BREAKWATER CONSTRUCTION
Barr'd Harbour
Newfoundland and Labrador

Environmental Registration Document

Submitted to the Government of Newfoundland and Labrador
Department of Environment, Climate Change and Municipalities
Environmental Assessment Division

Prepared For: Fisheries and Oceans Canada, Small Craft Harbours (SCH)

Prepared By: Tara Wight, Regional Environmental Advisor, SCH

Date: April 19, 2022

TABLE OF CONTENTS

PAGE

LIST OF TABLES

LIST OF APPENDICES

1.0 NAME OF UNDERTAKING

Breakwater Construction, Barr'd Harbour, Newfoundland and Labrador (NL).

2.0 PROPONENT

I. Department of Fisheries and Oceans Canada
Small Craft Harbours (DFO-SCH)

II. Northwest Atlantic Fisheries Center
80 East White Hills Road
St. John's, NL
A1C 5X1

III. Paul Curran
Regional Engineer
DFO-SCH
80 East White Hills Road
St. John's, NL
A1C 5X1
Phone: (709) 764-5790
E-mail: paul.curran@dfo-mpo.gc.ca

IV. Tara Wight
Regional Environmental Advisor
DFO-SCH
80 East White Hills Road
St. John's, NL
A1C 5X1
Phone: (709) 689-7054
E-mail: tara.wight@dfo-mpo.gc.ca

3.0 THE UNDERTAKING

3.1 Name of the Undertaking

Breakwater Construction, Barr'd Harbour, NL

3.2 Purpose/Rationale/Need for the Undertaking

The proposed project will involve the construction of a breakwater which will provide protection to the north face of an existing wharf. The breakwater will be constructed on a shoal which is mostly above Low Natural Tide (LNT). An area adjacent to the breakwater will also be graded to provide safe vehicle access for launching small vessels into deep waters.

This project is designed to provide further protection to the existing SCH wharf facility and to meet the needs of the current users. As the marine environment surrounding the project site is known to experience strong wave action and heavy ice accumulation, a breakwater will be constructed

on the north face of the new wharf infrastructure to ensure structural longevity and safe use of the facility. Completion of this work will ensure that fishers have safe berthing and offloading facilities within the harbour.

4.0 DESCRIPTION OF THE UNDERTAKING

The scope of work for this project involves the construction of a rubble mound breakwater measuring approximately 130 m long by 20 m wide, with a footprint of 2290 m^2 entirely below the high water mark. Where this breakwater is to be constructed on a shoal, there is a footprint of only 155 m^2 below LNT. There is also an area between the breakwater and the wharf that will be graded and built up to 1.0 m above LNT with 100 mm minus rock. This infill area is entirely below the high water mark with a footprint of approximately 1940 m^2. The project will be carried out using heavy equipment. The work will likely be done using excavators, dump trucks, cranes, barges and loaders.

The proposed project is intended for the protection of an already existing wharf structure, therefore, alternative locations were not considered.

4.1 Geographical Location

The Project site is located within the community of Barr'd Harbour approximately 17 km Northeast of Port Aux Choix on the Viking Trail (Route 430). The Barr'd Harbour SCH facility is located at coordinates 50° 49' 1.16" N, 57° 3' 49.41" W (Appendix A, Figure 3). The site is accessible taking the Barr'd Harbour exit off the Viking Trail (Appendix A, Figure 1).

4.2 Physical Features

The existing SCH facility includes a finger pier wharf and a small gravel parking area inside the wharf (Appendix A, Photos 1 & 2). To the south is an existing breakwater running parallel with the wharf. Adjacent to the SCH wharf is a private storage shed and timber wharf. There are several private cabins and sheds along the shoreline and a few residences nearby. The project site will be accessed using an existing paved road. A small temporary access road will be required to access the shoal area and a small laydown area will be required for equipment. Construction of the breakwater will take place along the north side wharf. The total area effected by the undertaking (new footprint) is estimated at 4,738 m^2. Project footprint and boundaries are outlined in Appendix A, Photo 3.

4.2.1 Physical and Biological Environment

4.2.1.1 Physical

The project site is located in the Northern Peninsula Forest ecoregion and the areas belongs to the Coastal Plain subregion which covers 2,246.6 km^2 of the coastal area along the Northern Peninsula on the island of Newfoundland. This subregion occurs on the west side of the Great Northern Peninsula along the coast from Bonne Bay (south) to Hawkes Bay (north). This long narrow stretch of land separates the Gulf of St. Lawrence from the interior highland plateau. The

coastline here was greatly influenced by glacial activity. The population of the ecoregion is approximately 13,000.

The underlying bedrock in this subregion is limestone and dolostone dating back to late Cambrian era some 510 million years ago. Rocky areas are made up of sandstone, shale, limestone, limestone conglomerates, and boulders with gneiss occurring in some areas to the east.

The shoreline at the project site is characterized by exposed bedrock with intermittent areas of pebble-cobble and sand material. Elevations in this ecoregion range from sea level to about 200 m above sea level.

The maritime effect of the Atlantic Ocean is felt along the coast. Spring is typically delayed by sea ice and fog occurs throughout the entire year. Environment and Climate Change Canada (ECCC) Canadian Climate Normals (1981-2010) for the nearest weather station, Port Saunders (50° 39'N, 57° 12'W), indicates that the project area receives an average of 711.8 mm of rain and 434.4 cm of snow annually. Extreme precipitation events of up to 73.2 mm and extreme snow depths of 373 cm have been recorded. Temperatures range from an extreme minimum of -37.5°C to an extreme maximum of 28.5°C. The daily average temperature for the Port Saunders weather station is 2.4°C.

This subregion is only partially forested where large portions are covered by low lying plateau bogs containing predominantly caribou lichen and heath moss. Northern coastal areas are distinguished by limestone barrens. Forested areas occur on slopes leading to the Long Range Mountains, to the south near the Western Newfoundland Forest ecoregion and on a glacial till near Hawkes Bay. These mainly coniferous forests are predominantly balsam fir with black spruce, willow and alder.

The immediate upland area of the project site is gently sloped and sparsely vegetated with grass and shrubs, although tree vegetation is present just inland (Appendix A, Photos 1 & 2).

Common mammals found in this subregion include moose, lynx, snowshoe hare, black bear, red fox, beaver, muskrat, otter and caribou.

Many birds typical of boreal forests can be found here including the following: ruffed grouse, boreal chickadee, ruby-crowned kinglet, fox sparrow, white-winged crossbill, yellow-bellied flycatcher, hermit thrush, blackpoll warbler, northern waterthrush, black-capped chickadee, willow ptarmigan, song sparrow, mourning warbler, white-throated sparrow, Wilson's warbler, yellow warbler, American bittern, short- eared owl, and Lincoln's sparrow. Canada Geese nest in coastal bogs and stage here during fall migrations. The Harlequin duck breeds in this subregion in the upper reached of rivers.

Fish occurring in the rivers and lakes of this ecoregion include threespined stickleback, ninespined stickleback, Atlantic salmon, brook trout, brown trout, rainbow smelt, and American eel (Parks NL, 2008).

.

4.2.1.2 Biological

According to the 'Great Northern Peninsula and Southern Labrador - Atlas of Significant Coastal and Marine Areas', the project location is an important spawning/feeding area for Atlantic herring.

The presence of marine plants, islands and subtidal ledges provides significant habitat for lobster. The project location is important staging/nesting area for migrating waterfowl and seabirds.

A search of the Atlantic Canada Conservation Data Centre (ACCDC) database was conducted on February 15, 2022 that produced a list of rare / unique species (i.e., plants and animals) observed within a 5 km buffer zone (standard ACCDC procedure) of the site of the proposed work. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA). Results showed the Harlequin Duck (*Histrionicus histrionicus*) and Fernald's Milk-Vetch (*Astragalus robbinsii var. fernaldii*) species were observed within this buffer (Table 4.1).

A search of the Government of Canada Open Maps database was conducted on February 15, 2022 that produced a list of rare/unique species (i.e., plants and animals) with distribution ranges near the site of the proposed work. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA). Results showed the following Schedule 1 Species at Risk with distribution ranges that are within 5 km of the project site: Fernald's Milk-vetch (*Astragalus robbinsii var. fernaldii*), Red Crossbill (*Loxia curvirostra percna*), Short-eared Owl (*Asio flammeus*), Porsild's Bryum (*Haplodontium macrocarpum*), Olive–sided Flycatcher (*Contopus cooperi*), Rusty Blackbird (*Euphagus carolinus*), Bank Swallow *(Riparia riparia*), Caribou - Newfoundland population (*Rangifer tarandus*), Griscom's Arnica (*Arnica griscomii ssp. griscomii*) and Gypsy Cuckoo Bumble Bee (*Bombus bohemicus*) (Table 4.2).

A search of the DFO Aquatic Species at Risk database was conducted on February 15, 2022 which produced a list of aquatic species at risk and the presence of their critical habitat potentially found within a 1km buffer (standard NASAR procedure) of the site of the proposed work. Results showed that the project site is within the distribution range of the following aquatic species at risk: Fin Whale (*Balaenoptera physalus*), Blue Whale (*Balaenoptera musculus*), Spotted Wolffish (*Anarhichas minor*), North Atlantic Right Whale (*Eubalaena glacialis*), Leatherback Sea Turtle (*Dermochelys coriacea*), White Shark (*Carcharodon carcharias*) and Northern Wolffish (*Anarhichas denticulatus*) (Table 4.3).

Table 4.1 Species at Risk Observed within 5km of the Project Site

Common Name	Scientific Name	Provincial Ranking	COSEWIC Ranking	SARA Ranking
Harlequin Duck	*Histrionicus histrionicus*	Vulnerable	Special Concern	Special Concern
Fernald's Milk-Vetch	*Astragalus robbinsii var. fernaldii*	Vulnerable	Special Concern	Special Concern

Table 4.2 Species at Risk Distribution Ranges within 5km of the Project Site

Common Name	Scientific Name	Provincial Ranking	COSEWIC Ranking	SARA Ranking

Fernald's Milk-Vetch	*Astragalus robbinsii var. fernaldii*	Vulnerable	Special Concern	Special Concern
Red Crossbill	*Loxia curvirostra percna*	Endangered	Threatened	Threatened
Short-eared Owl	*Asio flammeus*	Vulnerable	Special Concern	Special Concern
Porsild's Bryum	*Haplodontium macrocarpum*	Endangered	Threatened	Threatened
Bank Swallow	*Riparia riparia*	Unranked	Threatened	Threatened
Gypsy Cuckoo Bumble Bee	*Bombus bohemicus*	SNR (unranked)	Endangered	Endangered
Olive Sided Flycatcher	*Contopus cooperi*	Threatened	Special Concern	Threatened
Rusty Blackbird	*Euphagus carolinus*	Vulnerable	Special Concern	Special Concern
Caribou - Newfoundland population	*Rangifer tarandus*	Not at Risk	Special Concern	Special Concern
Griscom's Arnica	*Arnica griscomii ssp. griscomii*	Endangered	Threatened	Threatened

Table 4.3 Aquatic Species at Risk Distribution Ranges within 1km of the Project Site

Common Name	Scientific Name	COSEWIC/SARA Ranking
Fin Whale	*Balaenoptera physalus*	Special Concern
Blue Whale	*Balaenoptera musculus*	Endangered
Spotted Wolffish	*Anarhichas minor*	Threatened
North Atlantic Right Whale	*Eubalaena glacialis*	Endangered
Leatherback Sea Turtle	*Dermochelys coriacea*	Endangered
White Shark	*Carcharodon carcharias*	Endangered
Northern Wolffish	*Anarhichas denticulatus*	Threatened

4.3 Construction

Commencement of this project is subject to DFO-SCH operational priorities and funding. Construction of the breakwater is expected to require approximately 16 weeks to complete. The first physical construction on site is expected to commence in early summer 2022.

Construction activities will include:

- Construction of a temporary access road.
- Establishing a temporary equipment lay-down area in the uplands grassy areas.
- Transporting tools and equipment to the project site using local roads and access.
- Infilling and grading a shoal area.
- Construction of a breakwater in the marine environment.

The most probable sources of potential pollutants are related to the use of equipment. Accidental spills of equipment fuel/oil, sedimentation from disturbances to shoreline areas and establishment of laydown area are also a possibility. Other sources of potential pollutants include domestic waste from work crews.

The project will be assessed pursuant to Section 82 of the *Impact Assessment Act*. All mitigations prescribed as part of that process will be implemented during project activities. The following mitigation measures will also be utilized to minimize potential interactions with the environment:

Fish / Fish Habitat and Water

- A Request for Review for the project will be submitted to Fisheries and Oceans Canada, Fisheries Protection Program.
- Minimize duration of in-water work. Limit the duration of in-water works to only activity related to the above noted project elements so that it does not diminish the ability of fish to carry out one or more of their life processes (spawning, rearing, feeding, migrating),
- Conduct in-water undertakings and activities during periods of low tide and low wind/wave conditions.
- Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment.
- No temporary or permanent increase in the designed footprint below the high water mark.
- Operate machinery on land in stable dry areas, or from stable floating platforms.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.
- Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals do not enter the watercourse.
- All materials placed in or near water should be clean and free of fines, concrete or any other deleterious substance and of sufficient size to resist displacement by wave action.
- Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance and keep an emergency spill kit on site.

- Ensure that building material used in the watercourse has been handled and treated in a manner to prevent the release of leaching of substances into the water that may be deleterious to fish.
- Implement erosion and sediment control measures (sediment booms/bubble curtains) for the site that minimizes risk of sedimentation of the waterbody during all phases of the project.
- When works are completed, shoreline and approaches should be restored to original condition.
- Be aware of AIS species in the area and take precautions with respect to any vessel traffic and gear movement between affected and unaffected areas to prevent introductions and spread (https://www.dfo-mpo.gc.ca/species-especes/ais-eae/index-eng.html):
    - All equipment used in water should be cleaned, drained and dried on land before and after use for the purposes of preventing the introduction or spread of aquatic invasive/non-indigenous species; and
    - Report any AIS and non-indigenous species to DFO at 1-855-862-1815 or AISEAE.XNFL@dfo-mpo.gc.ca.

Wildlife

- There is a zero tolerance policy regarding the harassment, disturbance, and feeding of wildlife whilst working on the project.
- Speed limits will be implemented to minimize negative effects to wildlife.
- All vehicles and heavy equipment will yield the right-of-way to wildlife and adhere to construction site speed limits.
- Equipment will be muffled to reduce sensory disturbance, to the extent possible.
- Project personnel will receive training or be provided training material to minimize negative effects to wildlife.
- All activities will be restricted to the proposed footprint of the site to avoid further habitat disturbance.
- Only the proposed access roads will be utilized for construction and operations. No additional access roads will be developed.
- Work site boundaries will be fenced off to prevent inadvertent loss or alteration of habitat outside of the project footprint and fenced to deter wildlife from entering the site, minimizing human-wildlife interactions.
- If there are large flocks of marine or migratory birds near the project during sound producing activities work may need to be paused to allow birds to resume normal activity if birds continually flush or appear agitated by the activities.
- Through site induction and toolbox sessions, project personnel will be educated on the wildlife (particularly species at risk) expected to occur in the area as outlined in the project Significance of Environmental Effects Determination (SEED) document.

- All vehicles on site, when not in use, must be locked and all windows must be closed.

Species at Risk

- All work to be conducted in accordance with the *Species at Risk Act*, which outlines that no protected species, their residence and critical habitat be moved or obstructed during the construction or operation phase of the project.
- Species listed under the *Species at Risk Act* shall not be approached throughout the construction or operation phase of the project.
- All construction materials shall be removed from the site upon project completion.
- If species at risk are reported, contractor will consult with the SCH Project Manager and determine potential impacts to species at risk as well as perform any modifications to construction activities that may be required to protect species at risk.

Birds (including MBCA) and Bird Habitat

- The contractor is responsible to ensure a spill kit is on site. Equipment within the spill kit should be adequate for the proposed project. In case of a spill, the contractor should contact Environment Canada at 1-800-563-9089.
- All construction equipment must be fitted with standard and well maintained noise suppression devices. Appropriate dust suppression methods are to be employed when required. Air filters should be used to minimize exhaust emissions.
- Vegetation removal should be avoided or kept to a minimum.
- Migratory birds, their eggs, nests and young are protected under the MBCA. All work to be conducted in accordance with the Migratory Birds Convention Act (MBCA), which outlines that no migratory bird nests or eggs will be moved or obstructed during the construction or operation phase of the project. It is recommended that vegetation clearing not take place during the breeding season until fledglings have left parental territories.
- Concentrations of seabirds, waterfowl, or shorebirds shall not be approached when anchoring equipment, accessing wharves, or ferrying supplies.
- All construction materials shall be removed from the site upon project completion.

Soil (surface and subsurface)

- Work should be scheduled to avoid periods of heavy precipitation. Erosion control structures (temporary matting, geotextile filter fabric) are to be used, as appropriate, to prevent erosion runoff or sediment laden water during the construction phase.
- All wastes must be recycled where possible or otherwise disposed of appropriately.
- Fill material is to be free of contaminants and from an approved quarry site.
- Machinery must be checked for leakage of lubricants or fuel and must be in good working order. Refueling must be done at least 100 m from any waterbody. Basic petroleum spill cleanup equipment should be on site. All spills or leaks should be promptly contained, cleaned up and reported to the 24 hour environmental emergencies reporting system (1-800-563-9089).

- Containers of petroleum products or chemicals that may be required on site will be tightly sealed against corrosion and rust, and surrounded by an impermeable barrier in a dry, water-tight building or shed with an impermeable floor.
- Waste oils and used lubricating oil will be retained in a tank or closed container and disposed of by a company licensed for handling and disposing of used oil products.
- Mechanical inspections will be conducted routinely on equipment to search for leaks. Leaks will be repaired immediately.

Water and Aquatic Species and Habitat

- Reduce duration of in-water work wherever possible.
- Construction activities that involve in-water work will be conducted during periods of low flow, or at low tide, to further reduce the potential for effects on water quality.
- Erosion and sediment control measures (sediment booms/bubble curtains) will be implemented to minimize the risk of sedimentation to the marine environment.
- Construction material and debris are not to become waterborne. Do not dispose of any materials or waste into marine environment.
- Any hazardous materials produced as a result of this project are to be transported off-site for disposal/treatment at an approved waste handling facility, pursuant to applicable provincial and federal regulations/legislation.
- 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.
- On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 liters (L).
- All materials placed in or near water should be clean and free of fines or any other deleterious substance and of sufficient size to resist displacement by wave action. Dredge material may be re-used for the laydown area provided it is placed/capped within a rock berm to avoid sedimentation.
- Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment.
- When works are completed, shoreline and approaches should be restored to original condition.

Vegetation

- Disturbed areas will be restored through manual re-seeding.
- Construction fencing will be placed on site to avoid any disturbance to adjacent vegetated areas outside of the proposed project footprint.
- No works or disturbances are to occur in vegetated areas outside the proposed project footprint.

- Vehicles and machinery are in good working and clean condition, and are maintained free of fluid leaks, invasive species and noxious weeds.

Air Quality and Sensory Disturbance

- All construction equipment must be fitted with standard and well maintained noise suppression devices. Appropriate dust suppression methods are to be employed when required. Air filters should be sued to minimize exhaust emissions.
- Construction equipment will be turned off when not in use, where practical, to minimize idling.
- Project activities must be carried out during times acceptable to local authorities and smaller, less disruptive equipment will be used where possible.

Health, Social or Economic Conditions

- Site access must be restricted to authorized personnel only.
- Project employees will be equipped with the proper Personal Protective Equipment for Project tasks, and work will comply with provincial occupational health and safety regulations.
- Develop a response plan that is to be implemented in the event of an accidental sediment release or spill of a deleterious substance and keep an emergency spill kit on site with staff trained in its use.
- On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 litres (L).
- Weather conditions are to be assessed on a daily basis to determine the risk of extreme weather in the project area. Avoid work during periods which Environment and Climate Change Canada has issued rainfall or wave warning for the work area. .

4.4 Operation

The new breakwater will protect the wharf being used by local and transient fishers and recreational boaters for berthing and offloading. The facility will be overseen by a DFO-SCH Area Manager and managed, operated and maintained by the Harbour Authority of St. John Bay (not-for profit).

Routine maintenance and repair projects will be carried out by DFO-SCH on an as-required basis over the estimated life of the new infrastructure (breakwater = 75yrs.).

Reasonably foreseeable pollutants occurring during the operational phase of the proposed project are limited to accidental discharges of fuel or oil and solid waste disposal. DFO-SCH's Environmental Management Plan (EMP) and site-specific Emergency Response Plans cover operational aspects of environmental management at SCH facilities and constitute the basis for the environmentally responsible management of harbour operations (i.e., fuelling, waste disposal,

activities at the property and on the water). The proposed physical works will adhere to these environmental management standards established by DFO-SCH.

Potential resource conflicts are not anticipated as a result of the operation of the proposed project.

4.5 Occupations

All construction work will be carried out by a successful contractor overseen by DFO-SCH. Contract work is expected to take approximately 4 months to complete beginning summer 2022 (pending funding and approvals). Approximately 13 contract employees and 3 DFO-SCH employees will be required for construction and project management of the DFO-SCH facility at Barr'd Harbour. The project will be operated by DFO-SCH staff with on site representation and volunteer management support from the local Harbour Authority of St. John Bay.

The following list[1] outlines occupations which may be employed during the design and construction period:

1 - Project Manager – 0711 - Contractor/Construction

1 - Office Administrator – 1221 - Contractor/Construction

1 - Project Supervisor/Foreman – 7302 - Contractor/Construction

1 - OHS Representative – 2263 - Contractor/Construction

1 - Laborers – 7611 - Contractor/Construction

1 - Surveyor – 2154 - Contractor/Construction

6 – Equipment Operator – 7521 - Contractor/Construction

1 - Site Inspector – 2264 - Construction

1 - Professional Engineer – 0211 - Entire Project

1 - Engineering Technologist – 2231 - Construction Design (Engineering)

1 - Office Administrator – 1221 - Entire Project (Engineering)

1 - This list represents only an approximation of the number and type of occupations that may be produced as a result of the proposed project. Actual occupations created as a result of the proposed project will ultimately be determined by the successful contractor. Occupations are expected to be comparable to those created for similar construction projects throughout the Province.

4.6 Project Related Documents

Project-related documents already generated by or for the proponent are as follows:

- Significance of Environmental Effects Determination (*Draft* SEED) (IAA)
- DFO Standard Operating Procedure – Migratory Birds
- DFO Standard Operating Procedure – Bank Swallow
- Permits and Approvals listed in Section 5.0 of this document.

5.0 APPROVAL OF THE UNDERTAKING

Table 5.1 is a list of the expected permits and approvals required for this project.

Table 5.1 Expected Permits and Regulatory Authorities

Approvals/ Permits	Regulatory Authority
NL Environmental Assessment Registration [2]	NL Department of Environment, Climate Change and Municipalities, Environmental Assessment Division
DFO - Request for Review [3]	DFO, Fish and Fish Habitat Protection Program
Permit to Alter a Body of Water [4]	NL Department of Environment, Climate Change and Municipalities, Water Resources Division
Approval under *Canadian Navigable Waters Act* [5]	Transport Canada, Navigation Protection Program
Canadian Impact Assessment Act Registration [6]	Impact Assessment Agency of Canada

Notes:
2 - This document; provincial permits are expected to be issued following release from further environmental assessment.
3 - A Letter of Advice was received from DFO Fish and Fish Habitat Protection Program on February 25, 2022.
4 - DFO-SCH will be applying for a Section 48 Permit to Alter a Body of Water from the Province.
5 - As per the *Canadian Navigable Waters Act* (CNWA) for Works on non-scheduled waters, this project was posted to the CNWA Public Registry and in the community of Barr'd Harbour on March 15, 2022 for a 30 day period.
6 - This project was posted on the public *Impact Assessment Act* Registry on February 17, 2022 for a 30 day comment period.

6.0 ABORIGINAL CONSULTATION

PSPC and Transport Canada carried out an Indigenous Assessment on behalf of DFO-SCH at Barr'd Harbour SCH in accordance with DFO-SCH's Preliminary Duty to Consult Assessment Guide. This Guide is intended to provide basic information to DFO-SCH 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 Indigenous 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 Indigenous 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 Indigenous or treaty rights.
3. The potential or established Indigenous or treaty rights may be adversely impacted by the Crown.

Based on a preliminary assessment conducted by PSPC, on behalf of DFO-SCH and in conjunction with Transport Canada, the legal duty to consult does not exist in this case as; the

Crown does not have knowledge of potential or established Indigenous or treaty rights in the Barr'd Harbour area; and there are no potential or established Indigenous or treaty rights that may be adversely impacted by the Crown in completing the Barr'd Harbour project.

Given the small scale, the temporal and spatial bounds and the current environmental setting of the proposed works, Indigenous Knowledge was not sought for this project.

A contractor will be awarded the work through a federal contract bidding process with no discrimination to gender, race or age.

7.0 SCHEDULE

The proposed project is expected to commence in summer 2022 and construction would occur over a 16 week period. This date has been chosen in order to successfully complete the project within the allocated DFO-SCH funding window.

8.0 FUNDING

The total cost estimate for all phases of the proposed project, as provided by the proponent, is approximately **$600,000** dollars (Canadian). Funds will be provided by Small Craft Harbours, Fisheries and Oceans Canada.

9.0 REFERENCES

Environment and Climate Change Canada (ECCC). 2022. Canadian Climate Normals 1981-2010. Cow Head Climate Station, Newfoundland and Labrador. Accessed March 31, 2022. Canadian Climate Normals 1981-2010 Station Data - Climate - Environment and Climate Change Canada (weather.gc.ca)

Government of Canada, 2022. Species at Risk Public Registry. Species Search. Accessed March 31, 2022. Aquatic species at risk map (dfo-mpo.gc.ca)

Important Bird Areas Canada (2022) Map Viewer. Accessed March 31, 2022. http://www.ibacanada.ca/mapviewer.jsp?lang=en

Government of Newfoundland and Labrador. 2008. Parks NL: Northern Peninsula Forest – Coastal Plain subregion 4A. Accessed March 31, 2022. Island_4a_coastal_plain -Nov 2008.cdr (gov.nl.ca)

Government of Newfoundland and Labrador. 2006. Department of Environment and Conservation – Wildlife Division: Endangered Species and Biodiversity – Fernald's milk-vetch. Accessed April 12, 2022. wildlife-endangeredspecies-fernalds-milk-vetch-information-sheet.pdf (gov.nl.ca)

Government of Newfoundland and Labrador. 2006. Department of Environment and Conservation – Management Plan for Fernald's Milk-vetch in Newfoundland and Labrador. Accessed April 12, 2022. https://www.gov.nl.ca/ffa/files/wildlife-endangeredspecies-fernalds-milkvetch-management-plan.pdf

10.0 SIGNATURES

Wight, Tara

Digitally signed by Wight, Tara
DN: C=CA, O=GC, OU=DFO-MPO, CN="Wight, Tara"
Reason: I am the author of this document
Location: DFO-SCH NL
Date: 2022.04.19 08:38:58-02'30'
Foxit PhantomPDF Version: 10.1.4

Environmental Assessment Representative

Date

APPENDIX A
Project Location Maps and Site Photos

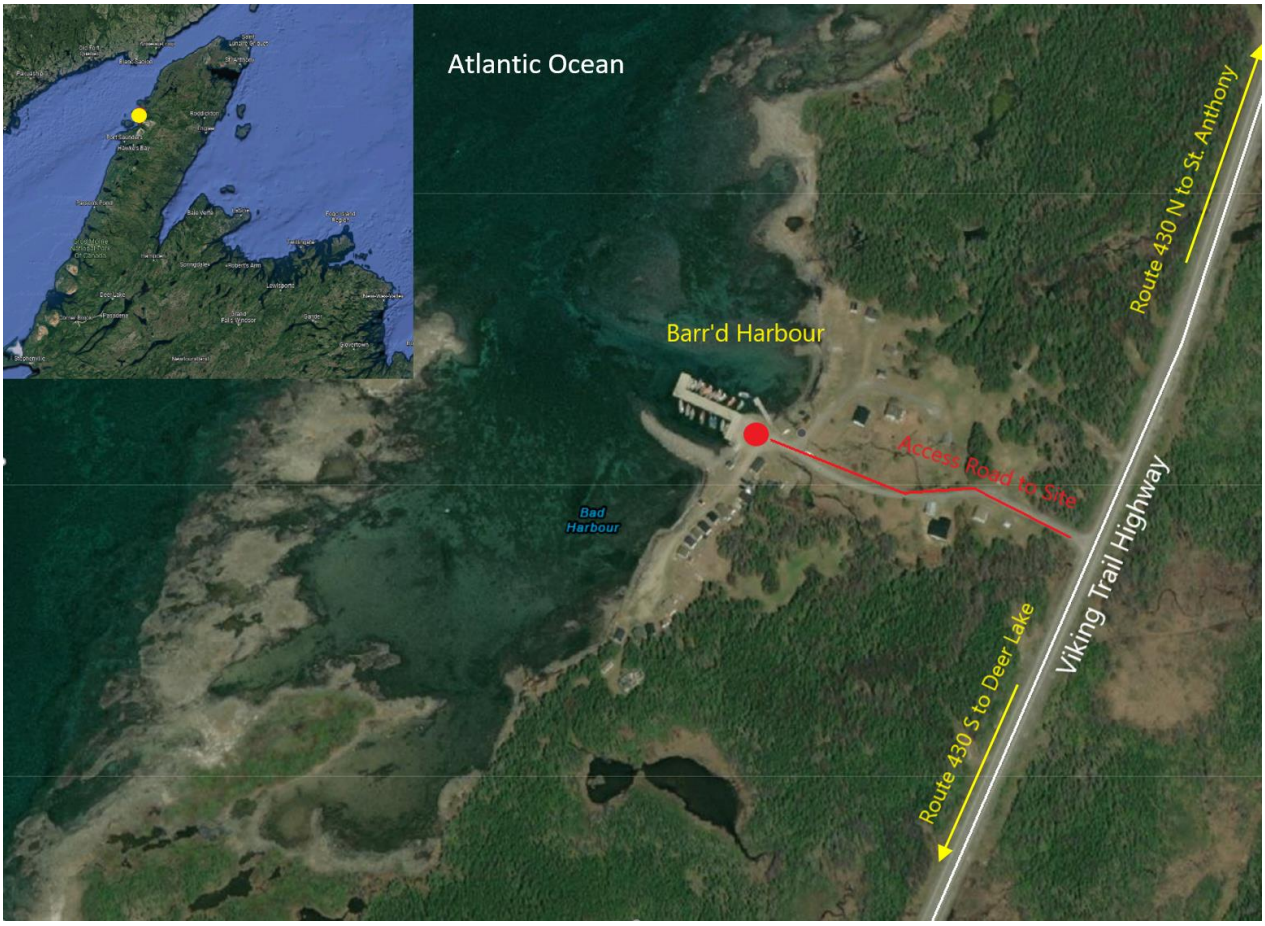


Figure 1. Project Location and Access Route

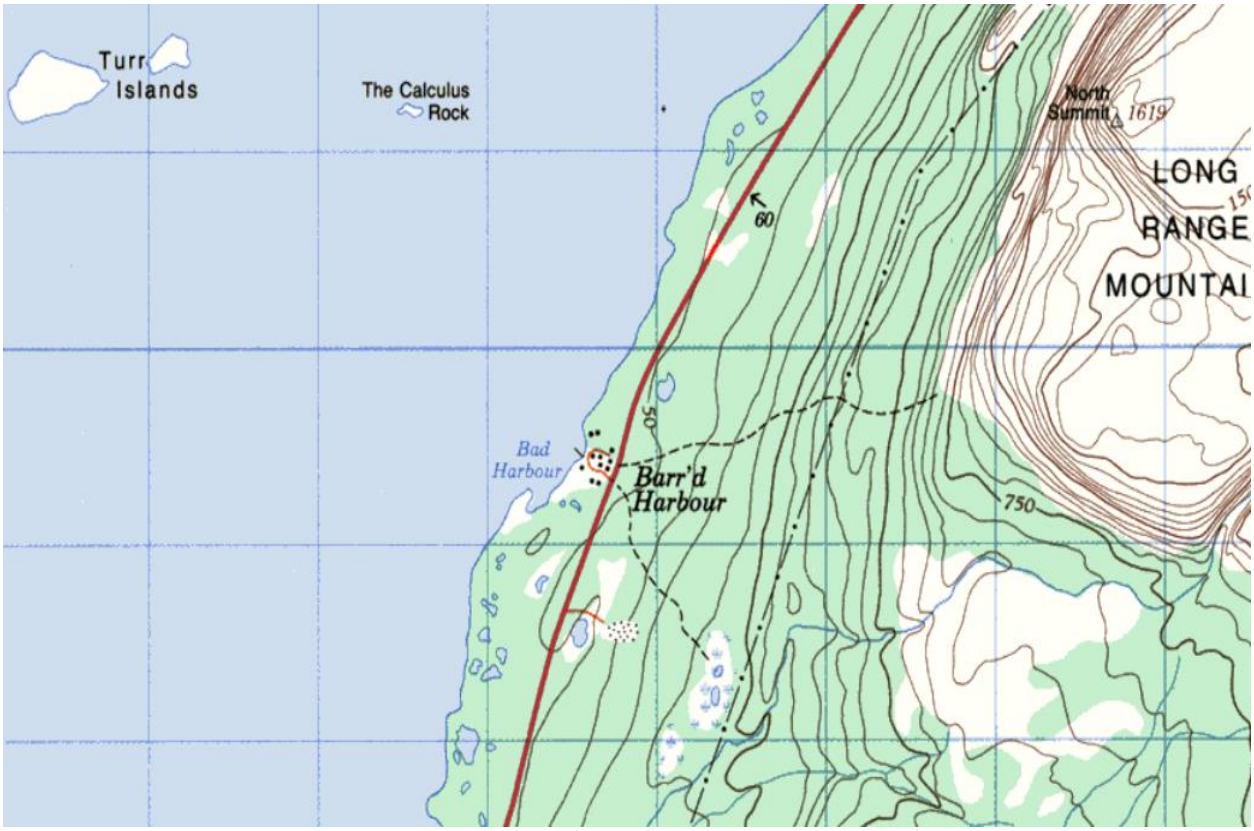


Figure 3. Topographic Map of Project Area

Photos 1 & 2. Aerial Photos of the Project Location

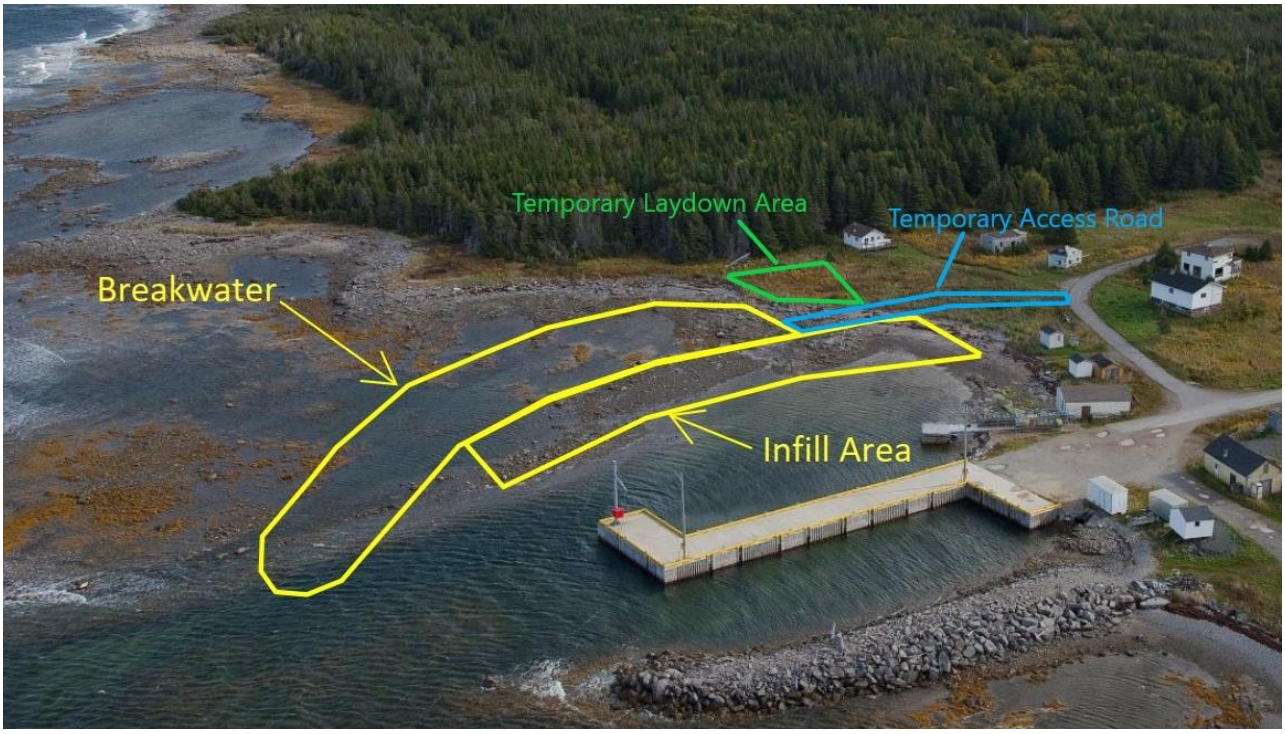
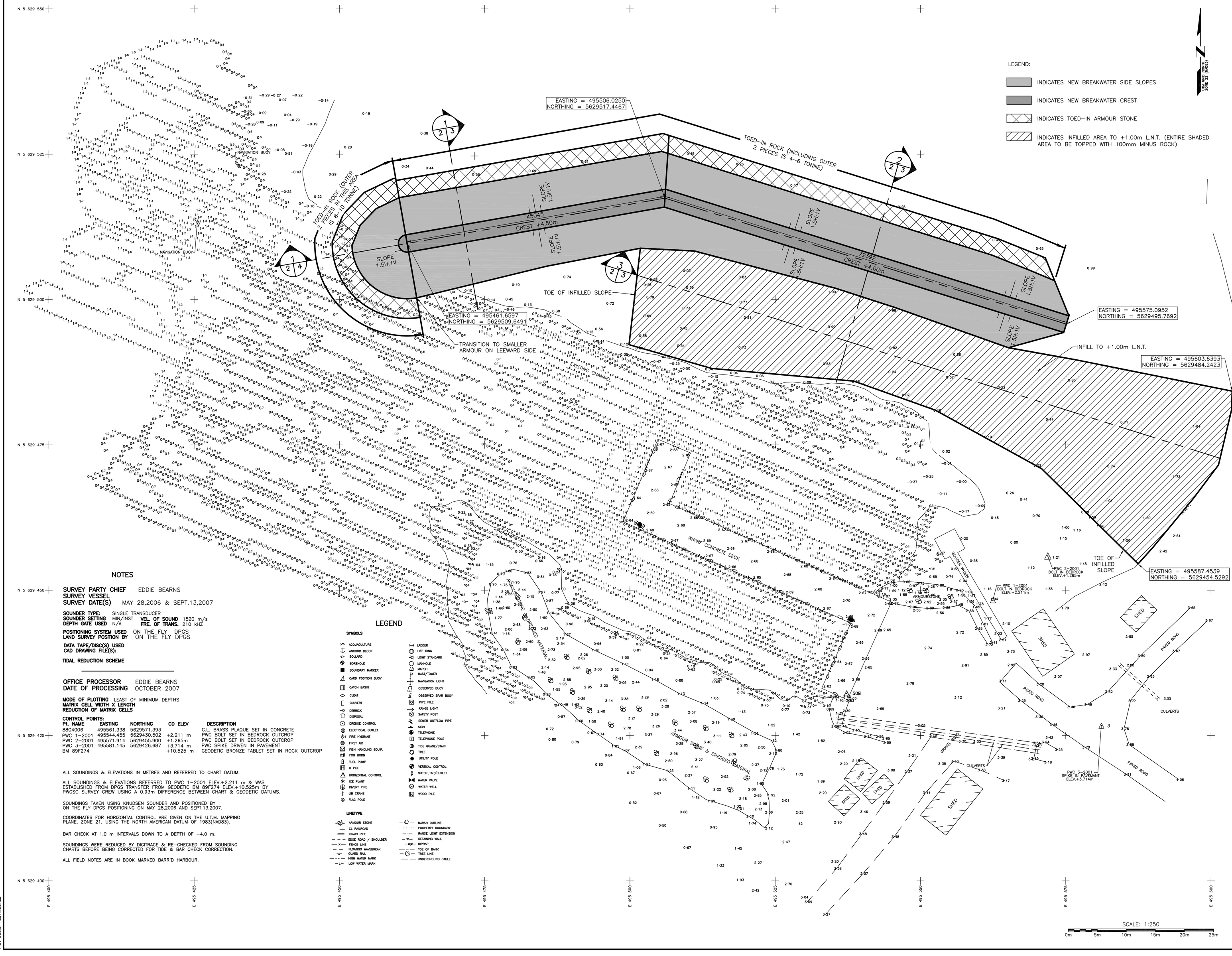


Photo 3. Project Components

APPENDIX B
New Site Plan Drawing



NOTES

SURVEY PARTY CHIEF EDDIE BEARNS
SURVEY VESSEL
SURVEY DATE(S) MAY 28,2006 & SEPT.13,2007

SOUNDER TYPE: SINGLE TRANSDUCER
SOUNDER SETTING MIN/INST **VEL. OF SOUND** 1520 m/s
DEPTH GATE USED N/A **FRE. OF TRANS.** 210 kHZ

POSITIONING SYSTEM USED ON THE FLY DPGS
LAND SURVEY POSITION BY ON THE FLY DPGS

DATA TAPE/DISC(S) USED
CAD DRAWING FILE(S):

TIDAL REDUCTION SCHEME

OFFICE PROCESSOR EDDIE BEARNS
DATE OF PROCESSING OCTOBER 2007

MODE OF PLOTTING LEAST OF MINIMUM DEPTHS
MATRIX CELL WIDTH X LENGTH
REDUCTION OF MATRIX CELLS

CONTROL POINTS:

PL NAME	EASTING	NORTHING	CD ELEV	DESCRIPTION
8604006	495561.338	5629571.393		C.L. BRASS PLAQUE SET IN CONCRETE
PWC 1-2001	495544.455	5629430.502	+2.211 m	PWC BOLT SET IN BEDROCK OUTCROP
PWC 2-2001	495571.914	5629455.900	+1.265m	PWC BOLT SET IN BEDROCK OUTCROP
PWC 3-2001	495581.145	5629426.687	+3.714 m	PWC SPIKE DRIVEN IN PAVEMENT
BM 89F274			+10.525 m	GEODETIC BRONZE TABLET SET IN ROCK OUTCROP

ALL SOUNDINGS & ELEVATIONS IN METRES AND REFERRED TO CHART DATUM.

ALL SOUNDINGS & ELEVATIONS REFERRED TO PWC 1-2001 ELEV.+2.211 m & WAS ESTABLISHED FROM DPGS TRANSFER FROM GEODETIC BM 89F274 ELEV.+10.525m BY PWGSC SURVEY CREW USING A 0.93m DIFFERENCE BETWEEN CHART & GEODETIC DATUMS.

SOUNDINGS TAKEN USING KNUDSEN SOUNDER AND POSITIONED BY ON THE FLY DPGS POSITIONING ON MAY 28,2006 AND SEPT.13,2007.

COORDINATES FOR HORIZONTAL CONTROL ARE GIVEN ON THE U.T.M. MAPPING PLANE, ZONE 21, USING THE NORTH AMERICAN DATUM OF 1983(NAD83).

BAR CHECK AT 1.0 m INTERVALS DOWN TO A DEPTH OF -4.0 m.

SOUNDINGS WERE REDUCED BY DIGITRACE & RE-CHECKED FROM SOUNDING CHARTS BEFORE BEING CORRECTED FOR TIDE & BAR CHECK CORRECTION.

ALL FIELD NOTES ARE IN BOOK MARKED BARR'D HARBOUR.

LEGEND

SYMBOLS

- ACQUACULTURE
- ANCHOR BLOCK
- BOLLARD
- BOREHOLE
- BOUNDARY MARKER
- CARD POSITION BUOY
- CATCH BASIN
- CLEAT
- CULVERT
- DERRICK
- DISPOSAL
- DREDGE CONTROL
- ELECTRICAL OUTLET
- FIRE HYDRANT
- FIRST AID
- FISH HANDLING EQUIP.
- FOG HORN
- FUEL PUMP
- H PILE
- HORIZONTAL CONTROL
- ICE PLANT
- INVERT PIPE
- JIB CRANE
- FLAG POLE
- LADDER
- LIFE RING
- LIGHT STANDARD
- MANHOLE
- MARSH
- MAST/TOWER
- NAVIGATION LIGHT
- OBSERVED BUOY
- OBSERVED SPAR BUOY
- PIPE PILE
- RANGE LIGHT
- SAFETY POST
- SEWER OUTFLOW PIPE
- SIGN
- TELEPHONE
- TELEPHONE POLE
- TIDE GUAGE/STAFF
- TREE
- UTILITY POLE
- VERTICAL CONTROL
- WATER TAP/OUTLET
- WATER VALVE
- WATER WELL
- WOOD PILE

LINETYPE

- ARMOUR STONE
- CL RAILROAD
- DRAIN PIPE
- EDGE ROAD / SHOULDER
- FENCE LINE
- FLOATING WAVEBREAK
- GUARD RAIL
- HIGH WATER MARK
- LOW WATER MARK
- MARSH OUTLINE
- PROPERTY BOUNDARY
- RANGE LIGHT EXTENSION
- RETAINING WALL
- RIPRAP
- TOE OF BANK
- TREE LINE
- UNDERGROUND CABLE

Plot Scale: PLOT SCALE

Fisheries and Oceans Canada / Pêches et Océans Canada

SMALL CRAFT HARBOURS

NOTES:

1. ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.

PROVINCE OF NEWFOUNDLAND
PERMIT HOLDER
This Permit Allows
AFN ENGINEERING INC.
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by APEGNL P0292
which is valid for the year 2022

STAMP
REGISTERED PROFESSIONAL ENGINEER
NEIL C. HUNT
SIGNATURE
DATE
NEWFOUNDLAND & LABRADOR

A	ISSUED FOR REVIEW	1/29/22
revisions		date

project / projet

BREAKWATER CONSTRUCTION

BARR'D HARBOUR, NL

drawing / dessin

NEW SITE PLAN

designed N.H. / concu
date JANUARY 29, 2022
drawn P.H. / dessine
date JANUARY 29, 2022
approved / approuve
Tender / Soumission
DFO Project Manager
project number / no. du projet
XXXX
drawing no. / no. du dessin
C2

APPENDIX C
DRAFT IAA SEED – Barr'd Harbour Breakwater Construction

IMPACT ASSESSMENT ACT - SIGNIFICANCE OF ENVIRONMENTAL EFFECTS DETERMINATION (SEED) FORM
BASIC OR NON-BASIC PROJECT

The purpose of this form is to summarize and document the significant adverse environmental effects of a project as per s.82 of the *Impact Assessment Act* (IAA). Consult the Basic/Non-Basic Project Requirements (s 3.6 of Departmental Procedure) for details and follow the SEED Guidelines (Entry Instructions & Linkages to PATH Record Keeping and IAA Registry). All completed and signed SEED documents shall be uploaded to PATH and the SCHED drive.

GENERAL INFORMATION

1. Project Title: Breakwater Construction, Barr'd Harbour, NL	
2. Proponent: Fisheries and Oceans Canada-Small Craft Harbours (DFO-SCH)	
3. Other Contacts: Public Services and Procurement Canada (PSPC)	**4. Role of each contact:** OGD Consultant
5. Source (Contact): Paul Curran, Regional Engineer, DFO-SCH	
6. Received Date or Assessment Start Date: February 3, 2022	
7. PATH No(s).:	**8. DFO File No:** 22-HNFL-00050
9. TC File No.: NPP File No: 2022-206259	**10. Canadian Impact Assessment Registry Reference No.:** 83382

PROJECT DESCRIPTION AND JUSTIFICATION

11. Project Location: The Project site is located within the community of Barr'd Harbour. Barr'd Harbour is located approximately 22.5km northeast of the community of Port aux Choix on the Gulf of Saint Lawrence. The project site is located at coordinates 50° 49' 1.16" N, 57° 3' 49.41" W and is accessible via Route 430 off the Trans-Canada Highway. A map and photo of the project location are provided an Appendix A.

12. Project Summary: The proposed project will involve the construction of a rubble mound breakwater, which will provide protection to the north face of an existing wharf. The breakwater will be construction on a shoal which is mostly above LNT. The area between the breakwater and existing wharf will also be graded and built up to 1.0m above LNT, all of which is below the high water mark. The project will be carried out using heavy equipment such as excavators, dump trucks, cranes, barges and loaders.

13. Review of Alternatives: N/A

PROJECT REVIEW

14. Rationale for the Application of Section 82 of IAA:

Project is on federal land and;

☒ DFO-SCH is proposing the project, as the proponent

☐ DFO-SCH is proposing to issue *Fisheries Act* Authorization, *Species at Risk Act* Permit or other regulatory approval

☐ DFO-SCH is proposing to provide financial assistance to another party to enable the project to proceed

☐ DFO-SCH is proposing to grant a license or interest in federal land to enable the project to proceed

☐ Other

15. Primary Authority and Rationale for Involvement: DFO-SCH is the proponent

16. Other Authorities and Rationale for Involvement: Transport Canada – Navigation Protection Program and Environmental Programs and Indigenous Relations - *Canadian Navigable Waters Act*.

17. Other Contacts and Nature of Response:

Fisheries and Oceans Canada – Fish and Fish Habitat Protection Program (DFO FFHPP)

DFO FFHPP reviewed the project and provided advice regarding the Implementation Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat. It was determined that the project is not likely to result in the death of fish and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act* (Appendix B).

Newfoundland and Labrador Department of Environment, Climate Change and Municipalities, Water Resources Management Division (NLDECCM WRMD)

NLDECCM WRMD issued a Permit to Alter a Body of Water for dredging and infilling components of the project (Appendix B).

Newfoundland and Labrador Environmental Assessment Division is currently reviewing the project for environmental assessment requirements (*PENDING*).

18. Nature of Project:

☐ Building and Property Development
☐ Mines and Minerals
☒ Ports and Harbours
☐ Oil and Gas
☐ Highways and Roads
☐ Water Management
☐ Recreation and Tourism
☐ Remediation and conservation
☐ Maintenance Activities (fences, walls)
☐ Nuclear Energy
☐ Bridges
☐ Waste Management
☐ Agriculture
☐ Forestry
☐ Airport and Airfields
☐ Dams and Reservoirs
☐ Railways
☐ Hydroelectric Energy
☐ Alternative Energy
☐ Other, not otherwise specified

19. Scope of Project and the Assessment (details of the project subject to review):

Project Description

Construction/Installation
The proposed project will involve the construction of a rubble mound breakwater, which will provide protection to the north face of an existing wharf. The breakwater will be constructed on a shoal which in mostly above LNT. No dredging is required.

The breakwater will be 130m long by 20m wide (varies), with a footprint of 2290 m2 , which is entirely below the high water mark. Where this breakwater is to be constructed on a shoal, only 155 m2 is below LNT.

There is also an area between the breakwater and wharf which will be graded and built up to 1.0m above LNT, all of which is below the high water mark. The area of 1940 m2 will be topped off with 100mm minus rock. The project will be carried out using heavy equipment. The work will likely be done using excavators, dump trucks, cranes, barges and loaders.

A temporary road will be required for equipment to gain access to the shoal area and a small laydown area will be required for equipment.

The total area effected by the undertaking (new footprint) is estimated at 4,738 m2 . Project footprint and boundaries are outlined in Figure 2.

Schedule

The proposed work is expected to commence Summer 2022, pending funding and approvals. The work is expected to be completed within 16 weeks.

Operation / Maintenance
DFO-SCH's Environmental Management Plan (EMP) and site-specific Emergency Response Plans cover operational aspects of environmental management at Small Craft Harbour facilities and constitute the basis for the environmentally responsible management of harbour operations (i.e., fuelling, waste disposal, activities at the property and on the water). The proposed physical works will adhere to these environmental management standards established by DFO-SCH. The proposed project is intended to improve continued operations at the Barr'd Harbour SCH.

Maintenance of the Small Craft Harbours infrastructure will be conducted on an as-needed basis and will undergo separate impact assessment and legislative review as future stand-alone project(s).

Environmental effects resulting from the operation and maintenance of the proposed physical works are not considered further in this assessment.

Abandonment / Decommissioning
There is currently no plan to decommission or abandon the Barr'd Harbour SCH. The very nature of the proposed project is intended to ensure the viability and safety of the harbour facility primarily for commercial fisheries and navigation.

At the time of decommissioning, DFO-SCH will develop a site specific re-use or reclamation plan that is appropriate for the applicable environmental legislation and DFO policies. The decommissioning of facilities would undergo separate impact assessment and legislative review as future stand-alone project.

Environmental effects resulting from the abandonment or decommissioning of the proposed physical works or the SCH facility are not considered further in this assessment.

Accidents and Malfunctions
Accidents and malfunctions have the potential to occur when undertaking a physical activity. Potential environmental effects resulting from accidents and malfunctions over the course of the proposed project are, therefore, considered in this assessment.

ENVIRONMENTAL SETTING

20. Environment Description:

Physical Environment

The project site can be accessed from local roads within the community of Barr'd Harbour. Barr'd Harbour is located on the Gulf of Saint Lawrence, the west coast of Newfoundland's Northern Peninsula. The Project site is located approximately 22.5km northeast of the community of Port au Choix. It is accessible by provincial route 430. The general project area consists of a breakwater, wharves, sheds and residential houses. The shoreline is characterized by exposed bedrock with intermittent areas of pebble-cobble material. The immediate upland is gently sloped and sparsely vegetated with grass, although tree vegetation is present further inland. A topographic map and site photo are provided in Appendix A.

Canadian Climate Normals (1981-2010) for the Port Saunders weather station (50° 39'N, 57° 12'W) indicate that the project area receives an average of 711.8mm of rain and 434.4cm of snow annually. Extreme precipitation events of up to 73.2mm and extreme snow depths of 373cm have been recorded. Temperatures range from an extreme minimum of -37.5°C to an extreme maximum of 28.5°C. The daily average temperature for the Port Saunders weather station is 2.4°C.

Biological Environment

According to the 'Great Northern Peninsula and Southern Labrador - Atlas of Significant Coastal and Marine Areas', the project location is an important spawning/feeding area for Atlantic herring. The presence of marine plants, islands and subtidal ledges provides significant habitat for lobster. The project location is important staging/nesting area for migrating waterfowl and seabirds.

Species at Risk (Aquatic and Terrestrial)

A search of the Atlantic Canada Conservation Data Centre (ACCDC) database was conducted on February 15, 2022 that produced a list of rare / unique species (i.e., plants and animals) observed within a 5 km buffer zone (standard ACCDC procedure) of the site of the proposed work. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA). Results showed the Harlequin Duck (Histrionicus histrionicus) and Fernald's Milk-Vetch (Astragalus robbinsii var. fernaldii) species were observed within this buffer. Both species have not been observed within 1km of the project location.

A search of the Government of Canada Open Maps database was conducted on February 15, 2022 that produced a list of rare/unique species (i.e., plants and animals) with distribution ranges near the site of the proposed work. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA). Results showed the following Schedule 1 Species at Risk with distribution ranges that are within 5 km of the project site: Fernald's Milk-vetch (Astragalus robbinsii var. fernaldii), Red Crossbill (Loxia curvirostra percna), Short-eared Owl (Asio flammeus), Porsild's Bryum (Haplodontium macrocarpum), Olive–sided Flycatcher (Contopus cooperi), Rusty Blackbird (Euphagus carolinus), Bank Swallow (Riparia riparia), Caribou - Newfoundland population (Rangifer tarandus), Griscom's Arnica (Arnica griscomii ssp. griscomii) and Gypsy Cuckoo Bumble Bee (Bombus bohemicus).

A search of the DFO Aquatic Species at Risk database was conducted on February 15, 2022 which produced a list of aquatic species at risk and the presence of their critical habitat potentially found within a 1km buffer (standard NASAR procedure) of the site of the proposed work. Results showed that the project site is within the distribution range of the following aquatic species at risk: Fin Whale (Balaenoptera physalus), Blue Whale (Balaenoptera musculus), Spotted Wolffish (Anarhichas minor), Atlantic Wolffish (Anarhichas lupus), North Atlantic Right Whale (Eubalaena glacialis), Leatherback Sea Turtle (Dermochelys coriacea), White Shark (Carcharodon carcharias) and Northern Wolffish (Anarhichas denticulatus).

Human Environment

Barr'd Harbour is a small settlement located northeast of Pointe Riche. The community had a population of 5 based on the 1996 data available online.

OTHER CONSIDERATIONS

21. Adverse Impact on the rights of Indigenous People of Canada:

PSPC and Transport Canada carried out an Indigenous Assessment on behalf of DFO-SCH at Barr'd Harbour SCH in accordance with DFO-SCH's Preliminary Duty to Consult Assessment Guide. This Guide is intended to provide basic information to DFO-SCH 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 Indigenous 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 Indigenous 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 Indigenous or treaty rights.
3. The potential or established Indigenous or treaty rights may be adversely impacted by the Crown.

Based on a preliminary assessment conducted by PSPC, on behalf of DFO-SCH and in conjunction with Transport Canada, the legal duty to consult does not exist in this case as; the Crown does not have knowledge of potential or established Indigenous or treaty rights in the Barr'd Harbour area; and there are no potential or established Indigenous or treaty rights that may be adversely impacted by the Crown in completing the Barr'd Harbour project.

22. Indigenous knowledge provided in respect of the project:

Given the small scale, the temporal and spatial bounds and the current environmental setting of the proposed works, Indigenous Knowledge was not sought for this project.

23. Community knowledge provided in respect of the project:

Given the small scale, the temporal and spatial bounds and the current environmental setting of the proposed works, public consultation beyond that already discussed (Section 21) was not deemed warranted. Any available community knowledge is discussed in the applicable Environmental Description setting (Section 20).

24. Summary of public notification:

The project was posted to the public Navigation Protection Project Registry on March 15, 2022, and the public *Impact Assessment Act* Registry on February 17, 2022. Both notices were posted for the required 30-day public comment period.

ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

25. Evaluation of Environmental Effects and Determination of Significance:

Methodology

The environmental effects evaluation methodology used in this form focuses the evaluation of those environmental components of greatest concern. Other concerns identified should also added on to the existing form. The Valued Components (VCs) most likely to be affected by the project as described are indicated in *Table 1: Potential Project / Environment Interactions Matrix*. VCs were selected based on ecological importance to the existing environment, the relative sensitivity of environmental components to project influences and their relative social, cultural or economic importance. The potential impacts resulting from the interactions are also identified in Table 1 as positive or negative in nature.

Gender-based Analysis Plus (GBA+) provides a framework to describe the full scope of potential positive and negative effects under the *Impact Assessment Act*. The application of GBA+ to impact assessment seeks to understand, describe and, where possible, mitigate adverse impacts on diverse populations. GBA+ is an analytical tool that will be utilized during the undertaking of this assessment as per the guidance provided by the IAA on *Gender-based Analysis Plus in Impact Assessment*. As such, the intention is to ensure that, as applicable, multiple community-relevant, diverse subgroups have been considered and proposed mitigation, where relevant, clearly addresses any issues identified.

The VC interactions identified in Table 1 must be supplemented with a determination of significance for each resulting effect in order to assign adequate measures to mitigate a negative effect if negative and, if possible, enhance a positive effect. The significance of project-related impacts is determined in consideration of the impact's frequency, duration, and

geographical extent as well as magnitude relative to natural or background levels, and whether they are reversible in nature. These criteria are described in *Table 2: Assessment Criteria for Determination of Significance*.

A description of each potential effect, its' projected significance and assigned mitigation measures are detailed in Table 3 of Section 26.

The evaluation of effects, the determination of significance of the environmental effects and assignment of mitigation measures are all 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;
- community / indigenous knowledge;
- professional judgement of the assessor; and
- specialist advice/knowledge from experts.

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. The proposed project is anticipated to commence within the aforementioned timeframe; however, this timeline is subject to approvals and funding. As such, the temporal scope for the proposed project cover a 5-year period from the time of this assessment in order to account for this uncertainty. This assessment should, therefore, be considered accurate until April 6, 2027 unless a review of the information presented in this assessment prior to the end of the 5-year period prompts a re-assessment to ensure accuracy (e.g., legislative changes, changes in physical, biological, socio-economic features, input from ongoing Indigenous consultations, etc.).

As previously noted, physical activities such as maintenance, repair, replacement, or decommissioning of the proposed physical works are subject to their own stand-alone assessment at the time of need, therefore, are not considered further in this assessment.

Environmental effects of the project on navigation are taken into consideration as part of the SEED 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 SEED, but any measures necessary to mitigate direct effects will be included as terms and conditions associated with work approved or permitted pursuant to the *Canadian Navigable Waters Act* (*CNWA*).

Although Fernald's milk-vetch is endemic to the Strait of Belle Isle area in the northeastern Gulf of St. Lawrence, Milk-vetch populations on the Highlands of St. John have likely been misidentified as Fernald's milk-vetch (Government of NL and Labrador, 2006). The potential population on the Highlands of St. John is not be considered to be under threat because of its remote location (Government of Newfoundland and Labrador, 1997). For example, it is not found in the coastal limestone barrens of the northern tip of the Great Northern Peninsula in Newfoundland, which belong a different geological Formation and thus may have subtle physical and chemical differences. Some seemingly suitable habitat is occupied by other milk-vetch species. For example, all populations of large milk-vetches from the northern tip of the Great Northern Peninsula are currently identified as Elegant Milk-vetch (*Astragalus eucosmus*) (Government of NL and Labrador, 2006). Since this project is occurring near the Highlands of St. John area where Milk-vetch species are likely misidentified and not considered to be threatened, assessment of impacts to this species have been scoped out of this assessment. The effects of the project on this species is not considered further in this assessment.

Harlequin Ducks spend most of the year in coastal marine environments, but they move inland each spring to breed along rivers. The eastern population of Harlequin Duck breeds mostly in fast flowing rivers in Newfoundland and Labrador and are especially associated with boulder-strewn inlets and outlets of ponds. These ducks prefer to feed on shorelines of small lakes and ponds in northern Newfoundland. Harlequin Ducks overwinter in rocky outer marine coastlines and moult and stage in similar rocky coastal habitat. Since this project is occurring during the summer months and not in the vicinity of rivers, lakes or ponds, it is unlikely that the project will have any significant impacts on the Harlequin Duck population or habitat. The effects of the project on this Schedule 1 species is not considered further in this assessment but any impacts from the project will be avoided or minimized by mitigation measures that will be implemented for all bird species that are distributed within the general area.

The proposed project includes minimal in water works and a short construction window so the effects of the project on Atlantic herring and lobster are not considered further in this assessment.

While the project location is within the distribution range of the Caribou - Newfoundland population (Rangifer tarandus), given the project footprint and the absence of sightings in the area there is no negative interaction expected between the species and the project. The effects of the project on these species are not considered further in this assessment.

Since project works are occurring primarily on a coastal shoal and within shallow nearshore waters with very minimal in water works occurring, there is no negative interaction expected between DFO Aquatic SAR and the project. The effects of the project on these species are not considered further in this assessment.

Table 1: Potential Project / Environment Interactions Matrix

Valued Components (VCs)	***Section 7(1)(a) (Environmental Legislation)***			***Section 7(1)(c) and (d) (Indigenous Interests)***				***Other Impacts & Due Diligence***											
Project Phase / Physical Work/Activity	*Fish (Fisheries Act)*	*SARA*	*Birds (MBCA)*	*Physical and Cultural Heritage*	*Land and Resource Use for Traditional Purposes*	*Structure, Site, or Thing of HAPA Significance*	*Health, Social or Economic Conditions*	*Physical and Cultural Heritage*	*Structure, Site, or Thing of HAPA Significance*	*Health, Social or Economic Conditions*	*Water (marine, ground, surface, drainage ,water levels, flow etc.)*	*Wetlands*	*Terrestrial Species* and Habitat*	*Aquatic Species* and Habitat*	*Terrestrial Soils*	*Marine Sediments*	*Air Quality*	*Sensory Disturbance (air/water, noise and vibration)*	*Others (i.e. land/landscapes)*
Breakwater Construction, Barr'd Harbour, NL																			
Construction/Installation	-	-	-				-			-	-			-		-	-	-	
Accidents / Malfunctions	-	-	-				-			-	-			-		-			

*Non-Species at Risk
HAPA = Historical, Archaeological, Paleontological or Architectural
N/A = Not Applicable
"+" = potential positive interaction; "-" = potential negative interaction; "+/-"= potential positive and negative interactions.

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

26. Potential Environmental Effects and Mitigation Measures for the Project:

Table 3: Description and Significance of Potential Environmental Effects and Recommended Mitigation Measures

Potential Environmental Effects	Mitigation Measures
Valued Component: Fish	

Construction/Installation:
• Sedimentation as a result of construction activities may negatively affect fish and quality of potential fish habitat within the Project site. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.*
• Marine sediments are impacted with PHCs and PAHs. Improper handling of impacted sediment has the potential to negatively impact fish and fish habitat. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.*
• Disturbance of fish species from equipment use in the marine environment. Significance: *Moderate, Reversible, Local, Short-term, and Intermittent.*
• Project activities will result in the destruction of potential fish habitat. *Significance: Moderate, Reversible, Immediate, Medium-term, and Once.*
Accidents/Malfunctions:
• Release of hazardous materials and/or heavy machinery fuel/fluids into waterway. *Significance: Moderate, Reversible, Immediate, Short-term, and Once*.
	• Limit the duration of in-water works to only activity related to the project elements so that it does not diminish the ability of fish to carry out one or more of their life processes (spawning, rearing, feeding, migrating).
	• Conduct in-water undertakings and activities during periods of low tide and low wind/wave conditions.
	• Implement erosion and sedimentation controls as needed to avoid the introduction of sediment into any waterbody during all phases of work
	  ○ Install effective erosion and sediment control measures prior to beginning work in order to stabilize all erodible areas;
	  ○ Regularly inspect and maintain the erosion and sediment control measures and structures during all phases of the project;
	  ○ Regularly monitor the watercourse for signs of sedimentation during all phases of the project and take corrective action;
	  ○ Keep the erosion and sediment control measures in place until all disturbed ground has been permanently stabilized;
	  ○ Remove all exposed, non-biodegradable sediment control materials once the site is stabilized;
	  ○ Schedule work to avoid wet, windy, and rainy periods that may result in high flow volumes and/or increase erosion and sedimentation;
	• Operate machinery on land in stable, dry areas or from stable floating platforms.
	• All materials placed in or near water should be clean and free of fines or any other deleterious substance and of sufficient size to resist displacement by wave action.
	• Armour stone should be blocky, angular shape and comprised of mixed gradation so that the smaller rock fill the voids between the larger rock to provide compaction and stability.
	• Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment.
	• When works are completed, shoreline and approaches should be restored to original condition.
	• Be aware of AIS species in the area and take precautions with respect to any vessel traffic and gear movement between affected and unaffected areas to prevent introductions and spread:
	  ○ All equipment used in water should be cleaned, drained and dried on land before and after use for the purposes of preventing the introduction or spread of aquatic invasive/non-indigenous species; and
	  ○ Report any AIS and non-indigenous species to DFO at 1-855-862-1815 or AISEAE.XNFL@dfo-mpo.gc.ca .
	• On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 litres (L).
Valued Component: SARA	

Construction/Installation:
• Construction activities at the site or natural events (e.g., rainfall) could result in disruption of endangered species. Significance: Small, Reversible, Immediate, Short-term, and Intermittent.
• Project activities may result in the damaging or destruction of the residence of an endangered species. Significance: Moderate, Reversible, Immediate, Medium-term, and Once.
	• All work to be conducted in accordance with the *Species at Risk Act*, which outlines that no protected species, their residence and critical habitat be moved or obstructed during the construction or operation phase of the project.
	• Species listed under the Species at Risk Act shall not be approached throughout the construction or operation phase of the project.
	• All construction materials shall be removed from the site upon project completion.
	• All activities will be restricted to the proposed footprint of the site to avoid further habitat disturbance. Fencing will be placed around the perimeter of the project site to restrict access by caribou.
	• Only the proposed access roads will be utilized for construction and operations. No additional access roads will be developed.
	• All vehicles and heavy equipment will yield the right-of-way to wildlife and adhere to construction site speed limits. Equipment will be muffled to reduce sensory disturbance, to the extent possible.
	• If Caribou individuals are observed within 500m of project activities (including grubbing, grading, laydown areas, use of heavy equipment and vehicles, waste and hazardous material disposal, etc.), the DFO-SCH Project.
	• Should birds be observed at the project site, the DFO-SCH Environmental Advisor will be informed immediately to determine whether additional mitigation measures are required.
	• Stockpiled and/or materials that are stored on site for extended periods will be regularly checked for roosting or nesting birds. If birds are observed, the DFO-SCH Environmental Advisor will be immediately informed and the materials will not be disturbed until birds are confirmed to have stopped using them.
	• The project will occur during daylight hours, to the extent possible, to reduce the amount of artificial lighting at the project site. Should activities occur during nighttime hours, project lighting will be kept to the minimum amount required to ensure activities can proceed safely.
	• If a nest is disturbed during activities, the DFO-SCH Environmental Advisor will be informed immediately. The following mitigation measures will be implemented:
	  ○ All activities will be immediately halted in the area and the area will be vacated, ensuring effort is made to avoid disturbing surrounding vegetation;
	  ○ A buffer zone of at least 50m will be put in place;
	  ○ The nest will not be marked with flagging tape or similar material, although the buffer zone can be flagged appropriately. Marking the nest can increase the risk of predation;
	  ○ The area will be avoided until young have naturally left the vicinity of the nest. Once it is confirmed that young have left, the activities may resume.

Valued Component: Health, Social or Economic Conditions	
Construction/Installation: • Potential for safety hazards to workers during construction activities. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.*	• Site access must be restricted to authorized personnel only. • Project employees will be equipped with the proper Personal Protective Equipment for Project tasks, and work will comply with provincial occupational health and safety regulations.

• Marine sediments are impacted with PHCs and PAHs. Improper handling of impacted sediment has the potential to negatively impact human health. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent..* ***Accidents/Malfunctions:*** • Accidental release of PHC and PAH impacted sediment. Improper handling/cleanup of impacted sediment has the potential to negatively impact human health. *Significance: Moderate, Reversible, Immediate, Short-term, and Once*.	• Develop a response plan that is to be implemented in the event of an accidental sediment release or spill of a deleterious substance and keep an emergency spill kit on site with staff trained in its use. ○ On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 litres (L). • Weather conditions are to be assessed on a daily basis to determine the risk of extreme weather in the project area. Avoid work during periods which Environment and Climate Change Canada has issued rainfall or wave warning for the work area.
Valued Component: Water (marine, ground, surface, drainage, water levels, flow, etc.)	
Construction/Installation: • Sedimentation as a result of construction activities may negatively affect water quality at the immediate Project site. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* • Construction activities taking place near the shoreline may result in runoff/erosion. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* • Construction-related refuse may be deposited in the waterbody, decreasing marine water quality. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* • Disturbance of fish species from equipment use in the marine environment. Significance: *Moderate, Reversible, Local, Short-term, and Intermittent.* ***Accidents/Malfunctions:*** • Release of hazardous materials and/or heavy machinery fuel/fluids into waterway. *Significance: Moderate, Reversible, Immediate, Short-term, and Once.*	• Reduce duration of in-water work wherever possible. • Construction activities that involve in-water work will be conducted during periods of low flow, or at low tide, to further reduce the potential for effects on water quality. • Erosion and sediment control measures will be developed for the site that minimizes risk of sedimentation to the marine environment. • Construction material and debris are not to become waterborne. Do not dispose of any materials or waste into marine environment. • Any hazardous materials produced as a result of this project are to be transported off-site for disposal/treatment at an approved waste handling facility, pursuant to applicable provincial and federal regulations/legislation. • 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. • On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 litres (L). • All materials placed in or near water should be clean and free of fines or any other deleterious substance and of sufficient size to resist displacement by wave action. • Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment. • When works are completed, shoreline and approaches should be restored to original condition. •
Valued Component: Aquatic Species and Habitat	
Construction/Installation: • Sedimentation as a result of construction activities may negatively affect aquatic species and quality of potential aquatic habitat within the Project site. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.*	• Reduce duration of in-water work wherever possible. • Construction activities that involve in-water work will be conducted during periods of low flow, or at low tide, to further reduce the potential for effects on aquatic species and habitat.

• Smothering of sessile and slow-moving benthic species during infilling and placement of armour stone within the project footprint. Significance: *Small, Irreversible, Immediate, Short-term, and Intermittent.* • Marine sediments are impacted with PHCs and PAHs. Improper handling of impacted sediment has the potential to negatively impact aquatic species and habitat. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* • Disturbance of aquatic species from equipment use in the marine environment. Significance: *Moderate, Reversible, Local, Short-term, and Intermittent.* • Permanent loss of habitat used by aquatic species within the Project area. Significance: *Small, Irreversible, Immediate, Long-term, Once.* • Permanent loss of habitat used by aquatic species within the Project area. Significance: *Small, Irreversible, Immediate, Long-term, Once.* ***Accidents/Malfunctions:*** • Release of hazardous materials and/or heavy machinery fuel/fluids into waterway. *Significance: Moderate, Reversible, Immediate, Short-term, and Once*.	• Erosion and sediment control measures will be developed for the site that minimizes risk of sedimentation to the marine environment. • Construction material and debris are not to become waterborne. Do not dispose of any materials or waste into marine environment. • Any hazardous materials produced as a result of this project are to be transported off-site for disposal/treatment at an approved waste handling facility, pursuant to applicable provincial and federal regulations/legislation. • . • 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. • On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 litres (L). • All materials placed in or near water should be clean and free of fines or any other deleterious substance and of sufficient size to resist displacement by wave action. • Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment. • When works are completed, shoreline and approaches should be restored to original condition.
Valued Component: Marine Sediments	
Construction/Installation: • Construction activities at the site or natural events (e.g., rainfall) could result in erosion/sedimentation events. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* • Exposed soils may erode. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* • Marine sediments are impacted with PHCs and PAHs. Improper handling/ transportation and disposal of impacted sediment has the potential to surrounding soils. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.* ***Accidents/Malfunctions:*** • Release of hazardous materials and/or heavy machinery fuel/fluids into waterway. *Significance: Moderate, Reversible, Immediate, Short-term, and Once*.	• Reduce duration of in-water work wherever possible. • Construction activities that involve in-water work will be conducted during periods of low flow, or at low tide, to further reduce aggregation of marine sediment. • Erosion and sediment control measures will be developed for the site that minimizes risk of sedimentation to the marine environment. • Construction material and debris are not to become waterborne. Do not dispose of any materials or waste into marine environment. • Any hazardous materials produced as a result of this project are to be transported off-site for disposal/treatment at an approved waste handling facility, pursuant to applicable provincial and federal regulations/legislation. • 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. • On site, crews must have emergency spill clean-up equipment adequate for the activity involved, and it must be on site. Spill equipment will include, as a minimum, at least one 250 L (i.e., 55 gallon) overpack 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). Note that this applies to spills to the aquatic environment or anything on land over 70 litres (L).

	• All materials placed in or near water should be clean and free of fines or any other deleterious substance and of sufficient size to resist displacement by wave action. Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment. • When works are completed, shoreline and approaches should be restored to original condition.
Valued Component: Air Quality	
Construction/Installation: • Construction activities may result in nuisance effects due to an increase in dust. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.*	• Where feasible, mitigation measures, such as dust suppressors, will be implemented to reduce the potential for increased dust during Project activities. • All construction materials shall be removed from the site upon project completion
Valued Component: Sensory Disturbance (air/water, noise, and/or vibration)	
Construction/Installation: • Construction activities may result in nuisance effects due to an increase in dust and noise, and the use of heavy equipment. *Significance: Small, Reversible, Immediate, Short-term, and Intermittent.*	• Project activities must be carried out during times acceptable to local authorities and smaller, less disruptive equipment will be used where possible. • Where feasible, mitigation measures, such as dust suppressors, will be implemented to reduce the potential for increased dust during Project activities. • Machinery used for the Project should be well muffled to reduce noise for local residents, and local municipality construction by-laws will be adhered to. • All construction materials shall be removed from the site upon project completion.

27. Description of any Significant Adverse Environmental Effects of the project (after considering the application of mitigation measures):

Although the potential exists for short-term and/or medium-term environmental effects during the project, with the implementation of recommended mitigation measures no significant adverse effects are anticipated.

28. Cumulative Effects:

The proposed project under assessment is not projected to have any cumulative effects taking into consideration past and potential likely future projects. There are no other predicated effects that may result from the proposed activities. Project specific mitigation outlined in this assessment (Section 26) will be followed as well as proper safety procedures as per applicable municipal, provincial and federal regulations.

29. Climate Change/Sustainability:

Weather conditions should be assessed on a daily basis to determine the potential risks on the project activities. The Contractor is encouraged to consult Environment Canada's local forecast so that the construction work can be scheduled accordingly.

30. *Fisheries Act*, *Species at Risk Act and/or Migratory Birds Convention Act* permits or authorizations and general follow-up of the Mitigation Measures*:*

N/A

REFERENCES

31. References:

Environment and Climate Change Canada (ECCC). 2022. Canadian Climate Normals 1981-2010. Port Saunders Climate Station, Newfoundland and Labrador. Accessed April 5, 2022. Canadian Climate Normals 1981-2010 Station Data - Climate - Environment and Climate Change Canada (weather.gc.ca)

Important Bird Areas Canada (2020) Map Viewer. Accessed April 5, 2022. http://www.ibacanada.ca/mapviewer.jsp?lang=en

Wikipedia. Barr'd Harbour (2022) Accessed on April 5, 2022. Barr'd Harbour - Wikipedia

CONCLUSION

32. Conclusion on Significance of Adverse Environmental Effects (Sections 82-83):
The federal authorities have evaluated the project in accordance with Section 82 of the *Impact Assessment Act*, 2019. On the basis of this evaluation, the departments have determined that the project is not likely to cause significant adverse environmental effects with mitigation and therefore can proceed using mitigation measures as outlined.

Prepared by: _____ **Date:** _____

Name: Natasha Legge

Title: Environmental Specialist, Public Services and Procurement Canada

Reviewed by: _____ **Date:** _____

Name: Cathy Martin

Title: Senior Environmental Specialist, Public Services and Procurement Canada

Approved by: _____ **Date:** _____

Name: Tara Wight

Title: Regional Environmental Assessor, DFO – Small Craft Harbours

DECISION

33. Fisheries and Oceans Canada – Small Craft Harbours

☒ **The project is not likely to cause significant adverse environmental effects, and DFO-SCH may exercise its power, duty or function.**

☐ **The project is likely to cause significant adverse environmental effects, and DFO-SCH has decided not to exercise its power, duty or function.**

☐ **The project is likely to cause significant adverse environmental effects, and DFO-SCH will refer the project to the Governor in Council to determine if the significant adverse environmental effects are justified in the circumstances**

Approved by: _____ **Date:** _____

Name: Dion Upward

Title: Acting Regional Engineer, DFO – Small Craft Harbours

34. Transport Canada

Project Title:	Breakwater Construction – Barr'd Harbour, Newfoundland	
TC File No.:		
NPP File No.:		
Environmental Review Decision:	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.	
Reviewed by:	**Melissa Ginn** *Regional Environmental Advisor* *Environmental Programs and Indigenous Relations*	
Signature:		**Date:**
Mailing Address:	10 Barter's Hill, St. John's, NL	
Tel:	709-351-3200	
Fax:	709-772-3072	
Email:	melissa.ginn@tc.gc.ca	
Approved By:	**Kevin LeBlanc** *Regional Manager* *Environmental Programs and Indigenous Relations*	
Signature:		**Date:**

APPENDIX A
Map & Aerial Photograph of Project Location

Figure 1 Topo Map of Project Location.

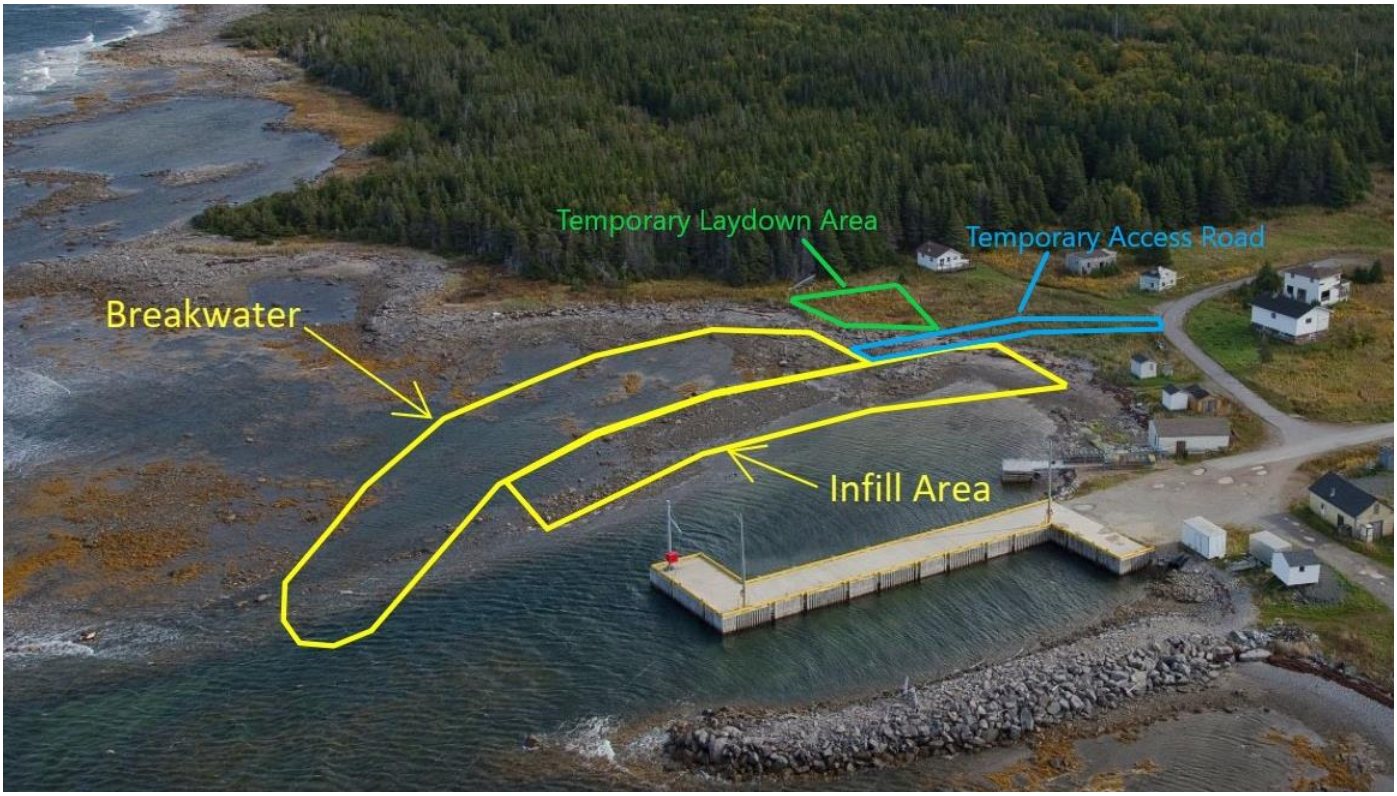


Figure 2 Aerial Photograph of Project Footprint in Barr'd Harbour, NL.

Figure 3 Google Earth Photograph of Project Location in Barr'd Harbour, NL.

APPENDIX B
Regulatory Approvals

Fisheries and Oceans Canada | Pêches et Océans Canada

P.O. Box 5667
St. John's, NL A1C 5X1

February 25, 2022

Your file *Votre référence*

Our file *Notre référence*
22-HNFL-00050

Paul Curran
Small Craft Harbours
Fisheries and Oceans Canada
P.O. Box 5667
80 East White Hills Road
St. John's, NL A1C 5X1

Subject: Breakwater construction, Barr'd Harbour – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat

Mr. Curran:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on February 15, 2022. We understand that you propose to:

- Construct a rouble mound breakwater on a shoal, area footprint of 2,290m^2, to the north of existing wharf, and
- Grade and build up an area between new breakwater and wharf, area footprint of 1,940m^2

Our review considered the following information:

- a request for review with associated schematics

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*. ; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.

Canada

.../2

The aforementioned outcomes are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

- Conduct in-water undertakings and activities during periods of low tide
- Limit the duration of in-water works, undertakings and activities so that it does not diminish the ability of fish to carry out one or more of their life processes (spawning, rearing, feeding, migrating)
- Implement sediment control measures to minimize sedimentation of the waterbody during all phases of the work, undertaking or activity:
    - Conduct all in-water works, undertakings or activities in isolation of open or flowing water to reduce the introduction of sediment into the watercourse;
    - Schedule work to avoid wet, windy and rainy periods (and heed weather advisories);
    - Inspect and maintain regularly the erosion and sediment control measures and structures during all phases of the project;
    - Biodegradable sediment control materials should be used whenever possible;
    - Remove all exposed non-biodegradable sediment control materials once site has been stabilized;
    - Operate machinery on land;
    - Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action;
    - Dispose and stabilize all excavated material above the high water mark of any waterbodies to prevent re-entry into the water
- All materials placed in or near water should be clean, free of fines, concrete or any other deleterious substance and of a sufficient size to resist displacement
- Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment
- Armour stone should be blocky, angular shape and comprised of mixed gradation so that the smaller rock fill the voids between the larger rock to provide compaction and stability
- Restrict shoreline disturbance to the immediate work area. Stabilize any shoreline area disturbed by project activities
- Operate heavy equipment only in stable, dry area; machinery should not be operated in water. Equipment should be mechanically sound to avoid leaks of oil, gas, and/or hydraulic fluids
- When works are completed, shoreline and approaches should be restored to original condition

.../3

- Be aware of AIS species in the area and take precautions with respect to any vessel traffic and gear movement between affected and unaffected areas to prevent introductions and spread (https://www.dfo-mpo.gc.ca/species-especes/ais-eae/index-eng.html)
    - All equipment used in water should be cleaned, drained and dried on land before and after use for the purposes of preventing the introduction or spread of aquatic invasive/non-indigenous species
    - Report any AIS and non-indigenous species to DFO at 1-855-862-1815 or AISEAE.XNFL@dfo-mpo.gc.ca

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal is not likely to result in the contravention of the above mentioned prohibitions and requirements.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, the *Species at Risk Act* and the *Aquatic Invasive Species Regulations*.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to (http://www.dfo-mpo.gc.ca/pnw-ppe/contact-eng.html).

We recommend that you notify this office and the local Conservation and Protection (C&P) office at least 10 days before starting your project and that a copy of this letter be kept on site while the work is in progress. **It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.**

Please note that the advice provided in this letter will remain valid for a period of 1 year from the date of issuance. If you plan to execute your proposal after the expiry of this letter, we recommend that you contact the Program to ensure that the advice remains up-to-date and accurate. Furthermore, the validity of the advice is also subject to there being no change in the relevant aquatic environment, including any legal protection orders or designations, during the 1 year period.

If you have any questions with the content of this letter, please contact Ashley Robar at our St. John's office at (709) 772-4140, by fax at (709) 772-5562 or by email at Ashley.Robar@dfo-

.../4

22-HNFL-00050 - 4 -

mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

for Roger Johnson

Roger Johnson
Team Lead – Regulatory Review
Fish and Fish Habitat Protection Program

Cc: Natasha Legge, PWGSC-DFO