

**FISHERIES AND OCEANS
CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA) 2012
PROJECT EFFECTS DETERMINATION REPORT**

GENERAL INFORMATION

1. Project Title: Wharf Decommissioning – Chocolate Cove, Curry Cove and Richardson Wharf	
2. Proponent: Fisheries and Oceans Canada, Small Craft Harbours (DFO-SCH)	
3. Other Contacts: Chyann Kirby, Senior Environmental Specialist Public Services and Procurement Canada (PSPC) Environmental Services, Saint John, New Brunswick	4. Role of Each Contact: OGD Consultant
5. Source of Project Information: Jean Girouard – Project Manager (PSPC) Garth Holder – Project Engineer (DFO-SCH)	
6. Received Date: 2017-11-27	
7. PATH No.:	8. DFO File No:
9. Other relevant file numbers: PSPC ES Project # R.100421.001	

BACKGROUND

10. Background about Proposed Development (including a description of the proposed development):

The proposed project involves the decommissioning of three (3) Department of Fisheries and Oceans – Small Craft Harbours (DFO-SCH) wharf / breakwater structures in New Brunswick. The structures at Chocolate Cove, Curry Cove and Richardson Wharf are no longer in use by recreational or commercial watercraft, and are in such condition that they are no longer safe or secure and therefore should be properly decommissioned soon. The decommissioning of these SCH properties will be similar in scope and potential environmental impacts, and are therefore to be addressed through a single Project Effects Determination Report.

Chocolate Cove: The Chocolate Cove Small Craft Harbour consists of a 120m wood and steel sheet pile wharf structure located on the southwestern side of Deer Island, Charlotte County, New Brunswick. The structure, which has been disconnected from shore to prevent its use, is unsafe with portions of the deck missing, and the overall condition of the structure is poor. The wharf at Chocolate Cove previously served as the home port to approximately six (6) commercial vessels and various recreational vessels; however, Chocolate Cove has not been in use by any vessels in recent years.

Curry Cove: The Curry Cove Small Craft Harbour currently consists of an 80m L-shaped steel and wooden sheet pile structure with a small marginal wharf/breakwater structure, located on the northwestern side of Campobello Island, Charlotte County, NB. The structure is in such condition that it will become unsafe for use in the near future. It was previously home port to less than four (4) commercial fishing vessels. The new wharf at Wilson's Beach, which is less than a kilometer north of Curry Cove, now serves the recreational and commercial vessels in the area.

Richardson Wharf: The Richardson Wharf Small Craft Harbour currently consists of an L-shaped wooden and steel sheet-pile wharf structure, which is in poor condition and unsafe for use. The structure, approximately 65m in length, is located on the eastern shore of Deer Island, Charlotte County, New Brunswick, and was previously home to approximately 4 commercial vessels. The wharf's present condition is unsafe for use. There is a SCH at nearby Leonardville.

Each facility will be decommissioned according to methods proposed by the successful contractors; however, DFO-SCH and PSPC will oversee the work and ensure each decommissioning is completed in a sustainable manner. It is anticipated that decommissioning will be conducted by manually removing any remaining attached infrastructure, then the decking, piles and wharf structure will be removed by a floating plant excavator. At no time will motorized equipment enter

the water. Any native material, such as existing rock or armour stone shall be left in situ. All other debris shall be removed and disposed of at an approved disposal site.

PROJECT REVIEW

11. DFO's rationale for the project review:

Project is on federal land and;

- DFO is the proponent
- DFO to issue *Fisheries Act* Authorization, *Species at Risk Act* Permit or other regulatory permit
- DFO to provide financial assistance to another party to enable the project to proceed
- DFO to lease or sell federal land to enable the project to proceed
- Other

12. a) **Fisheries Act Section(s) (if applicable):** Sections 35(1) and 35(2)(b)

b) **Species at Risk Act Section(s) (if applicable):** Not Applicable

13. **Primary Authority:** DFO-SCH

14. Primary Authority's rationale for involvement:

- Primary Authority is the proponent.
- Primary Authority to provide financial assistance to enable the project to proceed.
- Primary Authority to provide a license or an interest in land.
- Primary Authority to issue a regulatory permit, approval or authorization.

15. Other Authorities (if applicable):

- a) DFO-Fisheries Protection Program (FPP)
- b) Transport Canada – Environmental Affairs and Aboriginal Consultation Unit and Navigation Protection Program (NPP)
- c) New Brunswick Department of Environment and Local Government (NBDELG)

16. Other Authorities Rationale for Involvement:

- a) Permit Requirement: The removal of structures will result in a net increase in fish habitat at each of the sites, no referral to the DFO-Fisheries Protection Program (FPP) is required.
- b) Approval Requirement: The proposed will be referred to TC-Navigation Protection Program (TC-NPP).
- c) Approval Requirement: The proposed project is being registered as an Environmental Impact Assessment with the NBDELG under the *New Brunswick Clean Environment Act*.

17. Other Contacts and Responses:

- a) Environment and Climate Change Canada (ECCC) – Canada Wildlife Service
- b) ECCC – Environmental Assessment and Marine Programs (EAMP)
- c) Ms. Tammy Matchet – DFO Aboriginal Program Area Coordinator

Indigenous Consultation

PSPC, on behalf of DFO-SCH, carried out an Indigenous Assessment for each site in accordance with DFO-SCH's Preliminary Duty to Consult (DTC) Assessment Guide. This Guide is intended to provide basic information to DFO-SCH in the Maritimes and Gulf Regions and to assist its Program Managers in making informed, prudent decisions that take into account statutory and other legal obligations, as well as policy objectives, related to Aboriginal and treaty rights.

The Supreme Court of Canada has held that the Crown has a duty to consult and, where appropriate, accommodate when the Crown contemplates conduct that might adversely impact potential or established Aboriginal or treaty rights. While there may be other reasons to undertake consultations (e.g. good governance, policy-based, etc.), three elements are required for a legal duty to consult to arise.

1. There is contemplated or proposed Crown conduct;
2. The Crown has knowledge of potential or established Aboriginal or treaty rights; and
3. The potential or established Aboriginal or treaty rights may be adversely impacted by the Crown

Given the location, scale and nature of the proposed project, Indigenous consultation will be pursued prior to the work being carried out and as part of Environmental Impact Assessment registration activities and as a means of inclusive public engagement and good governance practice. Although DFO-SCH is currently organizing consultation efforts with Mi'kmaq and Wolastoqey First Nation communities at the program level, project notification and offers to consult are intended to be submitted to the Chiefs and Councils of the Peskotomuhkati (Passamaquoddy), Mi'kmaq and Wolastoqey First Nations (as well as representing organizations Mi'gmawe'l Tplu'taqnn Incorporated (MTI) and Wolastoqey Nation in New Brunswick (WNNB)) while a project notification will be submitted to the New Brunswick Aboriginal Peoples Council (NBAPC).

Public / Stakeholder Consultation

The NB EIA Regulation requires that all registered projects include a public involvement program, to provide potentially-affected stakeholders and stakeholder groups, including the general public, the opportunity to provide their feedback on the proposed project. The DELG's "A Guide to Environmental Impact Assessment in New Brunswick" outlines the requirements for public involvement. Based on the scale and scope of the proposed project, public consultation will consist of a notice of EIA registration in local newspapers (in both official languages); posting of the report on the NBDELG website; and copies of the document being available at the NBDELG office in St. Stephen and the DFO-SCH office in St. George. A summary report, detailing the above activities and feedback received from stakeholders will be submitted to NBDELG.

18. Scope of Project (details of the project subject to review):

Project Description

The following activities refer to all three (3) decommissioning sites:

Pre-Construction Activities:

The three (3) sites have been previously assessed by DFO-SCH engineers and slated for decommissioning based on their deteriorated state, unsafe condition, and lack of use. No additional pre-construction information-gathering is required for the project.

Construction Activities:

Each facility will be decommissioned according to methods proposed by the successful contractor(s). All decommissioning activities will be subject to approval by DFO-SCH to ensure the necessary environmental mitigation are in place and appropriate methods are employed.

In general, each site will be decommissioned in the same manner. Any remaining infrastructure will be manually removed from the decking and walls of the wharf structures. Once this is completed, a floating plant (excavator on a barge) will remove the decking, walls, piles and underside material. At no time will motorized equipment enter the water. Any native material, such as existing rock or armour stone shall be left in situ. All debris shall be removed and disposed of at an approved disposal site. Where applicable, the adjacent shoreline will be rocked in such a way to blend into the native coastline and mitigate against resulting impacts such as erosion. Wharf removals and shoreline protection will be based on coastal studies completed by Dillon Consulting Limited (Dillon) in 2017 with recommendations reflected in the site plans provided in **Appendix A**.

Scheduling:

The proposed project is anticipated to begin in the Fall of 2018 and be completed by March 31st, 2019.

19. Location of Project:

- Chocolate Cove is located on Chocolate Wharf Road (off route 772) on the southeastern shore of Deer Island, Charlotte County, New Brunswick. The site is at latitude 44°56'48.23"N, longitude 66°58'24.16"W, approximately 15km southwest of Saint Andrews. Chocolate Cove is located between Indian River and Quoddy River, at the junction of the Passamaquoddy Bay and the Bay of Fundy. The wharf is situated on two SNB parcels, PID numbers 15015738 and 15158025, owned by government of Canada (Public Works and Government Services Canada).
- Curry Cove is located on Curry Cove Breakwater Road (off Cook's Point Road) on the northwestern shore of Campobello Island, Charlotte County, NB. The site is at 44°55'41.41"N, 66°56'20.41", approximately 19km southeast of Saint Andrews. Curry Cove is at the confluence of Head Harbour Passage and Harbour de Lute. The wharf is situated on PID number 15169899 and is owned by Fisheries and Oceans per SNB Planet.
- Richardson Wharf is located off Route 772 on the eastern shore of Deer Island, Charlotte County, NB, at 44°59'41.93N, 66°56'44.82"W, approximately 12km southeast of Saint Andrews. The wharf is located on the Quoddy River between Deer and Campobello Islands.

Refer to **Figures 1 to 8** in **Appendix A** for locations, aerial views and technical diagrams for each SCH project site.

20. Environment Description:

CHOCOLATE COVE SCH

Physical Environment

Chocolate Cove is located on Deer Island in Southwestern NB, on the Bay of Fundy. Chocolate Cove is a small cove on the southeast side of Deer Island on the shoreline of the Quoddy River and Head Harbour Passage, just west of the Bay of Fundy. The Chocolate Cove wharf is located just east of Highway 772 in the Parish of West Isles (Dillon 2017).

The wharf at Chocolate Cove was built as a Class D structure, meaning it can accommodate small fishing vessels. Constructed in 1915, the wharf is straight, extending almost due east from the shoreline, and is approximately 120 m in length. Historically the wharf was used by transient fishing vessels, but due to its poor condition, it has not been used since the late 1980s, despite repair attempts in the early 2000's (Jacques Whitford 2009).

The wharf at the Chocolate Cove SCH is open-piled, and at one time this structure may have included stone cribwork; however, this cribwork is no longer in place and has not been for some time. The timber piles are in poor condition, are heavily weathered, and show signs of impact damage and vandalism. Some of the piles have become misaligned and are out of plumb. The base of the wharf at the end of the access road has collapsed and completely failed. Concrete barriers have been placed at the end of the access road to prohibit pedestrian access to the wharf. Similarly, the decking on the end of the wharf has either been deconstructed or has collapsed and failed. Additionally, a wooden barricade has been placed at the end of the wharf to prevent pedestrians from falling off the wharf. In its present condition, the wharf poses a risk to public safety as it is in a state of extreme disrepair and has already begun to fail. The wharf is over 100 years old and has exceeded its intended design life (Dillon 2017).

Chocolate Cove is located in the Fundy Coast ecoregion. Under the National Ecological Framework of Canada, the Fundy Coast ecoregion lies within the Atlantic Maritime Ecozone. This ecoregion is strongly influenced by the Atlantic Ocean and has high winds, high humidity, and fog. The area is characterized as having cool, wet summers and mild, wet winters with most precipitation as rain. The Bay of Fundy is well known for its high tides, averaging 10 m with a maximum recorded tide of 16.1 m. The tidal range of Chocolate Cove is approximately 5 to 8 m, which is a smaller range than tides in the upper Bay of Fundy (Dillon 2017).

The coniferous forests in the Fundy Coast ecoregion are typically composed of Red Spruce (*Picea rubens*), Balsam Fir (*Abies balsamea*), Red Maple (*Acer rubrum*), with occasional White Spruce (*Picea glauca*), White Birch (*Betula papyrifera*), and Yellow Birch (*Betula alleghaniensis*). In elevated areas Sugar Maple (*Acer saccharum*) and American Beech (*Fagus grandifolia*) can be found (Agriculture and Agri-Food Canada 2013).

Chocolate Cove lies within the West Isles subdivision of the St. Croix Highlands physiographic division. In the project area, the physical environment can be broken into seabed and shoreline areas. The shoreline in Chocolate Cove is quite variable due to its enclosed location within the cove, the large tide range, and the tributaries that empty into the cove (Dillon 2017).

The shoreline along the north and south shoreline of the cove consists mostly of steep, exposed bedrock with sparse vegetation and a narrow gravel beach. The exposed sediment on the bed of the floodplain along the shoreline appears to consist of mostly fluvial sediment, whereas it appears to change to a coarser material as the shoreline moves to the east (Dillon 2017).

Chocolate Cove surficial geology consists of rock of various lithologies and ages, generally weathered and partially disintegrated, glacially moulded surfaces with a few localities that show glacially scoured and polished surfaces (Rampton, 1984). The Department of Natural Resources, Geological Map of New Brunswick (1979) shows the underlying bedrock consists of Silurian aged greywacke, slate, siltstone, sandstone, conglomerate and limestone with minor ferruginous and manganeseiferous chert and argillite and minor volcanic rock.

Soil sampling conducted in 2017 indicated that the sediment at Chocolate Cove is composed primarily of gravel and sand with very low amounts of silt and clay (Dillon 2017). A Phase I/II Environmental Site Assessment conducted in 2009 reports elevated concentrations of PELs and PAHs in the sediment around wharf. The measured concentrations exceed the CEPA guidelines for disposal at sea (JW 2009).

There is no water supply or groundwater use at the Chocolate Cove SCH and there are no known septic fields. Residential homes on the adjoining and neighbouring properties are supplied with potable water via individual wells. Regional surface drainage (apparent groundwater flow direction) appears to be radially outward from the wharf structure towards Chocolate Cove. Surface drainage at the harbour appears to follow the general slope of the property, discharging toward the east into Chocolate Cove.

Canadian Climate normals for Deer Island area (Pennfield -Latitude: 45° 06'N and Longitude: 66° 43'W) indicate a mean annual temperature of 5.2°C with extremes ranging from -36.5° to 37.2°C. Measurable precipitation per year is approximately 1434 mm. Extreme daily precipitation of up to 111 mm of rain and 38 cm of snow has been recorded (Environment Canada 2018).

Biological Environment

The cool moist climate of the Bay of Fundy has led to a mainly coniferous forest cover dominated by Red Spruce, with Balsam Fir (*Abies balsamea*), Black Spruce (*Picea mariana*), White Spruce (*Picea glauca*), and Tamarack (*Larix laricina*). The most common hardwoods are White Birch (*Betula papyrifera*), Mountain Ash (*Sorbus Americana*), Red Maple (*Acer rubrum*), and some Yellow Birch (*Betula alleghaniensis*).

The Bay of Fundy provides habitat to over 100 fish species, including a variety of commercial, recreational, and Aboriginal fisheries. Common commercial fish species include (DFO 2018a-b):

- Atlantic Cod (*Gadus morhua*)
- Haddock (*Melanogrammus aeglefinus*)
- Atlantic Halibut (*Pollachius virens*)
- Winter Flounder (*Hippoglossus hippoglossus*)
- Alewife (*Alosa pseudoharengus*)
- American Shad (*Alosa sapidissima*)
- Blueback Herring (*Alosaestivalis*)
- Atlantic Herring (*Clupea harengus*)
- Atlantic Mackerel (*Scomber scombrus*)
- Spiny Dogfish (*Squalus acanthias*)
- American Lobster (*Homarus americanus*)
- Deep-sea Scallop (*Placopecten magellanicus*)
- Green Sea Urchin (*Strongylocentrotus droebachiensis*)

The three largest commercial fisheries in the region are lobster, deep-sea scallop, and herring. In the coastal areas surrounding the harbour there are also historical records of Sea Urchin, Northern Shrimp (*Pandalus borealis*), Common Periwinkle (*Littorina littorea*), Dulse (*Palmaria palmata*), Rockweed (*Ascophyllum nodosum*), and crab species, as well as small areas where Soft-shell Clam (*Mya arenaria*) fishing has occurred. Further offshore in deeper water historically cod, Hake (*Merluccius albidus*), haddock, and Pollock (*Pollachius virens*) have been fished.

In addition to the commercial species listed above, the Bay of Fundy is also home to a variety of diadromous fish species, including Atlantic Salmon (*Salmo salar*), Brook Trout (*Salvelinus fontinalis*), Striped Bass (*Morone saxatilis*), Rainbow

Smelt (*Osmerus mordax*), Gaspereau (*Alosa pseudoharengus*, also fished commercially), and American Eel (*Anguilla rostrata*) (DFO 2018c). There are recreational fisheries for several of these species in freshwater, including Brook Trout and Striped Bass. Historically, Atlantic Salmon was also fished recreationally, however, the recreational fishery has been closed due to conservation concerns (DFO 2018d).

A variety of marine mammals can be found in the Bay of Fundy. Baleen whales that are found in the area include North Atlantic Right Whales (*Eubalaena glacialis*), Fin Whales (*Balaenoptera physalus*), Humpback Whales (*Megaptera novaeangliae*), and Common Minke Whales (*Balaenoptera acutorostrata acutorostrata*). Toothed whales found in the area include Harbour Porpoise (*Phocoena phocoena*) and Atlantic White-sided Dolphins (*Lagenorhynchus acutus*). Harbour Seals (*Phoca vitulina vitulina*) are also frequently observed.

A search of GeoNB provincial wetland mapping indicates there are no wetlands in the vicinity of Chocolate Cove. An unnamed watercourse flows into the northwest corner of Chocolate Cove. At low water, this watercourse runs underneath the wharf and discharges on the south side of the wharf, approximately halfway along the wharf length.

There are two nature preserves located near the Chocolate Cove SCH. The Western Isles Nature Preserve consists of a several of islands, including Little Mowat, Mowat, Barnes, and Nubble Islands, located off the east end of Deer Island. This preserve is representative of the general ecology of the Bay of Fundy and the islands lie on an important bird migration route. Conditions are also suitable for nesting Bald Eagles. The majority of these islands are privately owned and not accessible to the public (Nature Trust New Brunswick 2018a).

The Clark Gregory Nature Preserve is located to the north of the Chocolate Cove SCH. This preserve is approximately 29 ha in area and includes the two headlands on either side of the entrance to Chocolate Cove. The preserve includes cliffs, forest, wetland, and meadow habitat and includes several uncommon plant species such as the Small-flowered Bitter-cress (*Cardamine parviflora* var. *arenicola*) (Nature Trust New Brunswick 2018b).

The Maritime Breeding Bird Atlas identified a total of 65 species of birds (comprised of sightings of confirmed probable, and possible breeding) in the geographical block which contains the Chocolate Cove SCH (atlas square 19FK57) (MBBA 2017). Chocolate Cove is located within the Quoddy region Important Bird Area (IBA). This IBA is approximately 130 km² in size and encompasses all the waters in an area roughly bounded by Eastport, Maine, the west side of Campobello Island to East Quoddy Head, White Horse Island, and the east side of Deer Island to Deer Island Point. This includes an area called Chocolate Cove Passage. Upwellings and areas of high productivity occur here because of strong currents created by the narrow passages that lead through to Passamaquoddy Bay. In the fall and winter large feeding congregations of several species of waterbirds are found in this IBA and it is an important stopover place during fall migration (IBA Canada 2018).

Species at Risk

A search of the Atlantic Canada Conservation Data Centre (ACDC) database was conducted. The ACDC provided a list of rare or uncommon plant and wildlife species within a 5-km buffer zone of the site. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA), the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and the Schedule A prohibitions of the New Brunswick Species at Risk Act (Prohibitions Regulation – Species at Risk Act 2013). Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Canada Warbler (*Wilsonia canadensis*), Common Nighthawk (*Chordeiles minor*), Eastern Wood-pewee (*Contopus virens*), Harbour Porpoise - Northwest Atlantic pop. (*Phocoena phocoena*), Horned Grebe (*Podiceps auritus*), Olive-sided Flycatcher (*Contopus cooperi*), Peregrine Falcon - anatum/tundrius (*Falco peregrinus*), Red-necked Phalarope (*Phalaropus lobatus*), and Wood Thrush (*Hylocichla mustelina*) were identified in the scan.

Bank Swallow is listed on Schedule 1 of SARA, and by COSWEIC as threatened and is not listed on and the Schedule A prohibitions of NB SARA. The Bank Swallow is a small insectivorous songbird which breeds in all Canadian provinces, and winters primarily in South America. The species breeds in areas with vertical banks, including the banks of watercourses. Breeding sites are often situated near open areas used to forage for insects (COSEWIC 2013). The proximity to a watercourse and, presence of open grassy areas makes the site ideal for Bank Swallow foraging, and breeding. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Barn Swallow is listed on Schedule 1 of SARA as threatened and is not listed on and the Schedule A prohibitions of NB SARA. In Canada, they inhabit and breed in all of the provinces and territories. They utilize a variety of habitats for foraging including grassy fields, pastures, lake and river shorelines, wetlands, and subarctic tundra (COSEWIC 2011).

Nesting habitat must include structures or cliffs to build nests on and a source of mud such to provide the material for building nests. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Canada Warbler is ranked as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. This species is a small and brightly colored passerine. Approximately 80% of the entire breeding range of this species is located in Canada (COSEWIC 2008), where it can be found breeding in every province and territory except Newfoundland and Labrador and Nunavut. Canada Warblers breed in a wide range of forest types, including deciduous, coniferous and mixedwood forests. It is often associated with moist mixedwood forest and riparian shrub forests on slopes and ravines and shrub swamps (COSEWIC 2008). The presence of a well-developed shrub layer also seems to be associated with preferred Canada Warbler habitat. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Common Nighthawk is considered threatened under Schedule 1 of SARA and is not listed on and the Schedule A prohibitions of NB SARA. The Common Nighthawk is a medium-sized bird which nests in almost all of North America, and in some parts of Central America. This species occurs in all of the Canadian provinces and territories with the exception of Nunavut (COSEWIC 2007b). Common Nighthawks are most commonly observed in a wide range of open, vegetation-free habitats including beaches, recently cleared forests, rocky outcrops, and grasslands (SARA 2015). The species has probably benefited from newly-opened habitats created by the forestry industry (COSEWIC 2007b). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Eastern Wood-Pewee is listed as special concern on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. The Eastern Wood-pewee is a small forest bird whose diet consists primarily of small, flying insects that are hawked in short flights from a perch in the subcanopy. The Eastern Wood-pewee is mostly associated with the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in forest stands of intermediate age and in mature stands with little understory vegetation. The breeding range of the Eastern Wood-pewee covers much of south-central and eastern North America. In Canada breeds from southeastern Saskatchewan to the Maritime provinces. It winters primarily in northern South America, mainly from northwestern Colombia and northeastern Venezuela south to southern Peru, northern Bolivia and Amazonian Brazil (COSEWIC 2012a). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Harbour Porpoise (northwest Atlantic population) is listed on Schedule 2 of SARA as threatened and is not listed on and the Schedule A prohibitions of NB SARA. Two populations of Harbour Porpoise are found within Canada, the Pacific Ocean population and the northwest Atlantic population. The northwest Atlantic population is composed of four discrete subpopulations, three of which are in Canadian waters; Newfoundland-Labrador, Gulf of St. Lawrence, and Bay of Fundy-Gulf of Maine) (COSEWIC 2016). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Horned Grebe is listed on Schedule 1 of SARA as special concern (western population) and endangered (Magdalen Islands population) and is not listed on and the Schedule A prohibitions of NB SARA. The species breeds and nests in fresh and occasionally brackish water and feeds on aquatic insects, fish, crustaceans, and polychaetes (COSEWIC 2009b). A small population of these species (on average 15 adults) resides on the Magdalen Islands. As such, this species is not thought to be found in the project area. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Olive-sided Flycatcher is listed as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. The Olive-sided Flycatcher is a stout, medium-sized passerine which breeds in scattered locations throughout most of forested Canada (COSEWIC 2007c). Olive-sided Flycatchers are most often associated with open areas, where they are found foraging for flying insects, and perching in tall live trees (COSEWIC 2007c). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Peregrine Falcon is listed on Schedule 1 of SARA as special concern and is listed on and the Schedule A prohibitions of NB SARA. In Canada, the Peregrine Falcon can be found in all territories and provinces, with the exception of PEI, Nunavut, and Newfoundland. They can be found occupying various habitat types, including Arctic tundra, coastal areas, prairies, and urban areas (COSEWIC 2007d). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Red-necked Phalarope is listed by COSEWIC as special concern and is not listed on and the Schedule A prohibitions of NB SARA. In Canada they breed in the arctic tundra in marshy areas near ponds and bogs. During their southern migration in the fall, they use mudflats along the east coast to forage). (COSEWIC 2014). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Wood Thrush is listed as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. This species is a medium-sized neo-tropical migrant slightly smaller than the American Robin. The species nests mainly in deciduous and mixed forests with saplings and well-developed understory layers. Breeding adults arrive in Canada in mid to late May, and departs to the wintering range between mid-August and mid-September (COSEWIC 2012b). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Bald Eagle is listed under the NB SARA as Regionally Endangered and is included on the Schedule A prohibitions of NB SARA. The bald eagle is a large, distinctive bird of prey found across Canada, and much of North America. Bald Eagles nest in large trees, generally near water as fish are a major component of their diet. Bald Eagles build the largest nest of any bird in North America, and prefer nesting sites near open water (NBDNR 2015). During winter, individuals from the resident population are often found in the southwestern part of the province, where they have access to the Bay of Fundy for fishing. They also feed on carrion and small mammals. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Although not included in the ACCDC search, the North Atlantic Right Whale (*Eubalaena glacialis*) is listed as endangered under Schedule 1 of Species at Risk Act (SARA). The main threats to this species are from vessel strikes, entanglement in fishing gear, and loss of habitat. The proposed project is not located within a right whale conservation zone. Critical habitat for this species has been identified in the Grand Manan Basin. However, taking into consideration the spatial and temporal extent of project activities and nature of the work, interaction between the species and the project is not anticipated.

Human Environment

The land in the immediate vicinity of the proposed project has been developed to serve the fishing industry. However, there are permanent homes and cottages located in the general vicinity of the harbour and there are sand beaches on both sides of the harbour, which are used for recreational purposes during the summer months.

There are no aquaculture sites in the immediate vicinity of the Chocolate Cove SCH, however there are several finfish sites in the wider area, the closest is near Doctor's Cove approximately 1.5 km southwest of Chocolate Cove (New Brunswick Department of Agriculture, Aquaculture and Fisheries 2015).

As the wharf is currently in a state of disrepair, there are no commercial or Aboriginal fisheries conducted at the harbour. Additionally, there are no Aboriginal fisheries for food, social, or ceremonial purposes occurring at the harbour.

Lands adjacent to the coastlines in the Maritimes tend to have high archaeological potential given their historic importance and proximity to transportation routes and fishing resources. The shoreline around and including Chocolate Cove is considered high potential for heritage and archaeological resources; however, there are no registered archaeological sites located within 5 km of the project site.

CURRY COVE SCH

Physical Environment

Curry Cove is located on Campobello Island in Charlotte County, NB, on the Bay of Fundy. Curry Cove is a small cove on the west side of Campobello Island, in Head Harbour Passage, just west of the Bay of Fundy.

The Curry Cove SCH is a class C facility (up to 400 vessel metres) that consists of an open-piled timber L-shaped wharf with timber decking and timber fender sheathing with a small two-storey building on its north corner. The landward branch of the wharf measures approximately 80 m long, and the seaward branch measures approximately 50 m. The wharf was constructed between 1951 and 1962 and was historically used as a loading and unloading facility by small fishing vessels, mainly for scallops, and was used year-round. The approach to the wharf structure is over a roadway paved with chip seal and a section of trestlework. The wharf is in a state of disrepair and deterioration and has likely exceeded its intended design life. In its current condition it poses a danger to public safety (Dillon 2017).

The wharf is open-piled and most of the fender sheathing is no longer in place. It is not likely that the fender sheathing would have extended all the way to the seabed. It is likely that the wharf was built with a space between the seabed and the fender sheathing to allow sediment to pass freely underneath the wharf. The timber piles appeared to be in poor condition, with some piles missing from the structure itself. The timber piles are heavily weathered, some showing signs of impact damage. Several piles and bents were observed along the shoreline downdrift of the wharf. The timber decking is in relatively poor condition. The wood itself is heavily weathered, several deck planks are missing, vegetation has begun to grow through the deck boards due to lack of upkeep on the wharf itself, and deck planks, nails and other fasteners are sticking up, which poses a safety risk. The decking is also covered with debris and other garbage. The wheel guards along the exterior of the decking are damaged, weathered, and generally in poor condition (Dillon 2017).

Curry Cove is located in the Fundy Coast ecoregion. Under the National Ecological Framework of Canada, the Fundy Coast ecoregion lies within the Atlantic Maritime Ecozone. This ecoregion is strongly influenced by the Atlantic Ocean and has high winds, high humidity, and fog. The area is characterized as having cool, wet summers and mild, wet winters with most precipitation as rain. The Bay of Fundy is well known for its high tides, averaging 10 m with a maximum recorded tide of 16.1 m. The tidal range of Curry Cove is approximately 5 to 8 m, which is a smaller range than tides in the upper Bay of Fundy (Dillon 2017).

The coniferous forests in the Fundy Coast ecoregion are typically composed of Red Spruce (*Picea rubens*), Balsam Fir (*Abies balsamea*), Red Maple (*Acer rubrum*), with occasional White Spruce (*Picea glauca*), White Birch (*Betula papyrifera*), and Yellow Birch (*Betula alleghaniensis*). In elevated areas Sugar Maple (*Acer saccharum*) and American Beech (*Fagus grandifolia*) can be found (Agriculture and Agri-Food Canada 2013).

Curry Cove lies within the West Isles subdivision of the St. Croix Highlands physiographic division. In the project area, the physical environment can be broken into seabed and shoreline areas. The shoreline adjacent to the wharf structure is quite variable due to its location within the cove and the large tide range. The shoreline mostly consists of steep, exposed bedrock with sparse vegetation, fronted by a narrow gravel and cobble beach with some sporadic and scattered boulders (Dillon 2017).

Surficial sediments consist of rock of various lithologies and ages, generally weathered, partially disintegrated, and glacially moulded surfaces. A few localities show glacially scoured and polished surfaces. It has a veneer of sand, some gravel, silt and rare clay generally less than 0.5m thick. The Department of Natural Resources Department Geological Map of New Brunswick (1979) shows the underlying bedrock consists primarily of greywacke, slate, siltstone, sandstone, conglomerate and limestone; minor ferruginous and manganiferous chert and argillite; minor volcanic rocks; interbedded mafic and silicic volcanic rocks, gabbroic sills and dykes of the Silurian Group (Dillon 2017).

Soil sampling conducted in 2017 indicated that sediment is composed primarily of gravel and sand with very low amounts of silt and clay. As part of the sampling, some finer sediment, mostly sand and silt mixed in with gravel, cobbles, and some boulders, were observed at the east end of the cove (Dillon 2017). A Phase 1 ESA conducted in 2001 indicated that there may be elevated levels of Polycyclic Aromatic Hydrocarbons in the sediment around the piles due to the creosote in the timber piles and the lead and mercury paint used on the structure on top of the wharf (SNC Lavalin, 2001).

At one point, the two-storey structure on the north corner of the wharf is likely to have had a water supply from a groundwater well, as part of a site visit in 2001 the water supply to the building was not in working condition. No other domestic drinking water wells are known to be located on the property (SNC Lavalin 2001). The SCH property generally

slopes toward the waters of Curry Cove. Surface drainage at the site appears to follow the general slope of the property. Regional surface drainage is also expected to follow the general slope of the property (Dillon 2017).

Canadian Climate Normals for Campobello Island area (Pennfield -Latitude: 45° 06'N and Longitude: 66° 43'W) indicate a mean annual temperature of 5.2°C with extremes ranging from -36.5° to 37.2°C. Measurable precipitation per year is approximately 1434 mm. Extreme daily precipitation of up to 111 mm of rain and 38 cm of snow has been recorded (Environment Canada, 2018).

Biological Environment

The cool moist climate of the Bay of Fundy has led to a mainly coniferous forest cover dominated by Red Spruce, with Balsam Fir (*Abies balsamea*), Black Spruce (*Picea mariana*), White Spruce (*Picea glauca*), and Tamarack (*larix laricina*). The most common hardwoods are White Birch (*Betula papyrifera*), Mountain Ash (*Sorbus Americana*), Red Maple (*Acer rubrum*), and some Yellow Birch (*Betula alleghaniensis*).

The Bay of Fundy provides habitat to over 100 fish species, including a variety of commercial, recreational, and Aboriginal fisheries. Common commercial fish species include (DFO 2018a-b):

- Atlantic Cod (*Gadus morhua*)
- Haddock (*Melanogrammus aeglefinus*)
- Atlantic Halibut (*Pollachius virens*)
- Winter Flounder (*Hippoglossus hippoglossus*)
- Alewife (*Alosa pseudoharengus*)
- American Shad (*Alosa sapidissima*)
- Blueback Herring (*Alosa estivalis*)
- Atlantic Herring (*Clupea harengus*)
- Atlantic Mackerel (*Scomber scombrus*)
- Spiny Dogfish (*Squalus acanthias*)
- American Lobster (*Homarus americanus*)
- Deep-sea Scallop (*Placopecten magellanicus*)
- Green Sea Urchin (*Strongylocentrotus droebachiensis*)

The three largest commercial fisheries in the region are lobster, deep-sea scallop, and herring. In the coastal areas surrounding the harbour there are also historical records of sea urchin, Northern Shrimp (*Pandalus borealis*), Common Periwinkle (*Littorina littorea*), Dulse (*Palmaria palmata*), Rockweed (*Ascophyllum nodosum*), and crab species, as well as small areas where Soft-shell Clam (*Mya arenaria*) fishing has occurred. Further offshore in deeper water historically cod, Hake (*Merluccius albidus*), haddock, and Pollock (*Pollachius virens*) have been fished.

In addition to the commercial species listed above, the Bay of Fundy is also home to a variety of diadromous fish species, including Atlantic Salmon (*Salmo salar*), Brook Trout (*Salvelinus fontinalis*), Striped Bass (*Morone saxatilis*), Rainbow Smelt (*Osmerus mordax*), Gaspereau (*Alosa pseudoharengus*, also fished commercially), and American Eel (*Anguilla rostrata*) (DFO 2018c). There are recreational fisheries for several of these species in freshwater, including Brook Trout and Striped Bass. Historically, Atlantic Salmon was also fished recreationally, however, the recreational fishery has been closed due to conservation concerns (DFO 2018d).

A variety of marine mammals can be found in the Bay of Fundy. Baleen whales that are found in the area include North Atlantic Right Whales (*Eubalaena glacialis*), Fin Whales (*Balaenoptera physalus*), Humpback Whales (*Megaptera novaeangliae*), and Common Minke Whales (*Balaenoptera acutorostrata acutorostrata*). Toothed whales found in the area include Harbour Porpoise (*Phocoena phocoena*) and Atlantic White-sided Dolphins (*Lagenorhynchus acutus*). Harbour Seals (*Phoca vitulina vitulina*) are also frequently observed.

A search of GeoNB provincial wetland mapping indicates there is a regulated wetland, a portion of which is designated as a Provincially Significant Wetland (PSW), located approximately 275 m northeast of the wharf structure. The regulated wetland is approximately 3 ha in area, while the PSW is approximately 1.5 ha in area. A small watercourse also drains into this wetland.

The Western Isles Nature Preserve consists of a several of islands, including Little Mowat, Mowat, Barnes, and Nubble Islands, located off the west side of Campobello Island. This preserve is representative of the general ecology of the Bay of Fundy and the islands lie on an important bird migration route. Conditions are also suitable for nesting Bald Eagles. The majority of these islands are privately owned and not accessible to the public (Nature Trust New Brunswick 2018).

The Maritime Breeding Bird Atlas identifies a total of 111 species of birds (comprised of sightings of confirmed probable, and possible breeding) in the geographical block which contains Curry Cove (atlas square 19FK67) (MBBA 2017). Curry Cove is located within the Quoddy region Important Bird Area (IBA). This IBA is approximately 130 km² in size and encompasses all the waters in an area roughly bounded by Eastport, Maine, the west side of Campobello Island to East Quoddy Head, White Horse Island, and the east side of Deer Island to Deer Island Point. This includes an area called Curry Cove Passage. Upwellings and areas of high productivity occur here because of strong currents created by the narrow passages that lead through to Passamaquoddy Bay. In the fall and winter large feeding congregations of several species of waterbirds are found in this IBA and it is an important stopover place during fall migration (IBA Canada 2018).

Species at Risk

A search of the Atlantic Canada Conservation Data Centre (ACDC) database was conducted. The ACDC provided a list of rare or uncommon plant and wildlife species within a 5-km buffer zone of the site. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA), the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and the Schedule A prohibitions of the New Brunswick Species at Risk Act (NB SARA) (Prohibitions Regulation – Species at Risk Act 2013). Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*), Bicknell's Thrush (*Catharus bicknelli*), Canada Warbler (*Wilsonia canadensis*), Chimney Swift (*Chaetura pelagica*), Common Nighthawk (*Chordeiles minor*), Eastern Wood-pewee (*Contopus virens*), Harbour Porpoise - Northwest Atlantic pop. (*Phocoena phocoena*), Horned Grebe (*Podiceps auritus*), Olive-sided Flycatcher (*Contopus cooperi*), Peregrine Falcon - anatum/tundrius (*Falco peregrinus*), Red Knot Rufa ssp (*Calidris canutus rufa*), Red-necked Phalarope (*Phalaropus lobatus*), Wood Thrush (*Hylocichla mustelina*), and Bald Eagle (*Haliaeetus leucocephalus*) were identified in the scan.

Bank Swallow is listed on Schedule 1 of SARA, and by COSWEIC as threatened and is not listed on and the Schedule A prohibitions of NB SARA. The Bank Swallow is a small insectivorous songbird which breeds in all Canadian provinces, and winters primarily in South America. The species breeds in areas with vertical banks, including the banks of watercourses. Breeding sites are often situated near open areas used to forage for insects (COSEWIC 2013). The proximity to a watercourse and, presence of open grassy areas makes the site ideal for Bank Swallow foraging, and breeding. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Barn Swallow is listed on Schedule 1 of SARA as threatened and is not listed on and the Schedule A prohibitions of NB SARA. In Canada, they inhabit and breed in all of the provinces and territories. They utilize a variety of habitats for foraging including grassy fields, pastures, lake and river shorelines, wetlands, and subarctic tundra (COSEWIC 2011). Nesting habitat must include structures or cliffs to build nests on and a source of mud such to provide the material for building nests. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Bicknell's Thrush is ranked as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. The breeding range of the Bicknell's Thrush is limited to mountain ranges of the northeastern United States and southeastern Canada, as well as to some coastal and lowland areas in eastern Canada. The species is a habitat specialist, generally associated with undisturbed dense habitat or disturbed areas of Balsam Fir-dominated habitat. In coastal lowland breeding habitat, the species selects dense spruce-fir stands maintained by cool sea breezes and a high precipitation regime. The species winters in the Greater Antilles, where the bulk of its population appears to be in the Dominican Republic. The Bicknell's Thrush feeds mostly on invertebrates during the breeding period, while fruit may represent a regular food source outside the nesting period. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Canada warbler is ranked as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. This species is a small and brightly colored passerine. Approximately 80% of the entire breeding range of this species is located in Canada (COSEWIC 2008), where it can be found breeding in every province and territory except Newfoundland and Labrador and Nunavut. Canada warblers breed in a wide range of forest types, including deciduous, coniferous and mixedwood forests. It is often associated with moist mixedwood forest and riparian shrub forests on slopes and ravines and shrub swamps (COSEWIC 2008). The presence of a well-developed shrub layer also seems to be associated with preferred Canada warbler habitat. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Chimney Swift is listed as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. Chimney Swifts are aerial foragers, often concentrating near water where insects are abundant. Before the arrival of Europeans in North America, the Chimney Swift mainly used hollow trees for nesting sites. The Chimney Swift is now mainly associated with urban and rural areas where chimneys are available for nesting and roosting. The breeding range of the Chimney Swift is limited to eastern North America. Approximately one quarter of the species' breeding range is located in Canada, in east central Saskatchewan, southern Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia and possibly Prince Edward Island and Newfoundland. In the fall, large flocks of Chimney Swifts travel to the southern United States, where they cross the Gulf of Mexico and then fly down the Atlantic coast until they reach South America. They follow much the same route in reverse in the spring (COSEWIC 2007a). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Common Nighthawk is considered threatened under Schedule 1 of SARA and is not listed on and the Schedule A prohibitions of NB SARA. The Common Nighthawk is a medium-sized bird which nests in almost all of North America, and in some parts of Central America. This species occurs in all of the Canadian provinces and territories with the exception of Nunavut (COSEWIC 2007b). Common Nighthawks are most commonly observed in a wide range of open, vegetation-free habitats including beaches, recently cleared forests, rocky outcrops, and grasslands (SARA 2015). The species has probably benefited from newly-opened habitats created by the forestry industry (COSEWIC 2007b). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Eastern Wood-Pewee is listed as special concern on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. The Eastern Wood-pewee is a small forest bird whose diet consists primarily of small, flying insects that are hawked in short flights from a perch in the subcanopy. The Eastern Wood-pewee is mostly associated with the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in forest stands of intermediate age and in mature stands with little understory vegetation. The breeding range of the Eastern Wood-pewee covers much of south-central and eastern North America. In Canada breeds from southeastern Saskatchewan to the Maritime provinces. It winters primarily in northern South America, mainly from northwestern Colombia and northeastern Venezuela south to southern Peru, northern Bolivia and Amazonian Brazil (COSEWIC 2012a). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Harbour Porpoise (northwest Atlantic population) is listed on Schedule 2 of SARA as threatened and is not listed on and the Schedule A prohibitions of NB SARA. Two populations of Harbour Porpoise are found within Canada, the Pacific Ocean population and the northwest Atlantic population. The northwest Atlantic population is composed of four discrete subpopulations, three of which are in Canadian waters; Newfoundland-Labrador, Gulf of St. Lawrence, and Bay of Fundy-Gulf of Maine) (COSEWIC 2016). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Horned Grebe is listed on Schedule 1 of SARA as special concern (western population) and endangered (Magdalen Islands population) and is not listed on and the Schedule A prohibitions of NB SARA. The species breeds and nests in fresh and occasionally brackish water and feeds on aquatic insects, fish, crustaceans, and polychaetes (COSEWIC 2009b). A small population of these species (on average 15 adults) resides on the Magdalen Islands. As such, this species is not thought to be found in the project area. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Olive-sided flycatcher is listed as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. The Olive-sided Flycatcher is a stout, medium-sized passerine which breeds in scattered locations throughout most of forested Canada (COSEWIC 2007c). Olive-sided Flycatchers are most often associated with open areas, where they are found foraging for flying insects, and perching in tall live trees (COSEWIC 2007c). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Peregrine Falcon is listed on Schedule 1 of SARA as special concern and is listed on and the Schedule A prohibitions of NB SARA. In Canada, the Peregrine Falcon can be found in all territories and provinces, with the exception of PEI, Nunavut, and Newfoundland. They can be found occupying various habitat types, including Arctic tundra, coastal areas, prairies, and urban areas (COSEWIC 2007d). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Red Knot is listed as endangered on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. It is a medium sized shorebird with a long straight bill, small head, long legs, and long tapered wings. The Rufa subspecies breeds in the central Canadian arctic Coats and Mansel islands in northern Hudson Bay, on Southampton Island off the east coast of Hudson Bay, on islands in Foxe Basin, including Prince Charles Island and Rowley Island, as well as on the west coast of Baffin Island, and winters in South America. The Red Knot migrates through Atlantic Canada to reach these breeding and wintering grounds. During migration the species forages on tidal mudflats and feeds on molluscs, crustaceans, and other invertebrates (COSEWIC 2007e). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Red-necked Phalarope is listed by COSEWIC as special concern and is not listed on and the Schedule A prohibitions of NB SARA. In Canada they breed in the arctic tundra in marshy areas near ponds and bogs. During their southern migration in the fall, they use mudflats along the east coast to forage). (COSEWIC 2014). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

The Wood Thrush is listed as threatened on Schedule 1 of SARA and by COSEWIC and is not listed on and the Schedule A prohibitions of NB SARA. This species is a medium-sized neo-tropical migrant slightly smaller than the American Robin. The species nests mainly in deciduous and mixed forests with saplings and well-developed understory layers. Breeding adults arrive in Canada in mid to late May, and departs to the wintering range between mid-August and mid-September (COSEWIC 2012b). Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Bald Eagle is listed under the NB SARA as Regionally Endangered and is included on the Schedule A prohibitions of NB SARA. The Bald Eagle is a large, distinctive bird of prey found across Canada, and much of North America. Bald Eagles nest in large trees, generally near water as fish are a major component of their diet. Bald Eagles build the largest nest of any bird in North America, and prefer nesting sites near open water (NBDNR 2015). During winter, individuals from the resident population are often found in the southwestern part of the province, where they have access to the Bay of Fundy for fishing. They also feed on carrion and small mammals. Critical habitat for the species has not been identified in New Brunswick. Taking into consideration the spatial and temporal extent of project activities and nature of the work, as well as suitable habitat for the species, interaction between the species and the project is not anticipated.

Although not included in the ACCDC search, the North Atlantic Right Whale (*Eubalaena glacialis*) is listed as endangered under Schedule 1 of Species at Risk Act (SARA). The main threats to this species are from vessel strikes, entanglement in fishing gear, and loss of habitat. The proposed project is not located within a right whale conservation zone. Critical habitat for this species has been identified in the Grand Manan Basin. However, taking into consideration the spatial and temporal extent of project activities and nature of the work, interaction between the species and the project is not anticipated.

Human Environment

The land in the immediate vicinity of the proposed project has been developed to serve the fishing industry. Irving Oil Limited is understood to have operated a furnace oil storage facility which was previously located adjacent to the wharf access road. It is unclear when the storage facility was decommissioned; however, this facility is no longer operational and no remaining facilities are visible on site (Dillon 2017). There are permanent homes and cottages located in the general vicinity of the harbour. There are sand beaches on both sides of the harbour, which are used for recreational purposes during the summer months.

A 14 ha finfish aquaculture lease is located in the adjacent cove to the Curry Cove SCH (New Brunswick Department of Agriculture, Aquaculture and Fisheries 2018). As the wharf is currently in a state of disrepair, there are no commercial or Aboriginal fisheries conducted at the subject site. Additionally, there are no Aboriginal fisheries for food, social, or ceremonial purposes occurring at the harbour.

Lands adjacent to the coastlines in the Maritimes tend to have high archaeological potential given their historic importance and proximity to transportation routes and fishing resources. The shoreline around and including Chocolate Cove is considered high potential for heritage and archaeological resources; however, there are no registered archaeological sites located within 5 km of the project site.

RICHARDSON WHARF SCH

Physical Environment

Richardson Small Craft Harbour is located on the east side of Deer Island, in Head Harbour Passage in the Bay of Fundy. The Richardson SCH was built as a Class C wharf, meaning it could accommodate up to 400 vessel-metres. The wharf is L-shaped, with the landward branch of the wharf measuring approximately 60 m, and the seaward branch measuring approximately 25 m.

Under the National Ecological Framework of Canada, the Fundy Coast ecoregion lies within the Atlantic Maritime Ecozone. This ecoregion is strongly influenced by the Atlantic Ocean and has high winds, high humidity, and fog. The area is characterized as having cool, wet summers and mild, wet winters with most precipitation as rain. The Bay of Fundy is well known for its high tides, averaging 10 m with a maximum recorded tide of 16.1 m. The coniferous forests are typically composed of Red Spruce (*Picea rubens*), Balsam Fir (*Abies balsamea*), Red Maple (*Acer rubrum*), with occasional White Spruce (*Picea glauca*), White Birch (*Betula papyrifera*), and Yellow Birch (*Betula alleghaniensis*). In elevated areas Sugar Maple (*Acer saccharum*) and American Beech (*Fagus grandifolia*) can be found (Agriculture and Agri-Food Canada 2013).

Within the Fundy Coast ecoregion, the bedrock is composed of Proterozoic, Palaeozoic, and Mesozoic strata rising from sea level to approximately 215 m asl inland. Discontinuous, stony glacial till covers the highlands, while loamy tills, sandy fluvio-glacial sediments, and silty marine deposits can be found in the lowlands. The dominant soil type is Humo-Ferric Podzols (Agriculture and Agri-Food Canada 2013).

The SCH property generally slopes to toward the waters of the Bay of Fundy (SNC Lavalin 2001).

Three marine sediment samples were submitted for analysis in February 2014 as part of a Phase II Environmental Site Assessment (CBCL Limited 2014). The following guideline exceedences were noted:

- All three samples exceeded CEPA Disposal at Sea guidelines for PAHs;
- Each of the samples had several individual PAH concentrations exceeding CCME Marine Probable Effects Levels;
- One of the samples exceeded CEPA Disposal at Sea guidelines and CCME Marine Probable Effects Levels for PCBs; and
- Two of the samples had individual metals concentrations that exceeded CCME Marine Probable Effects Levels and CEPA Disposal at Sea Regulations.

Canadian Climate Normals (1981-2010) for the Pennfield climate station (45°06'00.000" N, - 66°44'00.000" W), the station located closest to the project, indicate a mean annual temperature of 5.2 degrees Celsius (°C) with extremes ranging from approximately -37 °C to 37 °C. Measurable precipitation per year is approximately 1,238 millimetres (mm). Extreme daily precipitation of up to approximately 110 mm has been recorded (Government of Canada 2018).

Biological Environment

The nearest regulated wetland is located approximately 560 m southwest of the harbour (Government of New Brunswick n.d.).

The Maritime Breeding Bird Atlas identified a total of 73 species of birds in the geographical block which contains Richardson Wharf DFO-SCH (19FK68), 39 of which are listed as confirmed for breeding (Bird Studies Canada n.d.[a]).

The Richardson Wharf SCH is located within the Quoddy Region Important Bird Area (IBA). This IBA is an important area during fall migration and over winter for Bonapart's Gulls (*Chroicocephalus philadelphia*), Herring Gulls (*Larus argentatus*), Great Black-backed Gulls (*Larus marinus*), and Black-legged Kittiwakes (*Rissa tridactyla*). Long-tailed Ducks (*Clangula hyemalis*) and Common Eiders (*Somateria mollissima*) also frequent the area in the winter while Scoters (*Melanitta* sp.) are present in the summer (Bird Studies Canada n.d. [b]).

Species at Risk (Aquatic and Terrestrial)

A search of the Atlantic Canada Conservation Data Centre (ACCDC) database was conducted. The ACCDC provided a list of rare or uncommon plant and wildlife species within a 5-km buffer zone of the site. All species were cross-referenced with Schedule 1 of the *Species at Risk Act* (SARA), the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and the Schedule A prohibitions of the New Brunswick *Species at Risk Act* (Prohibitions Regulation – Species at Risk Act 2013). Humpback Whale (northwest Atlantic population, *Megaptera novaeangliae*), North Atlantic Right Whale (*Eubalaena glacialis*), Harbour Porpoise (northwest Atlantic population, *Phocoena phocoena*), Barn Swallow (*Hirundo rustica*), Bank Swallow (*Riparia riparia*), Canada Warbler (*Cardellina canadensis*), Bobolink (*Dolichonyx oryzivorus*), Rusty Blackbird (*Euphagus carolinus*), Peregrine Falcon (*Falco peregrinus*), Red-necked Phalarope (*Phalaropus lobatus*), Horned Grebe (*Podiceps auritus*), Common Nighthawk (*Chordeiles minor*), and Monarch (*Danaus plexippus*) were identified in the scan.

The Humpback Whale (northwest Atlantic population) is listed on Schedule 3 of SARA as special concern (Species at Risk Public Registry 2018a). In Canada, Humpback Whales are common off the east and south coasts of Newfoundland, off southeastern Labrador, on the edges of the Grand Banks, and in the Gulf of St. Lawrence during the summer months. In the fall they migrate south breeding grounds in tropical waters (Species at Risk Public Registry 2018a). Critical habitat has not been identified for this species. There are no expected interactions with the Humpback Whale during the project.

The North Atlantic Right Whale is listed on Schedule 1 of SARA as endangered (Species at Risk Public Registry 2018b). In Canada, North Atlantic Right Whales are part of the western Atlantic population. They can be found from Newfoundland and Labrador to the Gulf of St. Lawrence. Individuals can be found gathering in the summer and fall in the lower Bay of Fundy, the western Scotian Shelf, and east of the Gaspé Peninsula. Critical habitat has been identified for this species, however, the project is not located within the designated area (DFO 2014). There are no expected interactions with the North Atlantic Right Whale during the project.

The Harbour Porpoise (northwest Atlantic population) is listed on Schedule 2 of SARA as threatened (Species at Risk Public Registry 2018c). Two populations of Harbour Porpoise are found within Canada: the Pacific Ocean population and the northwest Atlantic population. The northwest Atlantic population is composed of four discrete subpopulations, three of which are in Canadian waters; Newfoundland-Labrador, Gulf of St. Lawrence, and Bay of Fundy-Gulf of Maine) (Species at Risk Public Registry 2018c). Critical habitat has not been identified for this species. There are no expected interactions between the Harbour Porpoise and the project.

The Barn Swallow is listed on Schedule 1 of SARA as threatened (Species at Risk Public Registry 2018d). In Canada, they inhabit and breed in all of the provinces and territories. They utilize a variety of habitats for foraging including grassy fields, pastures, lake and river shorelines, wetlands, and subarctic tundra (Species at Risk Public Registry 2018d). Nesting habitat must include structures or cliffs to build nests on and a source of mud such to provide the material for building nests. Critical habitat has not yet been identified for this species. There are no expected interactions between the Barn Swallow and the project due to lack of suitable habitat at the site.

The Bank Swallow is listed on Schedule 1 of SARA as threatened (Species at Risk Public Registry 2018e). The Bank Swallow can be found worldwide and in Canada it breeds in every province and territory, with the possible exception of Nunavut. They are colonial breeders, ranging in groups of several to thousands of pairs. Nesting sites can occur anywhere with vertical banks, including coastal cliffs, riverbanks, pits, road cuts, and soil stock piles. Substrates of silty sand are preferred for nest burrows (Species at Risk Public Registry 2018e). Critical habitat has not been identified for this species. There are no expected interactions between the Bank Swallow and the project due to lack of suitable habitat at the site.

The Canada warbler is listed on Schedule 1 of SARA as threatened (Species at Risk Public Registry 2018f). During the breeding season, 85% of the global breeding population can be found in Canada. The species breeds across the southeastern parts of the country and can be found in every province and territory, with the exception of Newfoundland and Labrador, and Nunavut. They can primarily be found nesting in areas with wet, mixed deciduous-coniferous forest that include a well-developed shrub layer (Species at Risk Public Registry 2018f). Critical habitat has not yet been identified for this species. There are no expected interactions between the Canada Warbler and the project due to lack of suitable habitat at the site.

The Bobolink is listed on Schedule 1 of SARA as threatened (Species at Risk Public Registry 2018g). In Canada, they can be found breeding in the southern portions of each province, from British Columbia to Newfoundland and Labrador. They nest in meadows and agricultural fields with tall grasses (Species at Risk Public Registry 2018g). Critical habitat has not been identified for this species. There are no expected interactions between the Bobolink and the project due to lack of

suitable habitat at the site.

The Rusty Blackbird is listed on Schedule 1 of SARA as special concern (Species at Risk Public Registry 2018h). In Canada, the Rusty Blackbird is distributed throughout all the provinces and territories. They nest in the boreal forest and prefers to be near wet areas such as streams, peat bogs, marshes, swamps, and beaver ponds (Species at Risk Public Registry 2018h). Critical habitat has not yet been identified for this species. There are no expected interactions between the Rusty Blackbird and the project due to lack of suitable habitat at the site.

The Peregrine Falcon is listed on Schedule 1 of SARA as special concern (Species at Risk Public Registry 2018i). In Canada, the Peregrine Falcon can be found in all territories and provinces, with the exception of PEI, Nunavut, and Newfoundland. They can be found occupying various habitat types, including Arctic tundra, coastal areas, prairies, and urban areas (Species at Risk Public Registry 2018i). Critical habitat has not been identified for this species. There are no expected interactions between the Peregrine Falcon and the project due to lack of suitable habitat at the site.

The Red-necked Phalarope is listed by COSEWIC as special concern (Species at Risk Public Registry 2018j). In Canada they breed in the arctic tundra in marshy areas near ponds and bogs. During their southern migration in the fall, they use mudflats along the east coast to forage (Audubon n.d.). Critical habitat has not been identified for this species. There are no expected interactions between the Red-necked Phalarope and the project due to lack of suitable habitat at the site.

The Horned Grebe is listed on Schedule 1 of SARA as special concern (western population) and endangered (Magdalen Islands population) (Species at Risk Public Registry 2018k,l). This species is considered stable in New Brunswick (Canadian Endangered Species Conservation Council 2016). There is no critical habitat identified for this species in New Brunswick. There are no expected interactions between the Horned Grebe and the project due to lack of suitable habitat at the site.

The Common Nighthawk is listed on Schedule 1 of SARA as threatened (Species at Risk Public Registry 2018m). In Canada, the Common Nighthawk occurs in all of the provinces and territories, except for Nunavut. They are commonly found throughout the Maritimes, with the exception of PEI. The Common Nighthawk breeds in a wide range of open, vegetation-free habitats, including dunes, beaches, grasslands, pastures, marshes, lakeshores, and river banks (Species at Risk Public Registry 2018m). Critical habitat has not yet been identified for this species. There are no expected interactions between the Common Nighthawk and the project due to lack of suitable habitat at the site.

The Monarch is listed on Schedule 1 of SARA as special concern (Species at Risk Public Registry 2018n). There are three distinct populations of Monarch, two of which occur in Canada. The western population inhabit the area between the Rocky Mountains and the Pacific coast, while the eastern population includes all Monarchs from the Rocky Mountains east to the Atlantic coast. In Canada, Monarchs can be found in all areas that have milkweed and wildflowers, such as goldenrod and aster species. They rely on the presence of milkweed plants to lay their eggs (Species at Risk Public Registry 2018n). There is no critical habitat for this species located at the project site. No interactions are expected between the Monarch and the project due to lack of suitable habitat at the site.

Human Environment

The nearest aquaculture site is a finish site, approximately 675 m north of the harbour near Lords Cove (New Brunswick Department of Agriculture, Aquaculture and Fisheries 2015).

As the wharf is currently in a state of disrepair, there are no Aboriginal fisheries conducted at the harbour. Additionally, there are no Aboriginal fisheries for food, social, or ceremonial purposes occurring at the harbour.

Lands adjacent to the coastlines in the Maritimes tend to have high archaeological potential given their historic importance and proximity to transportation routes and fishing resources. The shoreline around and including Richardson is considered high potential for heritage and archaeological resources; however, there are no registered archaeological sites located within 5 km of the project site.

21. Scope of Effects Considered (section 5(1) and 5(2)):

Table 1: Potential Project / Environment Interactions Matrix

Project Phase / Physical Work/Activity	As per Section 5(1)			Section 5(1c) Aboriginal Interest				Section 5(2)			Due Diligence						
	Fish (Fisheries Act)	Aquatic Species (SARA)	Birds (MBCA)	Health and Socio Economic	Physical and Cultural Heritage	Land use	HAPA * Significance	Health and Socio Economic	Physical and Cultural Heritage	HAPA * Significance	Water (ground, surface, drainage, etc.)	Wetlands	Terrestrial / Aquatic Species	Fish	Birds	Soil / Marine Sediments	Air Quality
Wharf Decommissioning – Chocolate Cove, Curry Cover and Richardson Wharf																	
Mobilization / demobilization of equipment	-	-	P	-	-	-	-	-	-	-	P	-	P	-	P	P	P
Removal of infrastructure	P	P	P	-	-	-	P	-	-	P	P	-	P	P	P	P	P
Shoreline stabilization	P	P	P	-	-	-	P	-	-	P	P	-	P	P	P	P	P
Off-site disposal of construction materials	-	-	P	-	-	-	-	-	-	-	P	-	P	-	P	P	P
Operation/Maintenance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<p><i>*structure, site or thing that is of historical, archaeological, paleontological or architectural significance</i></p> <p>P = possible interaction</p> <p>“-“ = no interaction</p> <p>“N/A” = not applicable</p>																	

Evaluation of Environmental Effects

The Valued Ecological Components (VECs) selected in Table 1 are addressed in Sections 22 and 23, below. The physical works/activities and required mitigation measures are detailed. The assessment is 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 described in Table 2 and used in Section 23.

Table 2: 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	Effects 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

Methodology

The environmental effects evaluation methodology used in this report focuses the evaluation on those environmental components of greatest concern. The 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.

Scoping

This environmental effects 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 impacts with mitigation.

22. Summary of Environmental Effects of the Project:

Potential Project/Environment Interactions and their effects are outlined below. The effects are described area included for each project site.

- Project activities may result in construction debris/material entering the marine environment.
- Activities may result in construction-related toxic materials affecting marine water and/or sediment quality.
- Potential adverse effects to migratory birds during site access.
- Potential for suspended solids/sediments and turbidity immediately adjacent to the project site affecting fish/fish habitat.
- Potential for introduction of invasive species into the marine environment.
- Potential discovery and disturbance or loss of heritage/archaeological resources.
- Interference with vessel movement in the vicinity of the harbour.
- Interference with commercial and recreational use of the harbour.
- Use of heavy machinery may cause short-term elevated noise levels and emissions at the site.
- Safety hazards to workers during construction.

Navigation Consideration:

Environmental effects of the project on navigation are taken into consideration as part of the Project Effects Determination (PED) only when the effects are indirect, i.e. resulting from a change in the environment affecting navigation. Direct effects on navigation are not considered in the PED, but any measures necessary to mitigate direct effects will be included as terms and conditions associated work approved or permitted pursuant to the *Navigation Protection Act*.

23. Summary of Mitigation Measures for Project:

<u>Potential Effect</u>	<u>Mitigation</u>
<p><u>Moderate, reversible, immediate</u> degradation of water quality occurring <u>once</u> and over the <u>short term</u>.</p>	<ul style="list-style-type: none"> • Waste materials are to be removed from site. Construction debris and waste materials will be disposed of in accordance with Provincial Waste Management Regulations (final decommissioning methods and disposal sites to be determined by the successful contractor(s)). Activities must be completed in such a way as to minimize the amount of fines and organic debris that may enter nearby aquatic environments. • Visual monitoring of the turbidity will be required on a daily basis in the vicinity of the project to ensure that the turbidity is limited. If excessive change occurs in the turbidity that differs from the existing conditions of the surrounding water body (i.e., distinct colour difference) as a result of the project activities, the work must stop immediately to determine if further mitigation measures are required. • Any equipment that has been in the marine environment will be cleaned of any sediments, plants or animal material and washed with freshwater and/or sprayed with undiluted vinegar prior to being mobilized to the project site. • Marine equipment may be inspected by PSPC or DFO to ensure invasive species are not introduced to the marine environment. • Heavy machinery will not be allowed in the water. Machinery shall be operated on land above the high water mark, in a manner that minimizes disturbance to the banks and bed of the waterbody. • Any construction debris/material that enters the marine environment will be removed immediately. Construction debris and waste materials will be disposed of in a provincially-approved manner (method of transport and disposal site to be determined by the successful contractor). • No construction or infill material may be obtained from any coastal feature, namely a beach, dune, or coastal wetland. • Construction waste or any miscellaneous unused materials must be recovered for either disposal in a designated facility or placed in storage. Under no circumstances will materials be deliberately thrown into the marine or terrestrial environment.
<p><u>Small, reversible, immediate</u> degradation of groundwater/marine water quality and fish/fish habitat occurring <u>once</u> over the <u>short-term</u>.</p>	<ul style="list-style-type: none"> • Machinery must be checked for leakage of lubricants and fuel. Appropriate petroleum spill clean-up equipment must be kept on-site for spills in the marine environment. All spills or leaks must be promptly contained, cleaned up, and reported to the 24-Hour Environmental Emergencies Report System (1-800-565-1633). • Hazardous materials (e.g., fuels, lubricants, hydraulic oil) and wastes (e.g., waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases. • Onsite crews must have emergency spill clean-up equipment, adequate for the activity involved, on-site. Spill equipment will include, as a minimum, at least one 250L (i.e., 55 gallon) overpak spill kit containing items to prevent a spill from spreading; absorbent booms, pillows, and mats; rubber gloves; and plastic disposal bags. All spills or leaks must be promptly contained, cleaned up, and reported to the 24-Hour Environmental Emergencies Report System (1-800-565-1633).

<p><u>Small, reversible, immediate</u> disturbance of birds/bird habitat <u>intermittently</u> over the <u>short-term</u>.</p>	<ul style="list-style-type: none"> • All vessels and machinery must be well muffled at all times. Contractors should avoid any sharp or loud noises (e.g., not blow horns or whistles) and should maintain constant noise levels. If necessary, trucks may be required to avoid the use of “hammer” braking along specific sections of the route, while radio communication should replace whistle blasts and horns. • Adherence to the regulations set out by the <i>Migratory Birds Convention Act</i>. • Contractors must ensure that food scraps and garbage are not left at the work site. • Concentrations of seabirds, waterfowl, or shorebirds must not be approached when accessing the project site by water, or when ferrying supplies. • All equipment must be maintained in proper running order to prevent leaking or spilling of potentially hazardous or toxic products. This includes hydraulic fluid, diesel, gasoline and other petroleum products. • Refueling operations will take place at least 30 metres from the harbour and the refueling will take place on a prepared impermeable surface with a collection system. • All equipment to be used in or over the marine environment is to be free from leaks or coating of hydrocarbon-based fluids and/or lubricants harmful to the environment. Hoses and tanks are to be inspected on a regular basis to prevent fractures and breaks. • Construction activities will be carried out during times acceptable to local authorities. • No work shall be undertaken at night, for safety purposes and to avoid attracting or distracting shorebirds. • Decommissioning activities shall be conducted outside of the breeding bird season, namely not before September 15th, to avoid impacting late-season nesting species.
<p><u>Moderate, irreversible, immediate</u> disruption or loss of heritage/archaeological resources <u>once</u> over the <u>short-term</u>.</p>	<ul style="list-style-type: none"> • All construction personnel will be responsible for reporting any unusual materials unearthed during project activities to the Construction Supervisor. • In those situations where the find is believed to be an archaeological resource, the Construction Supervisor will immediately stop work in the vicinity of the find and notify his/her immediate supervisor and the PSPC Project Manager. • Work in the area will be stopped immediately and an archaeological curator at the New Brunswick Department of Tourism, Culture and Heritage – Provincial Archaeological Services will be contacted at 506-453-2738. • Work can only resume in the vicinity of the find when authorized by the PSPC Project Manager and Construction Supervisor, after approval has been granted by the New Brunswick Department of Tourism, Culture and Heritage. • In the event of the discovery of human remains or evidence of burials, the excavation work will immediately cease and nearest law enforcement agency will be contacted immediately by the PSPC Project Manager and/or the Construction Supervisor.
<p><u>Small, reversible, immediate</u> disruption of commercial and recreational harbour use <u>intermittently</u> over the <u>short term</u>.</p>	<ul style="list-style-type: none"> • Construction material and debris shall not be permitted to become waterborne for the safety of other vessels. • Any tools, equipment, vehicles, temporary structures or parts thereof used or maintained for the purpose of decommissioning or placing a work in navigable water shall not be permitted to remain in place after the completion of the project.

	<ul style="list-style-type: none"> • Vessels shall be permitted safe access through the worksite at all times, and shall be assisted as necessary. • All materials and equipment used in construction must be marked in accordance with the Collision Regulations of the <i>Canada Shipping Act 2001</i>, when located on the waterway. • Advise the Canadian Coast Guard, Marine Communication and Traffic Services (MCTS) at (902) 564-7751 or toll free at 1-800-686-8676 sufficiently in advance of commencement of work or when deploying or removing site markings in order to allow for appropriate Notices to Shipping/Mariners action.
<p><u>Small, reversible, immediate</u> reduction in air quality due to noise and equipment emissions occurring <u>intermittently</u> over the <u>short term</u>.</p>	<ul style="list-style-type: none"> • Construction activities must be carried out during times acceptable to local authorities and smaller, less disturbing equipment will be used where possible. • Motorized equipment shall not be permitted to idle when not in operation. • The successful contractor shall be required to ensure that GHG emissions reductions are a consideration in their disposal plan for the material. • The project is anticipated to have a small, temporary net effect on GHG emissions in the region, for the duration of the project.
<p><u>Small, reversible, immediate</u> hazards to worker safety may occur intermittently over the short term.</p>	<ul style="list-style-type: none"> • Contractors shall ensure that all safety precautions, including staff training, shall be implemented during the project. • All appropriate safety measures will be incorporated in the work, as conditions require, including the use of tie-offs, personal protective equipment, and personal floatation devices.
<p><u>Significance of Adverse Environmental Effects:</u> Although the potential exists for short-term environmental effects during the project, the implementation of recommended mitigation measures will result in insignificant impacts. DFO concludes that this project will not likely contribute to significant adverse environmental effects, given that the project will result in a net increase in fish habitat, and provided that the above recommended mitigation measures are applied.</p>	
<p>24. Description of any Significant Adverse Environmental Effects of the project (after applying mitigation): Significant adverse environmental effects are unlikely, taking into account mitigation measures.</p>	
<p>25. Other Monitoring and Compliance Requirements (e.g. Fisheries Act or Species at Risk Act requirements): No additional monitoring or compliance requirements are necessary for the project.</p>	

CONCLUSION

26. Conclusion on Significance of Adverse Environmental Effects:

The Federal Authority has evaluated the project in accordance with Section 67 of *Canadian Environmental Assessment Act (CEAA), 2012*. On the basis of this evaluation, the department has determined that the project is not likely to cause significant adverse environmental effects with mitigation and therefore can proceed using mitigative measures as outlined.

27. Preparation and Approval of PED Document

Prepared by:



Date:

August 29, 2018

Name: Jonathan Burt

Title: Environmental Specialist, Roy Consultants (contract position with DFO-SCH)

Prepared by:



Date:

Aug 29/18

Name: Chyann Kirby

Title: Senior Environmental Specialist, PSPC

Approved by:



Date:

Aug 31/2018

Name: Patrick Mazerolle

Title: Senior Project Engineer, DFO-SCH

DECISION

28. Decision Taken

- The project is not likely to cause significant adverse environmental effects, and DFO may exercise its power, duty or function.
- The project is likely to cause significant adverse environmental effects, and DFO has decided not to exercise its power, duty or function.
- The project is likely to cause significant adverse environmental effects, and DFO will ask the Governor in Council to determine if the significant adverse environmental effects are justified in the circumstances.

Approved by:

Date:

Name: Patrick Mazerolle

Title: Senior Project Engineer, DFO-SCH

29. Transport Canada			
Project Title:	Chocolate Cove, Curry Cove and Richardson Wharf DFO-SCH Decommissioning		
TC File No.:			
NPP File No.:			
EED Decision:	<input type="checkbox"/> Taking into account the implementation of any mitigation measures that Transport Canada considers appropriate, the project is not likely to cause significant adverse environmental effects and, as such, Transport Canada may exercise any power or perform any duty or function that would permit the project to be carried out in whole or in part. <input type="checkbox"/> Taking into account the implementation of any mitigation measures that Transport Canada considers appropriate, the project is likely to cause significant adverse environmental effects that cannot be justified. As such, Transport Canada shall not exercise any power or perform any duty or function conferred on it by or under any Act of Parliament that would permit the project to be carried out in whole or in part, at this point in time. The project shall be referred to the Governor in Council to decide if those adverse environmental effects are justified under the circumstances pursuant to subsection 69(3) CEAA, 2012.		
Recommended by:			
Title:			
Signature:		Date:	
Mailing Address:			
Tel:		Fax:	
Email:			
Approved by:			
Title:			
Signature:		Date:	

30. References:

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APPENDIX A

Figures



Figure 1: Project Locations - Chocolate Cove and Richardson Wharf, Deer Island and Curry Cove, Campobello Island, New Brunswick



Figure 2: Project Locations - Chocolate Cove and Richardson Wharf, Deer Island and Curry Cove, Campobello Island, New Brunswick (Toporama©)



Figure 3: Aerial Photograph, Chocolate Cove DFO-SCH, Deer Island, New Brunswick (18-Nov-2017)

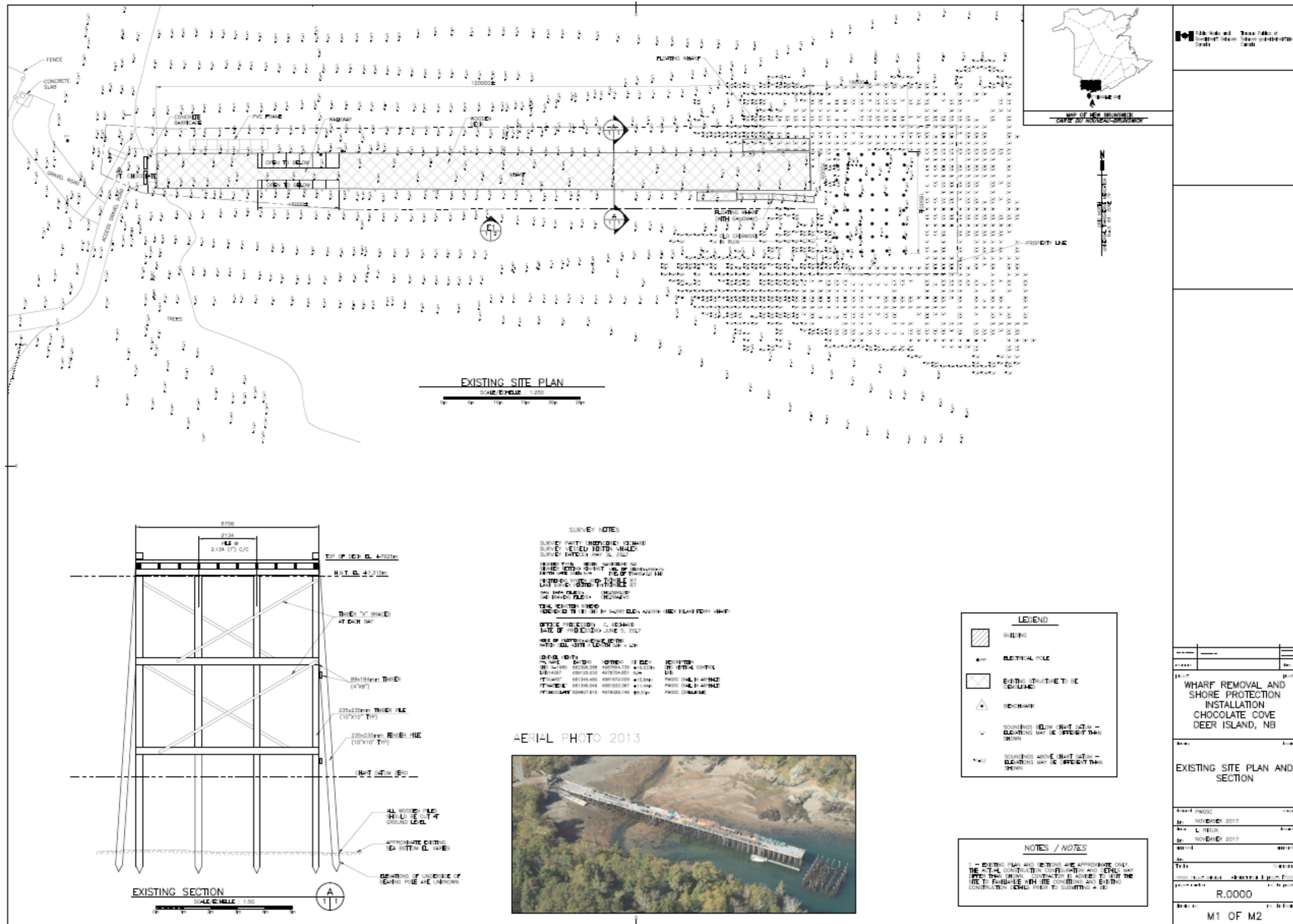


Figure 4: Site Plan of Wharf Decommissioning, Chocolate Cove DFO-SCH, Deer Island, New Brunswick



Figure 5: Aerial Photograph, Curry Cove DFO-SCH, Campobello Island, New Brunswick (18-Nov-2017)

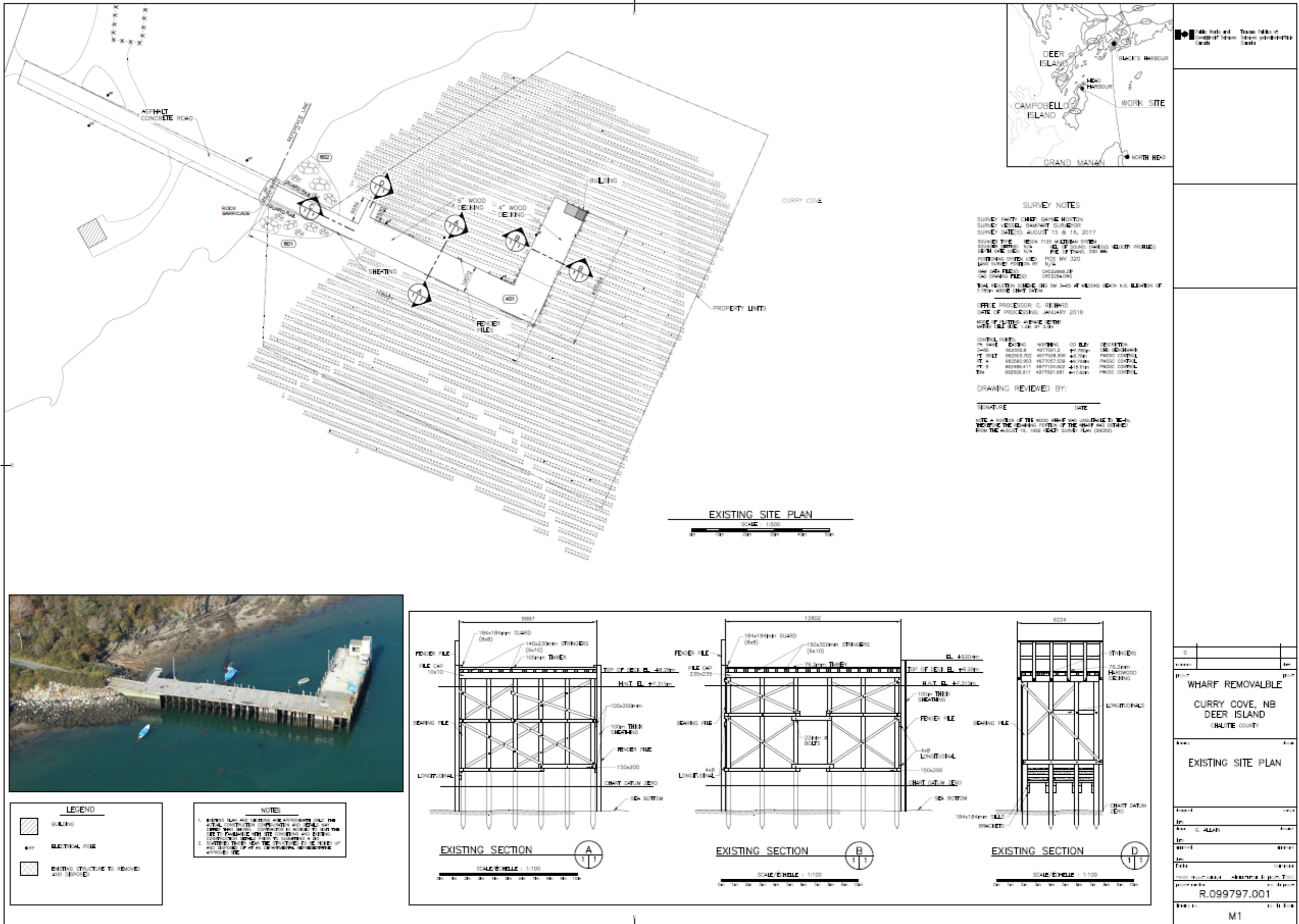


Figure 6: Site Plan of Wharf Decommissioning, Curry Cove DFO-SCH, Campobello Island, New Brunswick



Figure 7: Aerial Photograph, Richardson Wharf DFO-SCH, Deer Island, New Brunswick (18-Nov-2017)

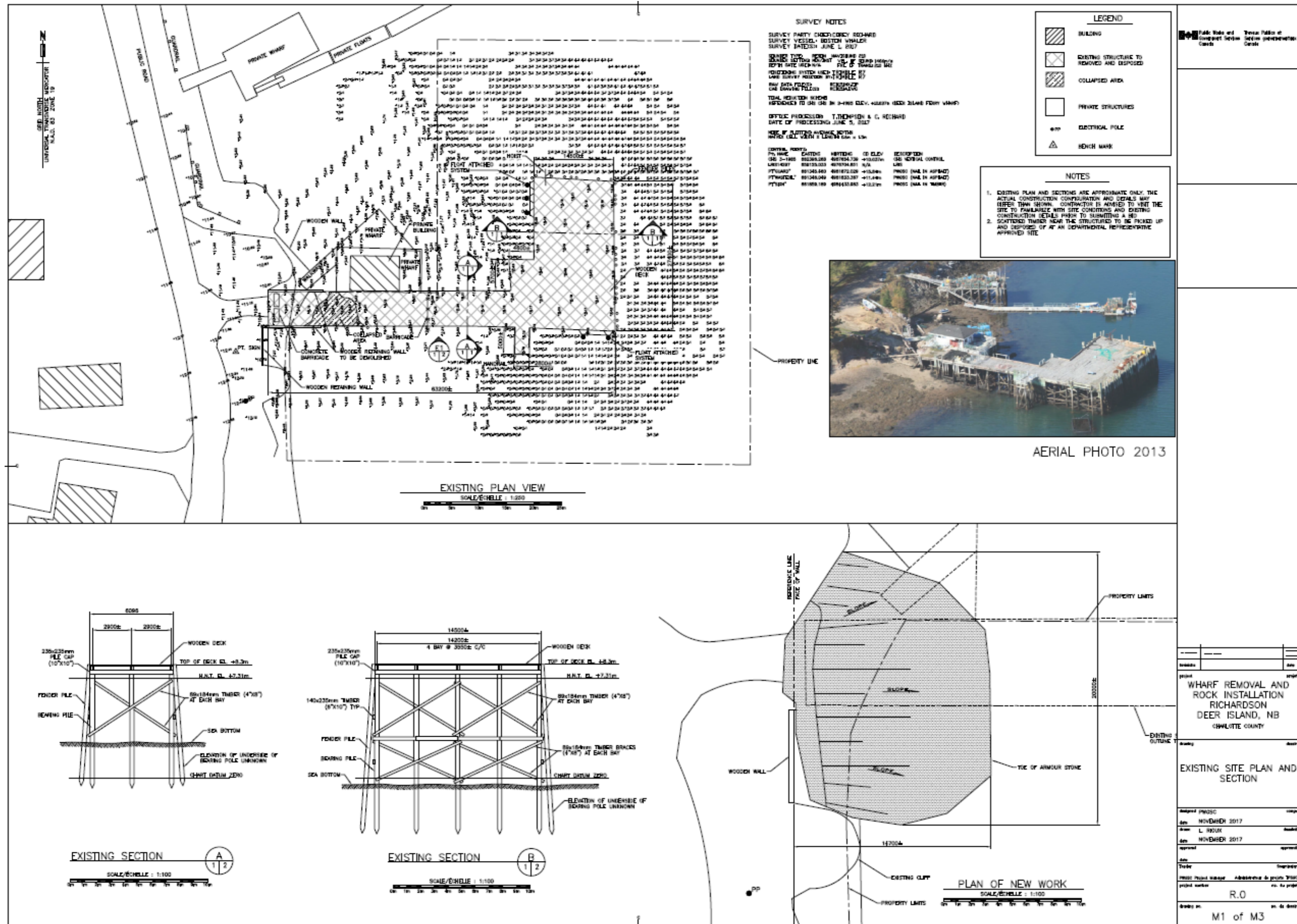


Figure 8: Site Plan of Wharf Decommissioning, Richardson Wharf DFO-SCH, Campobello Island, New Brunswick