migration of dust.<br>• Waste materials will be handled in accordance with the requirements of O.Reg. 347, O.Reg. 558 and the Transportation to Dangerous Goods Act.<br>• Waste containing waste paint/metals will be transported within sealed containers for disposal at a licensed facility | | |
| *Due Diligence (Air)* | Table 3.11 | • All heavy mechanical equipment must be fitted with standard and well-maintained noise suppression devices.<br>• All construction equipment must be in good working order prior to arriving on site. Excessive noise from machinery will not be permitted.<br>• Appropriate dust suppression methods must be employed when required.<br>• Engines must not be allowed to idle between work periods.<br>• All loads on haul trucks will be covered.<br>• Power tools utilized for the removal of loose or rough lead-containing coatings or materials will be fitted with an effective dust collection system equipped with a HEPA filters.<br>• Exterior scaffolding erected to facilitate paint removal will be fitted with a dust screen/netting in order to prevent the migration of dust. | Abatement | Contractor |

**Site monitoring (accuracy and compliance monitoring) may be conducted to verify whether required mitigation measures were implemented. The proponent must provide site access to Responsible Authority officials and/or its agents upon request**




LEGEND

| REV. | DESCRIPTION | YY/MM/DD | BY | CHK |
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REFERENCES


DO NOT SCALE DRAWING.
THIS DRAWING MAY HAVE BEEN REDUCED. ALL SCALE NOTATIONS INDICATED ARE BASED ON 11"x17" FORMAT DRAWINGS.

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N W E S

CLIENT

**PUBLIC WORKS & GOVERNMENT SERVICES CANADA**

PROJECT

**MICHIPICOTEN ISLAND EAST END LIGHTHOUSE**

TITLE

**SITE LOCATION**

BluMetric™ Environmental
The Tower - The Woolen Mill,
4 Cataraqui St.,
Kingston, Ontario K7K 1Z7
TEL: (613) 531-2725
FAX: (613) 531-1852
Email: info@blumetric.ca
Web: http://www.blumetric.ca

| PROJECT # | DATE |
|---|---|
| 160528 | November 28, 2016 |

| DRAWN | CHECKED | FIG NO. | REV |
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| IB | KM | 1 | 0 |


*LEGEND*

Approximate Building Footprint

| REV. | DESCRIPTION | YY/MM/DD | BY | CHK |
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*REFERENCES*


*DO NOT SCALE DRAWING.*
*THIS DRAWING MAY HAVE BEEN REDUCED. ALL SCALE NOTATIONS INDICATED ARE BASED ON 11"x17" FORMAT DRAWINGS.*

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N W E S

*CLIENT*

**PUBLIC WORKS & GOVERNMENT SERVICES CANADA**

*PROJECT*

**MICHIPICOTEN ISLAND EAST END LIGHTHOUSE**

*TITLE*

**SITE LAYOUT**

BluMetric™ Environmental

*The Tower - The Woolen Mill,*
*4 Cataraqui St.,*
*Kingston, Ontario K7K 1Z7*
*TEL: (613) 531-2725*
*FAX: (613) 531-1852*
*Email: info@blumetric.ca*
*Web: http://www.blumetric.ca*

| PROJECT # | DATE |
|---|---|
| 160528 | November 28, 2016 |

| DRAWN | CHECKED | FIG NO. | REV |
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