

Appendix "A"

Regulatory Approvals

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

**GENERAL INFORMATION**

<b>1. Project Title:</b> Wharf Reconstruction, Seal Cove, NL	
<b>2 Proponent:</b> Fisheries and Oceans Canada, Small Craft Harbours (DFO SCH)	
<b>3. Other Contacts</b> (Other Proponent, Consultant or Contractor): Public Works and Government Services Canada	<b>4. Role:</b> OGD Consultant
<b>5. Source of Project Information:</b> Paul Curran, Chief Engineer, DFO – Small Craft Harbours	
<b>6. Project Review Start Date:</b> September 10, 2018	
<b>7. PATH No.:</b> NA	<b>8. PWGSC File No:</b>
<b>9. TC File No.:</b> NPP#2018-200135 / NEATS: 48787	

**BACKGROUND**

<p><b>10. Background about Proposed Development (including a description of the proposed development):</b></p> <p>The scope of work includes reconstruction of an existing wharf and removal of an existing shed and jib crane at the DFO-SCH facility in Seal Cove, NL (See Appendix A Figures 1-3). The new wharf will be constructed of timber step cribs. Some dredging will be involved to install cribs to an elevation of 1.50 m below LNT.</p>
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**PROJECT REVIEW**

<p><b>11. DFO's rationale for the project review:</b></p> <p>Project is on federal land <input checked="" type="checkbox"/> <u>and</u>:</p> <p><input checked="" type="checkbox"/> DFO is the proponent</p> <p><input type="checkbox"/> DFO to issue <i>Fisheries Act</i> Authorization or <i>Species at Risk Act</i> Permit</p> <p><input type="checkbox"/> DFO to provide financial assistance to another party to enable the project to proceed</p> <p><input type="checkbox"/> DFO to lease or sell federal land to enable the project to proceed</p> <p><input type="checkbox"/> Other</p>
<p><b>12. Fisheries Act Sections (if applicable):</b></p> <p>n/a</p>

<p><b>13. Other Authorities</b></p> <ul style="list-style-type: none"> <li>• Transport Canada – Navigation Protection Program (NPP) and Environmental Affairs and Aboriginal Consultation Unit</li> </ul>	<p><b>14. Other Authorities rationale for involvement:</b></p> <ul style="list-style-type: none"> <li>• <i>Navigation Protection Act</i></li> </ul>
<p><b>15. Other Jurisdiction:</b></p> <ul style="list-style-type: none"> <li>• Department of Municipal Affairs and Environment, Water Resources Division (NLDMAE WR)</li> <li>• Service NL</li> <li>• Department of Municipal Affairs and Environment, Pollution Prevention Division (NLDMAE PP)</li> </ul>	

<b>16. Other Expert Departments Providing Advice:</b> <ul style="list-style-type: none"> <li>Fisheries and Oceans Canada, Fisheries Protection Program (DFO-FPP)</li> </ul>	<b>17. Areas of Interest of Expert Departments:</b> <ul style="list-style-type: none"> <li><i>Fisheries Act</i></li> </ul>
<b>18. Other Contacts and Responses:</b> n/a	
<b>19. Scope of Project (details of the project subject to review):</b> <p><b><u>Project Description</u></b></p> <p>An existing wharf in Seal Cove will be reconstructed. The new structure will have a footprint of approximately 446.52 m<sup>2</sup> for the proposed arrangement. The wharf will be constructed of 12 standard 6.1 m X 6.1 m treated timber step cribs. In addition to the portion of existing wharf that will be demolished, an existing shed and jib crane will also be removed. All demolition materials will be disposed of appropriately as per regulatory approvals. The new wharf will include wheelguards, fenders, ladders, and mooring cleats.</p> <p>To properly seat the cribwork, dredging will be carried out to remove a large volume of material from the perimeter of the wharf to hard bottom. The area of dredging taking place in a previously undisturbed area is 550 m<sup>2</sup>. The area will be dredged to - 1.50 m LNT as per the new site plan. The estimated dredge volume will be 698 m<sup>3</sup>, including an area previously dredged in 2002. Excavation required to seat the cribwork will likely be into bedrock with a volume of approximately 445 m<sup>3</sup>.</p> <p>Heavy machinery working from the shoreline will be required for dredging. Dredged material will be re-used on-site where possible, or otherwise transported to a provincially approved waste disposal location. Dredged material will not be placed below the high-water mark for the purpose of waste disposal.</p> <p>Refer to the site plans in Appendix B, Figures 4-5.</p> <p><b><u>Operation / Maintenance</u></b></p> <p>The Environmental Management System with an integrated Environmental Management Plan for the Harbour Authority of Seal Cove will cover operational aspects of environmental management at the harbour (fuelling, waste disposal, activities on the property and water). As such, environmental effects resulting from the SCH operations are not considered further in this project effects determination</p> <p><b><u>Decommissioning</u></b></p> <p>This facility is not presently planned to be decommissioned. At the time of decommissioning, Small Craft Harbours will develop a site-specific re-use or reclamation plan that is appropriate for the applicable environmental legislation and Fisheries and Oceans Canada policies.</p> <p><b><u>Scheduling</u></b></p> <p>Commencement of this project is subject to DFO SCH operational priorities and funding, as well as regulatory approval, but will likely proceed during the 2018-2019 fiscal year.</p>	



**20. Location of Project:**

Seal Cove is located on the Connaigre Peninsula in Fortune Bay, on the south coast of Newfoundland, at coordinates 47° 29' 15" N, 56° 03' 01" W. The project site is a 62 km drive west of Harbour Breton, NL and can be accessed via provincial Route 364.

## 21. Environment Description:

Seal Cove is part of the Maritime Barrens Ecoregion that extends from the east coast of Newfoundland to the west coast through the south central portion of the island. This ecoregion has the coldest summers with frequent fog and strong winds. Winters are relatively mild with intermittent snow cover particularly near the coastline. Annual precipitation exceeds 1250 mm.

The landscape pattern consists of usually stunted, almost pure stands of Balsam Fir, broken by extensive open heathland. Good forest growth is localized on long slopes of a few protected valleys. The development of the extensive heath landscape was precipitated by indiscriminate burning by European settlers. The heaths are dominated by *Kalmia angustifolia* on protected slopes where snow accumulates and by cushions of *Empetrum nigrum* or *Empetrum easmesii* on windswept ridges and headlands.

Attempts to afforest these heaths with *Picea sitchensis* have been unsuccessful, but Eastern larch and Scots Pine may have potential for fuelwood stands (Hall 1986). However, site selection is critical because the historical removal of forest has deflected the natural treeline to low elevations. Wind, lack of protective snow cover and soil frost disturbance are important factors limiting plantation establishment in this ecoregion.

Seal Cove is part of the South Coast Barrens Subregion. This subregion includes the higher elevations along the south coast and a few small outliers on the isthmus of Avalon and the Hawke Hills that are up to 300 m in elevation. Snow cover is shallow and arctic-alpine plants occur locally. Yellow Birch is present in valleys.

The intertidal zone appears as predominantly as cobble and boulder incorporated with sand or mud. Seaweed and other marine flora, though not abundant, are present. Fauna within the project area is limited to nearshore fish species such as cunner, tomcod, sculpin, winter flounder, and lobster. While marine mammals such as seals and whales are common in the general project area outside the narrows, it is unlikely they frequent the immediate project area.

Sediment samples were collected from the project site. Results of the analysis are as follows;

- All six samples met the CCME Industrial Soil Quality Guidelines for metals, (Soil Update 7.0: September 2007);
- One of six samples tested within *CCME Human health guidelines based on carcinogenic effects of PAH's: Polycyclic Aromatic Hydrocarbons* (2010) Table 1; \*SQG based on incremental lifetime cancer risk (ILCR) of  $10^{-5}$ ;
- All six samples tested within *CCME Environmental health guidelines for an industrial site: Polycyclic Aromatic Hydrocarbons* (2010);
- Modified Total Petroleum Hydrocarbons (TPH) were detected in some samples but below the 1000mg/kg guideline;
- All samples tested below the CCME Industrial Soil Quality Guidelines for BTEX parameters identified for landfill disposal (Soil Update 7.0: September 2007);
- PCB's were not detected in any of the samples.

### **Species at Risk (Aquatic and Terrestrial)**

A search of the Atlantic Canada Conservation Data Centre (ACCD) database was conducted on September 5<sup>th</sup>, 2018 within a 5 km radius of the proposed project location. Seal Cove is within the distributional range of the Piping Plover melodious ssp (*Charadrius melodus*) listed as endangered on Schedule 1 of the *Species at Risk Act* (SARA). The proposed project site is not likely to provide any critical, limiting, or sensitive habitat for any of the listed Species at Risk.

**22. Scope of Effects Considered (sections 5(1) and 5(2)):**

**Table 1: Potential Project / Environment Interactions Matrix**

	As per Section 5(1)			Section 5(1c)			Section 5(2)			Due Diligence				
				Aboriginal Interest										
Project Phase / Physical Work/Activity	Fish (Fisheries Act)	Aquatic Species (SARA)	Birds (MBCA)	Health and Socio economic	Physical and cultural heritage	Land use	*HAPA Significance	Health and Socio economic	Physical and cultural heritage	*HAPA Significance	Water (ground, surface, drainage, etc)	Terrestrial/ Aquatic Species	Soil/Marine Sediments	Air Quality
Wharf reconstruction														
Demolition, removal and reconstruction of wharf	P	-	P	-	-	-	-	P	-	-	P	P	P	P
Dredging	P	-	P	-	-	-	-	P	-	-	P	P	P	P
Dredge spoil disposal	P	-	P	-	-	-	-	P	-	-	P	P	P	P
Operation / Maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Decommissioning / Abandonment	-	-	-	-	-	-	-	-	-	-	-	-	-	-

\*structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

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

**23. Environmental Effects of Project:**

In the table above, potential environmental effects were identified. Scoped project activities such as dredging, disposal, wharf construction and infilling have the potential to effect the environment. Each of the potential effects are addressed here:

**Fish / Fish Habitat**

- Dredging activities could result in the loss of fish habitat.
- Sedimentation and/or increased turbidity as a result of placement of infilling material may negatively impact fish and quality of potential fish habitat.
- Infilling and construction of new wharf may result in destruction of potential fish habitat.

**Birds/Bird Habitat**

- Any type of hydrocarbon spill could result in bird or bird habitat loss.
- Noise / fumes may result in birds avoiding the site and surrounding area.

**Health and Socio economic**

- Potential for safety hazards to workers during demolition and construction activities.

**Water**

- Improper disposal of dredge material could result in contamination of groundwater by placement in areas that may be susceptible to groundwater.
- Improper disposal of dredge material could result in contamination of freshwater (e.g. dredge material placed in or near a waterbody).
- Dredging activities resulting in a sedimentation event and/or increased turbidity within the water column.
- Construction activities taking place near the shoreline may result in run off / erosion.
- Sedimentation and/or increased turbidity as a result of infilling may decrease marine water quality at immediate project site.
- Any type of hydrocarbon spill could result in adverse effects on water quality.

**Aquatic species**

- Sedimentation and/or increased turbidity as a result of removal/reinstatement of cribs and infilling may negatively impact aquatic species near project site.
- Accidental discharge of heavy machinery fuel/fluids may negatively impact aquatic species near project site.
- Construction of the wharf will result in a loss of flora, fauna, and habitat.

**Soil (Surface and Subsurface)/Marine Sediments**

- Project activities could potentially result in soil contamination due to improper disposal of dredge material or to some type of mechanical malfunction resulting in a hydrocarbon spill.
- Construction activities at site or natural events (e.g. rainfalls) could result in erosion / sedimentation events.
- Improper disposal of waste material and dredge material could result in contamination of soil.

**Air Quality / Noise**

- May cause a temporary disturbance to residents and wildlife/marine life.

## Navigation

- Potential for direct effects to navigation.

## 24. Mitigation Measures for Project (including Habitat Compensation):

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 and release of sediment and/or sediment laden water during the construction phase.

As part of this project's pre-planning process, marine sediment samples were collected from the proposed dredge areas and submitted for chemical analysis (Appendix D). The sediment materials will be disposed of at an approved landfill.

The in-water use of heavy equipment is not permitted. The operation of such equipment should be from dry/stable shoreline areas.

Work should be properly timed to avoid potential interference with commercial and/or recreational fisheries.

Appropriate sedimentation control measures (e.g. silt curtains, booms, etc), should be deployed where required.

All wastes should be recycled where possible or otherwise disposed of appropriately. All treated timber should be disposed of in an approved landfill site as per the Service NL letter.

All crib backfill material should be clean and obtained from an approved quarry.

All drainage and wash water from concrete production should be properly contained and should not drain into the marine environment.

There should be no sedimentation events as a result of proposed activities. If required, mitigation measures must be implemented such as installation of a turbidity barrier, construction of sediment ponds, etc.

Machinery should be well muffled and local municipality construction by-laws must be adhered to.

Machinery must be checked for leakage of lubricants or fuel and must be in good working order. Refuelling must be done at least 100m from any water body. Basic petroleum spill clean-up equipment should be on-site. All spills or leaks should be promptly contained, cleaned up and reported to the 24-hour environmental emergencies report system (1-800-563-9089). The proponent should consider developing a contingency plan specific to the proposed undertaking to enable a quick and effective response to a spill event.

Weather conditions should be assessed on a daily basis to determine the potential risk on project activities.

Several environmental approvals / permits have been obtained on behalf of SCH. These include:

1. NLDMAE provided Water Resources Permit to Alter a Water Body Minor Dredging Permit.
2. NL Department of Municipal Affairs and Environment Pollution Prevention for disposal of treated timber.
3. Service NL provided approval to dispose of dredge sediment material to an approved landfill.

4. Transport Canada may provide approval under the *Navigation Protection Act* (NPA).
5. Fisheries and Oceans provided Letter of Advice for the project outlining mitigation measures for the protection of fish and fish habitat.

These approvals are attached in Appendix C and all conditions/mitigation measures must be reviewed and implemented by the contractor.

The project is covered under NL DMAE Terms & Conditions, and the conditions associated with Transport Canada's, *Navigation Protection Act* authorization. Fisheries and Oceans Canada, Fisheries Protection Program determined that the project would likely not result in Serious Harm to fish or fish habitat and prescribed several mitigation measures to help mitigate potential environmental impacts (included above).

The proponent should ensure that copies of all regulatory approvals are available on-site during project activities.

Workers in contact with hazardous materials (e.g. wastes) must be provided with and use appropriate personal protective equipment;

Proper safety procedures must be followed during the duration of the project as per applicable municipal, provincial, and federal regulations;

Employees will be trained in health and safety protocols (e.g. safe work practices, emergency response).

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

#### **25. Significance of Adverse Environmental Effects of project:**

Significant adverse environmental effects are unlikely, taking into account mitigation measures.

#### **26, Other Considerations (Public Consultation, Aboriginal Consultation, Follow-up)**

##### **Public Consultation**

The proposed project will provide more adequate and secure access for vessels utilizing this facility. No negative public concern was received as a result of this project. SCH consulted the local harbor users and Harbour Authority on all aspects of the project to ensure all requirements at the site were considered during design.

##### **Aboriginal Consultation**

Aboriginal fishers are not known to utilize the Seal Cove SCH facility, nor are there any known aboriginal groups in the surrounding area. As such, aboriginal consultation was not deemed necessary as part of this determination.

##### **Government Consultation**

Federal and provincial authorities likely to have an interest in the project were consulted by Public Works & Government Services Canada, Environmental Services, during the course of this assessment. A project description was distributed to the following authorities:

- Fisheries and Oceans Canada – Fisheries Protection Program
- NL Department of Municipal Affairs and Environment, Water Resources Division
- Service NL

- Transport Canada – Navigation Protection Program and Environmental Affairs and Aboriginal Consultation Unit
- NL Department of Municipal Affairs and Environment Pollution Prevention Division

**Accuracy and Compliance Monitoring**

A follow-up program (as defined in S. 2(1) and as applicable to non-designated projects on federal lands) is a program for determining the effectiveness of any mitigation measures. Site monitoring (accuracy and compliance monitoring) may be conducted to verify whether required mitigation measures were implemented. The proponent must provide site access to Responsible Authority officials and/or its agents upon request.

**27. Other Monitoring and Compliance Requirements (e.g. *Fisheries Act* or *Species at Risk Act* requirements)**

n/a

## CONCLUSION

### 28. Conclusion on Significance of Adverse Environmental Effects:

The Federal Authorities have evaluated the project in accordance with Section 67 of *Canadian Environmental Assessment Act (CEAA), 2012*. 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 as outlined.

29. Prepared by:

*Cathy Martin*

30. Date: November 23, 2018

31. Name:

Cathy Martin

32. Title:

Environmental Specialist, PWGSC-ES

## DECISION

### 33. Decision Taken

- ☒ DFO may exercise its power, duty or function, i.e. may issue the authorization - where the project is not likely to cause significant adverse environmental effects. Confirm below the specific power, duty or function that may be exercised.
- ☐ DFO to issue *Fisheries Act* Authorization or *Species at Risk Act* Permit
  - ☒ DFO to proceed with project (as proponent)
  - ☒ DFO to provide financial assistance for project to proceed
  - ☐ DFO to provide federal land for project to proceed
- ☐ DFO has decided not to exercise its power, duty or function because the project is likely to cause significant adverse environmental effects.
- ☐ DFO to ask the Governor in Council to determine if the significant adverse environmental effects are justified in the circumstances

34. Approved by:

*Paul Curran*

35. Date:

*Nov 28/18*

36. Name:

Paul Curran

37. Title:

Regional Engineer, DFO-SCH, NL

38. References: n/a



**39. TRANSPORT CANADA RECOMMENDATION**

<b>Project Title:</b>	Wharf Reconstruction, Seal Cove, NL	
<b>TC File No.:</b>	NEATS: 48787	
<b>NPP File No.:</b>	NPP# 2018-200135	
<b>Environmental Review Decision:</b>	Taking into account the implementation of any mitigation measures that Transport Canada considers appropriate, the project <b>is not likely</b> 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.	
<b>Prepared by:</b>	Melissa Ginn Environmental Officer Environmental Affairs and Aboriginal Consultation Unit	
<b>Signature:</b>		<b>Date:</b>
<b>Mailing Address:</b>	10 Barter's Hill, St. John's, NL	
<b>Tel:</b>	709-772-3088	
<b>Fax:</b>	709-772-3072	
<b>Email:</b>	melissa.ginn@tc.gc.ca	
<b>Recommended by:</b>	J. Jason Flanagan Senior Environmental Assessment Officer Environmental Affairs and Aboriginal Consultation Unit	
<b>Signature:</b>		<b>Date:</b>
<b>Approved by:</b>	Kevin LeBlanc Regional Manager Environmental Affairs and Aboriginal Consultation Unit	
<b>Signature:</b>		<b>Date:</b>

## **Appendix A FIGURES**

- Topo Map**
- Aerial Photographs**

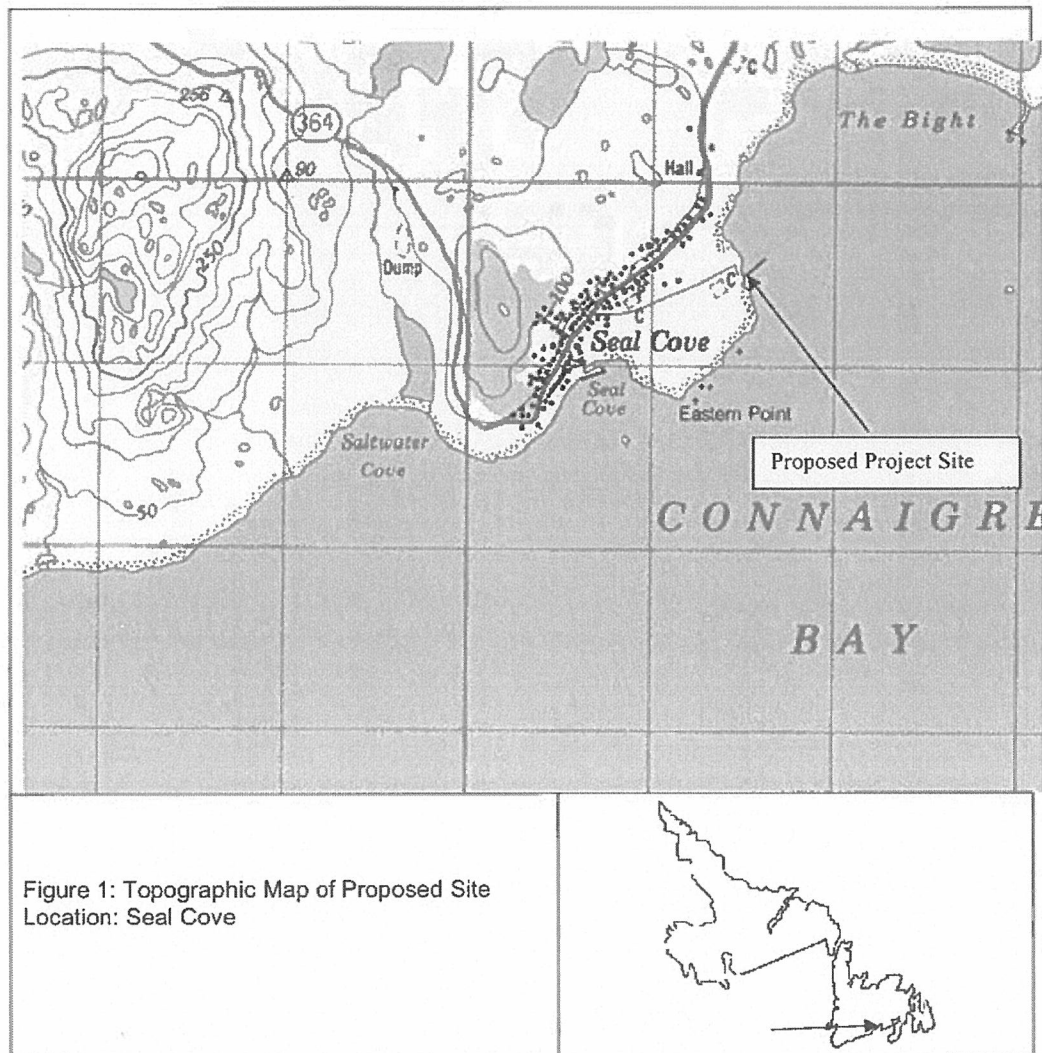


Figure 1: Topographic Map indicating project site.



Figure 2: Location of proposed project.

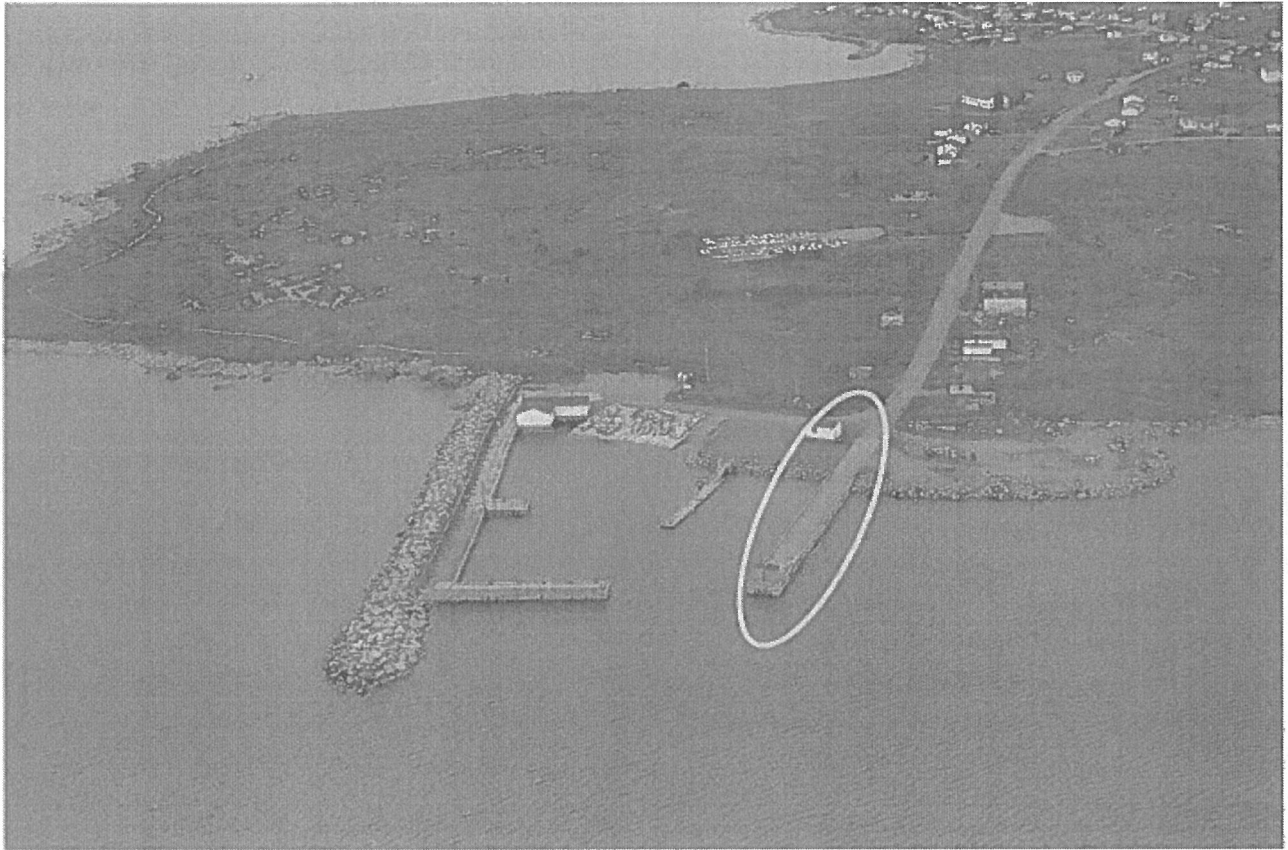


Figure 3: Location of proposed project (DFO Aerial Photograph 2015).

## **Appendix B SITE PLANS**

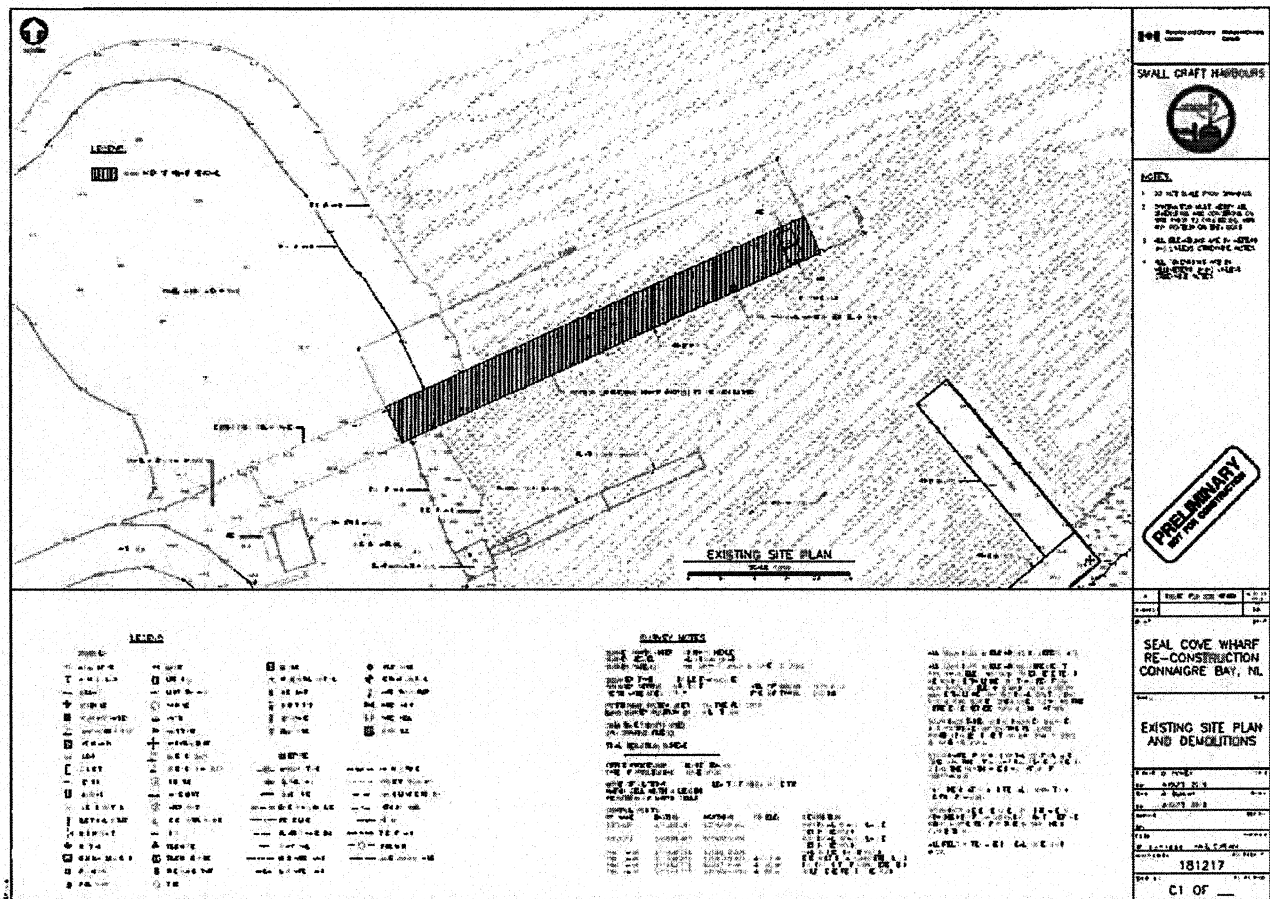


Figure 4: Existing structures and demolition site plan.

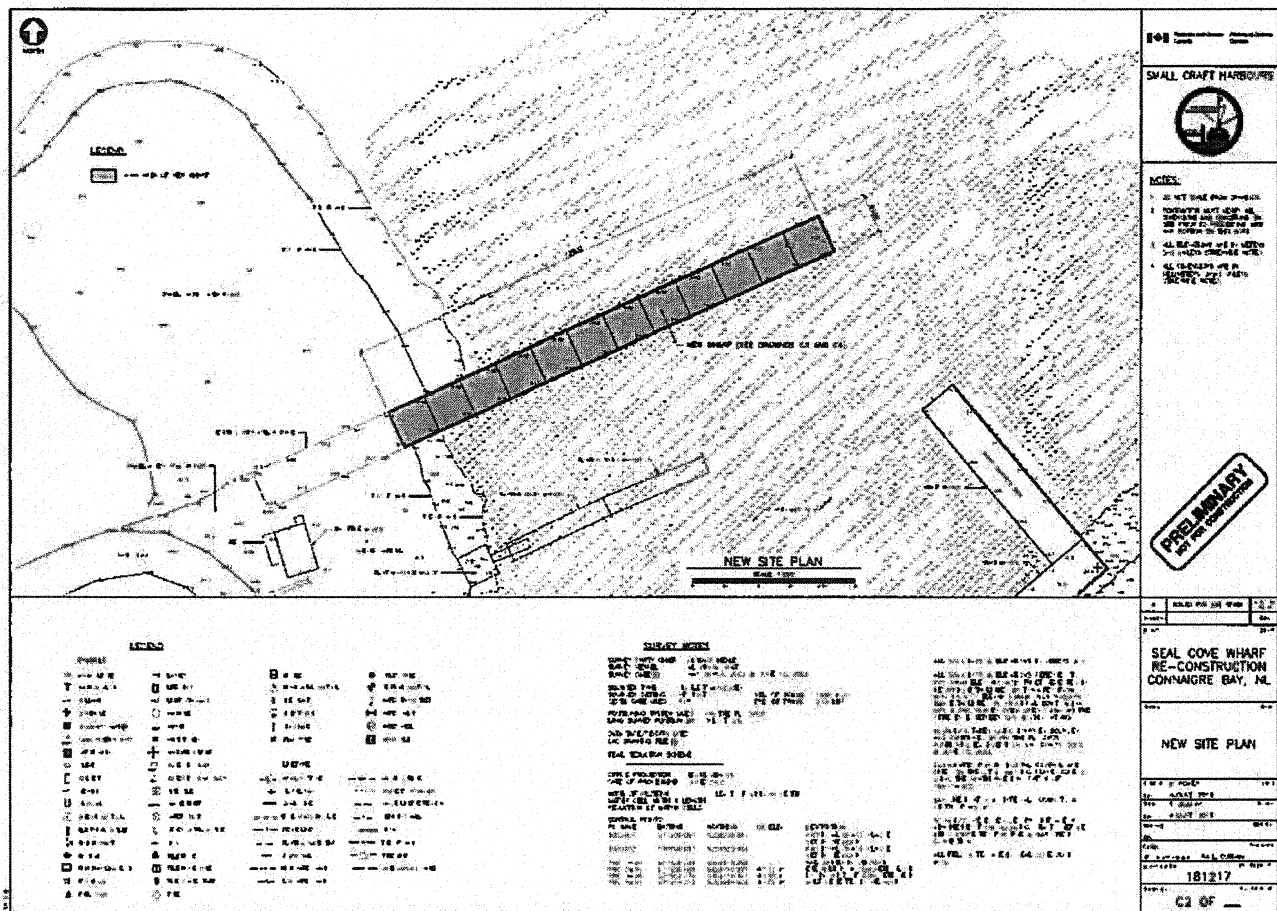


Figure 5: Site Plan of Proposed Construction Project.



## **Appendix C REGULATORY APPROVALS**



Government of Newfoundland and Labrador  
Department of Municipal Affairs and Environment  
Water Resources Management Division

### PERMIT TO ALTER A BODY OF WATER

Pursuant to the Water Resources Act, SFL 2002 c.W-4.01, specifically Section(s) 43

Date: MARCH 03, 2017

File No. 532-02  
Permit No. A17090-2017

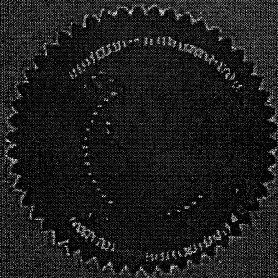
Permit Holder: Department of Fisheries and Oceans Canada  
Small Craft Harbour Branch  
John Cabot Building, 10 Bartley Hill  
St. John's NL A1C 5X1

Attention: Mr. Paul Cernau

Re: Minor DFO Dredging and Works Projects

Permission is hereby given for dredging and beach grading of 2000 cubic metres or less of primarily sand, gravel, cobble and boulder material and other associated works in or near bodies of water in order to provide safe navigation at for the Department of Fisheries and Oceans small craft harbours at various locations and facilities across the Province, in reference to the application received on April 19, 2016 and further information provided on or before March 1, 2017.

- This Permit does not release the Permit Holder from the obligation to obtain appropriate approvals from other concerned municipal, provincial and federal agencies.
- The Permit Holder must obtain the approval of the Crown Lands Administration Division if the project is being carried out on Crown Land.
- This Permit is subject to the terms and conditions indicated in Appendices A and B (attached).
- It should be noted that prior to any significant changes in the design or installation of the proposed works, or in event of changes in ownership or management of the project, an amendment to this Permit must be obtained from the Department of Municipal Affairs and Environment under Section 49 of the Water Resources Act.
- Failure to comply with the terms and conditions will render this Permit null and void, place the Permit Holder and their agent (s) in violation of the Water Resources Act and make the Permit Holder responsible for taking any remedial measures as may be prescribed by this Department.



  
MINISTER

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR  
Department of Municipal Affairs and Environment

File No: 832-92  
Permit No: ALT8608-2017

APPENDIX A  
Terms and Conditions for Permit

**Dredging**

1. Dredging activity must only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site.
2. Dredged material must be disposed of in accordance with the regional Service NL Centre of the Department of Service NL. The Department of Service NL may require samples to be submitted for testing and analysis.
3. Dredged material must be disposed of in accordance with the regional Service NL Centre of the Department of Service NL. The Department of Service NL may require samples to be submitted for testing and analysis. Only suitable, rocky material dredged may be used for breakwater construction as it will not be susceptible to erosion.

**General Alterations**

4. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
5. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
6. Water pumped from excavations or work areas, or any runoff or effluent directed out of work sites, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.
7. All operations must be carried out in a manner that prevents damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water.
8. The use of heavy equipment in streams or bodies of water is not permitted. The operation of heavy equipment must be confined to dry stable areas.
9. All vehicles and equipment must be clean and in good repair, free of mud and oil leaks, or other harmful substances that could impair water quality.
10. During the construction of concrete components, formwork must be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.
11. Wood preservatives such as penta, CCA or other such chemicals must not be applied to timber near a body of water. All treated wood or timber must be thoroughly dry before being brought to any work site and installed.
12. Any areas adversely affected by any minor dredging or associated work carried under this Permit must be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if considered necessary in the opinion of this Department.
13. The bed, banks and floodplains of watercourses, or other vulnerable areas affected by any minor dredging or associated work carried under this Permit, must be adequately protected from erosion by seeding, sodding or placing of rip-rap.
14. All waste materials resulting from any minor dredging or associated work carried under this Permit, must be disposed of at a site approved by the Department of Service NL.
15. Periodic maintenance such as painting, resurfacing, clearing of debris, or minor repairs, must be carried out without causing any physical disruption of any body of water. Care must be taken to prevent spillage of pollutants into any body of water.
16. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
17. Sediment and erosion control measures must be installed before starting work. All control measures must be inspected

regularly and any necessary repairs made if damage is discovered.

18. Fill material must be obtained from an approved quarry and must be of good quality, free of fines or other substances including metals, organics, or chemicals that may be harmful to the receiving waters. It must not be taken from beaches or streams, and must not be dredged from any body of water.
19. The Permit Holder must annually submit a written report to the Department including all completed minor dredging and other associated works along with photos showing the sites prior to and after all minor dredging and other associated works.
20. This Permit is effective January 1, 2016 and shall expire on December 31, 2018 or earlier if modified, suspended or cancelled by the Minister. Also, this Permit may be renewed by the Minister for such renewal term as the Minister deems appropriate, on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Permit Holder applies for the renewal at least sixty (60) days before the expiry of this Permit.
21. All work must be carried out within the Permit Holder's legal property boundaries or with the approval of the upland owner. In case of Crown Lands, all work must comply with all other terms and conditions of the Crown Lands grant, lease or license for occupancy.
22. The Permit Holder acknowledges and agrees that this Permit does not grant any interest in land or any exclusive right in or to use or occupy lands.

#### Special Conditions

23. The Permit Holder must apply for and obtain a separate permit under the Water Resources Act, SNL 2002 cW-4.01, specifically Section 39 <http://assembly.nl.ca/Legislation/sn/statutes/w04-01.htm> for any minor dredging or associated works that may take place within any designated Protected Public Water Supply Area servicing any community as indicated in Water Resources Portal available at <https://maps.gov.nl.ca/water/mapbrowser/Default.aspx>.
24. The Permit Holder may be required to apply for and obtain a separate permit under the Water Resources Act, SNL 2002 cW-4.01, specifically Section 48 <http://assembly.nl.ca/Legislation/sn/statutes/w04-01.htm> for any minor dredging or associated works that may take place within any designated flood risk area as indicated at <http://www.env.gov.nl.ca/env/waterres/flooding/firm.html>.
25. Any alteration in or near a freshwater body (including wetlands) requires a separate permit under the Water Resources Act, SNL 2002 cW-4.01, specifically Section 48 <http://assembly.nl.ca/Legislation/sn/statutes/w04-01.htm>. The Permit Holder must avoid work activities in wetlands wherever possible.
26. A water quality monitoring program is not required at this time. However, the Department reserves the right to require that the Permit Holder sample, analyze, and submit results of water quality tests, for the purpose of ensuring that the water quality is maintained within acceptable guidelines. All analyses must be undertaken by a CALA accredited laboratory.
27. Select heavy rocks must be placed along the shoreline to provide slope stability and erosion protection. Dredged materials unsuitable for erosion protection must not be placed along the shoreline.
28. The slopes along the perimeter of infilled areas must be no steeper than two horizontal to one vertical (2H:1V).
29. Infilling must not disrupt the established surface drainage pattern of the area.
30. Suitable booms must be deployed around work sites to contain any floating debris that might otherwise be carried away. All booms must be properly maintained and remain in place until all work is completed.
31. Creosote treated wood must not be used in the construction of any structures in or within 15 metre of any body of water.
32. Periodic maintenance such as painting, resurfacing, clearing of debris, or minor repairs, must be carried out without causing any physical disruption of any body of water. Care must be taken to prevent spillage of pollutants into any body of water.
33. If a minor dredging or associated work carried out under this Permit does prohibit, restrict or impede public access along the shoreline reservation then the Permit Holder shall restore the shoreline reservation to the satisfaction of the Minister within sixty (60) days of a written notice.
34. For each minor dredging or associated work carried out under this Permit, the Permit Holder must notify this Department via email to [waterinvestigations@gov.nl.ca](mailto:waterinvestigations@gov.nl.ca) or facsimile at (709)729-0320 in accordance with a reporting protocol as deemed



GOVERNMENT OF NEWFOUNDLAND AND LABRADOR  
Department of Municipal Affairs and Environment

File No: 532-92  
Permit No: ALT8600-2017

APPENDIX B  
Special Terms and Conditions for Permit

1. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall keep all systems and works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Permit Holder or its agent(s), subcontractor(s), or consultant(s) shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works, endanger public safety and/or the environment or adversely affect others and/or any body of water either in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for all damages suffered by the Minister and Government resulting from any defect in the systems and works, operational deficiencies/inadequacies, or structural failure.
2. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall operate the said Project and its systems and works in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, and deterioration of water quality and groundwater depletion, in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the operational procedures by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
3. If the Permit Holder or its agent(s), subcontractor(s), or consultant(s) fails to perform, fulfil, or observe any of the terms and conditions, or provisions of this Permit and/or Ministerial orders and guidelines, as determined by this Department, the Minister may, after providing ten (10) day notice to the Permit Holder, amend, modify, suspend or cancel this Permit in accordance with the *Water Resources Act*.
4. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) indemnify and hold the Minister and Government harmless against any and all liabilities, losses, claims, demands, damages or expenses including legal expenses of any nature whatsoever whether arising in tort, contract, statute, trust or otherwise resulting directly or indirectly from granting this Permit, systems and works in or outside the said Project areas, or any act or omission of the Permit Holder or its agent(s), subcontractor(s), or consultant(s) in or outside the said Project areas, or arising out of a breach or non-performance of any of the terms and conditions, or provisions of this Permit by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
5. This Permit is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Permit or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
6. This Permit shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.

- cc: Dr. Abdel-Zaher Kamal Abdel-Razek, Ph. D., P.Eng.  
Manager, Water Rights and Investigations Section  
Water Resources Management Division  
Department of Municipal Affairs and Environment  
P.O. Box 8700  
4th Floor, West Block, Confederation Building  
St. John's, NL A1B 4J6  
aabdelrazek@gov.nl.ca
- cc: Mr. Carl Hane (Western)  
GSC - Corner Brook, Service NL  
Sir Richard Squires Building  
Mount Bernard Avenue, P.O. Box 2006  
Corner Brook, NL A2H 6J8  
chane@gov.nl.ca
- cc: Mr. Guy Perry  
Director  
GSC - Clarenville, Service NL  
8 Myers Avenue, Suite 201  
Clarenville, NL A5A 1T3  
gperry@gov.nl.ca
- cc: Mr. Ken Russell (Labrador)  
Manager of Operations, GSC - Happy Valley-Goose Bay, Service NL  
Government Service Centre  
2 Tenth Street, P.O. Box 3014, Sta. B  
Happy Valley-Goose Bay, NL A0P 1E0  
krussell@gov.nl.ca
- cc: Mr. Robert Groves, Regional Manager  
GSC - Clarenville, Service NL  
8 Myers Avenue, Suite 201  
Clarenville, NL A5A 1T3  
rgroves@gov.nl.ca
- cc: Mr. Robert Locke  
Manager of Operations and Environmental Protection, GSC - Mount Pearl, Service NL  
P.O. Box 8700  
St. John's, NL A1B 4J6  
rlocke@gov.nl.ca
- cc: Mr. Wayne Lynch  
Regional Director (Central)  
Service NL  
P.O. Box 2222  
Gander, NL A1V 2N9  
wayne Lynch@gov.nl.ca
- cc: Ms Sharon Williams, Regional Manager  
Environmental Health, GSC - Mount Pearl, Service NL  
P.O. Box 8700  
St. John's, NL A1B 4J6  
williams@gov.nl.ca
- cc: Fisheries Protection Division  
Ecosystem Management Branch  
Fisheries and Oceans Canada  
P.O. Box 5667  
St. John's, NL A1C 5X1  
FPP-NL@dfo-mpo.gc.ca

- cc: Marine Safety  
Transport Canada, Atlantic Regional Headquarters  
Airports, Harbours and Ports, and Environmental Services  
95 Foundry St.  
P.O. Box 42  
Moncton, NB E1C 8K6  
NPPATL-PPNATL@tc.gc.ca
- cc: Mr. Mark McNeil  
Environmental Services  
Department of Public Works and Government Services Canada  
Suite 204, 1 Regent Square  
Corner Brook, NL A2H 7K6  
mark.mcneil@pwgsc-tpsgc.gc.ca
- cc: Mr. Shawn Keas  
Environmental Services  
Public Works & Government Services Canada  
John Cabot Building, 10 Barter's Hill  
P.O. Box 4600  
St. John's, NL A1C 5T2  
shawn.keas@pwgsc.gc.ca
- cc: Ms. Cathy Martin  
Public Works and Government Services Canada, ES  
10 Barter's Hill  
P.O. Box 4600  
St. John's, NL A1C 5T2  
cathy.martin@pwgsc-tpsgc.gc.ca



Government of Newfoundland and Labrador  
Department of Municipal Affairs and Environment  
Water Resources Management Division

**Appendix C - Completion Report**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 48

Date: MARCH 03, 2017

File No: 532-92  
Permit No: A1T8600-2017

Permit Holder: Department of Fisheries and Oceans Canada  
Small Craft Harbour Branch  
John Cabot Building, 10 Barter's Hill  
St. John's NL A1C 5X1

Attention: Mr. Paul Curran

Re: Minor DFO Dredging and Works Projects

Permission was given for : routine dredging or beach grading of 2000 cubic metres or less of primarily sand, gravel, cobble, and boulder material and other associated works in or near bodies of water in order to provide safe navigation at for the Department of Fisheries and Oceans' small craft harbours at various locations and facilities across the Province, in reference to the application received on April 19, 2016 and further information provided on or before March 1, 2017.

*I (the Permit Holder named above or agent authorized to represent the Permit Holder) do hereby certify that the project described above was completed in accordance with the plans and specifications submitted to the Department of Municipal Affairs and Environment and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.*

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

This completion report must be completed and forwarded to the following address upon completion of the approved work.

Department of Municipal Affairs and Environment  
Water Resources Management Division  
PO Box 8700  
St. John's NL A1B 4J6



FILE MESSAGE



Fri 26/10/2018 10:26 AM

Hann, Joan <joanhann@gov.nl.ca>

FW: Permission for Treated Timber Disposal - Seal Cove, NL

To: Cathy Martin

You replied to this message on 26/10/2018 10:31 AM.

Message: Haan Timber disposal for Seal Cove.pdf B804658V1-R2018-10-01\_18-05-00\_R006.pdf

Hello Cathy

The TWW material referenced above is permitted for disposal to RHB WDS. Please ensure all disposal documents are forwarded to the department.

Regards

Joan Hann

Environmental Scientist

Pollution Prevention Division

Department of Municipal Affairs and Environment

4<sup>th</sup> Floor, Confederation Building, West Block

P.O. Box 8700

St. John's, NL, Canada A1B 4J6

Email: [joanhann@gov.nl.ca](mailto:joanhann@gov.nl.ca)

Phone: 709-729-1771

From: Cathy Martin [<mailto:Cathy.Martin@pwgsc-tpsgc.gc.ca>]

Sent: Friday, October 26, 2018 10:08 AM

To: Hann, Joan

Subject: Permission for Treated Timber Disposal - Seal Cove, NL

## **Curran, Paul P**

---

**From:** Cathy Martin <Cathy.Martin@pwgsc-tpsgc.gc.ca>  
**Sent:** November-27-18 9:51 AM  
**To:** Curran, Paul P; Upward, Dion B  
**Subject:** FW: Permission for Treated Timber Disposal - Seal Cove, NL

Please see note below... Norris Arm is acceptable.  
Cathy

---

**From:** Hann, Joan [mailto:joanhann@gov.nl.ca]  
**Sent:** November-27-18 9:06 AM  
**To:** Cathy Martin <Cathy.Martin@pwgsc-tpsgc.gc.ca>  
**Subject:** RE: Permission for Treated Timber Disposal - Seal Cove, NL

Hello Cathy  
Yes – Norris Arm is acceptable – thanks

Joan Hann  
Environmental Scientist  
Pollution Prevention Division  
Department of Municipal Affairs and Environment  
4<sup>th</sup> Floor, Confederation Building, West Block  
P.O. Box 8700  
St. John's, NL, Canada A1B 4J6  
Email: [joanhann@gov.nl.ca](mailto:joanhann@gov.nl.ca)  
Phone: 709-729-1771

---

**From:** Cathy Martin [mailto:Cathy.Martin@pwgsc-tpsgc.gc.ca]  
**Sent:** Friday, November 23, 2018 3:16 PM  
**To:** Hann, Joan  
**Subject:** RE: Permission for Treated Timber Disposal - Seal Cove, NL

Hi Joan,  
Just wanted to confirm, during our discussion, you had advised that this timber material would be acceptable at Norris Arm as well, correct? Robin Hood Bay is quite a distance from Seal Cove Cove (Connigre Bay). Would prefer to bring it to Norris Arm if acceptable.

Cathy

---

**From:** Hann, Joan [mailto:joanhann@gov.nl.ca]  
**Sent:** October-26-18 11:08 AM  
**To:** Cathy Martin <Cathy.Martin@pwgsc-tpsgc.gc.ca>  
**Subject:** RE: Permission for Treated Timber Disposal - Seal Cove, NL

The results for TCLP Benzoapyrene ave = .0024 ppm exceeding GD

Joan Hann  
Environmental Scientist  
Pollution Prevention Division

Department of Municipal Affairs and Environment  
4<sup>th</sup> Floor, Confederation Building, West Block  
P.O. Box 8700  
St. John's, NL, Canada A1B 4J6  
Email: [Joanhann@gov.nl.ca](mailto:Joanhann@gov.nl.ca)  
Phone: 709-729-1771

---

**From:** Cathy Martin [<mailto:Cathy.Martin@pwgsc-tpsgc.gc.ca>]  
**Sent:** Friday, October 26, 2018 10:32 AM  
**To:** Hann, Joan  
**Subject:** RE: Permission for Treated Timber Disposal - Seal Cove, NL

Hi Joan,

Just wondering if there is a site closer to Seal Cove (Connagrie Bay) that can accept the creosote timber? Does it have to go to RHB?

Thanks,  
Cathy

---

**From:** Hann, Joan [<mailto:joanhann@gov.nl.ca>]  
**Sent:** October-26-18 10:26 AM  
**To:** Cathy Martin <[Cathy.Martin@pwgsc-tpsgc.gc.ca](mailto:Cathy.Martin@pwgsc-tpsgc.gc.ca)>  
**Subject:** FW: Permission for Treated Timber Disposal - Seal Cove, NL

Hello Cathy

The TWW material referenced above is permitted for disposal to RHB WDS. Please ensure all disposal documents are forwarded to the department.

Regards

Joan Hann

Environmental Scientist

Pollution Prevention Division

Department of Municipal Affairs and Environment

4<sup>th</sup> Floor, Confederation Building, West Block

P.O. Box 8700

St. John's, NL, Canada A1B 4J6

Email: [Joanhann@gov.nl.ca](mailto:Joanhann@gov.nl.ca)

Phone: 709-729-1771

---

**From:** Cathy Martin [<mailto:Cathy.Martin@pwgsc-tpsgc.gc.ca>]  
**Sent:** Friday, October 26, 2018 10:08 AM  
**To:** Hann, Joan  
**Subject:** Permission for Treated Timber Disposal - Seal Cove, NL

Good Morning Joan,

Please see the attached request.

Thanks in advance,  
Cathy

Cathy Martin

Environmental Services / Service Environnementaux

Public Services and Procurement Canada / Government of Canada

[cathy.martin@pwgsc-tpsgc.gc.ca](mailto:cathy.martin@pwgsc-tpsgc.gc.ca) / Tel: 709-691-1567

Services publics et Approvisionnement Canada / Gouvernement du Canada

[cathy.martin@tpsgc-pwgsc.gc.ca](mailto:cathy.martin@tpsgc-pwgsc.gc.ca) / Tél: 709-691-1567

---

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Fisheries and Oceans    Pêches et Océans  
Canada                      Canada

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

Your file                      Votre référence

**OCT 18 2018**

Our file                      Notre référence  
18-HNFL-00671

Paul Curran, P. Eng.  
Regional Engineer, Small Craft Harbours  
John Cabot Building, 10 Barters Hill  
St. John's, NL A1C 5X1

**Subject: Wharf Demolition and Reconstruction, Seal Cove, NL – Implementation of Measures to Avoid and Mitigate Serious Harm to Fish and Prohibited Effects on Listed Aquatic Species at Risk**

Dear Mr. Curran:

*Paul*

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on September 12, 2018. We understand that you propose to:

- Demolish existing timber crib wharf (~73 m (L) x 6.1 m (W)) and related infrastructure (e.g. shed, and jib crane);
- Excavate/dredge the area adjacent to the south side (~570 m<sup>2</sup>) and north side (~550 m<sup>2</sup>) of the existing wharf to facilitate installation of new timber cribs; and
- Construct a new timber crib and rock fill wharf (~73 m (L) x 6.1 m (W)) within the footprint of demolished wharf.

Our review considered the following information:

- Request for Review received on September 12, 2018;
- Additional information received from Cathy Martin on September 27, 2018 and October 1, 2018; and
- Full-scale engineering drawings received on October 15, 2018.

Your proposal has been reviewed to determine whether it is likely to result in serious harm to fish which is prohibited under subsection 35(1) of the *Fisheries Act* unless authorized. Your proposal has also been reviewed to determine whether it is likely to affect 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*, unless authorized.

To avoid and mitigate the potential for serious harm to fish, we recommend implementing the measures listed below:

**Canada**

- The project should be carried out in a manner that minimizes the release of sediment and/or other project related material into the water of Seal Cove or any other adjacent water body;
- Duration of in-water works should be minimized and limited to only activity related to the above noted project elements;
- To the extent possible, project related activity should be carried out during low tide and low wind/wave condition;
- Project related activity should be suspended, and/or additional mitigation measures taken (i.e. deployment of a floating sediment boom/curtain) if wind or tide conditions cause sediment/turbid water to be visible outside the immediate project area;
- Machinery should be operated from dry stable locations;
- Dredged or excavated material should be disposed of at an approved site above the high water mark of any waterbody. If necessary, adequate sedimentation and erosion control measures should be deployed around stored dredge material;
- Shoreline disturbance should be restricted to the immediate work area. Any shoreline areas disturbed by project activities should be stabilized as soon as possible to prevent erosion;
- Rock material for crib ballast should be clean rock free of fine erodible material collected above the high water mark; and
- Rock material should not be end dumped; rather, it should be placed on station using an excavator or similar equipment.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not result in serious harm to fish or prohibited effects on listed aquatic species at risk. As such, an authorization under the *Fisheries Act* or a permit under the *Species at Risk Act* is not required.

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 avoid causing serious harm to fish and avoid prohibited effects on listed aquatic species at risk, any part of their critical habitat or the residences of their individuals.

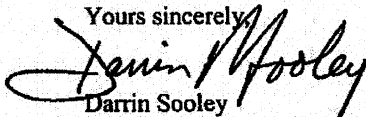
It is also your *Duty to Notify* DFO if you have caused, or are about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such

notifications should be directed to <http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html>.

Please notify this office at least 10 days before starting your project. A copy of this letter should 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.

If you have any questions with respect to this letter, please contact me by phone at (709) 772-3521, by fax at (709) 772-5562, or by email at [Darrin.Sooley@dfo-mpo.gc.ca](mailto:Darrin.Sooley@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Darrin Sooley  
Senior Biologist, Coastal, Marine, Oil & Gas Development  
Fisheries Protection Program – Regulatory Reviews  
Ecosystems Management Branch, NL Region

Cc. Cathy Martin – Public Services and Procurement Canada, St. John's



*Government of Newfoundland and Labrador Service NL*

*3 Cromer Avenue, Grand Falls-Windsor, NL, Canada A2A 1W9 Tel. 709.292.4206 Fax. 709.292.4528*

File No. 39159 15 November 2018  
Public Works and Government Services Canada  
P. O. Box 4600  
St. John's, NL  
A1C 5T2

**Attention: Cathy Martin**

Dear Ms. Martin:

**RE: Disposal of Marine Sediment from Dredging, Seal Cove, NL**

With reference to the above-noted project, the Government Service Centre has received and reviewed your proposal.

Based on the results of chemical analysis provided and information contained in the documentation submitted we would have no objections provided the following stipulations and recommendations are adhered to:

1. As per your proposal, the disposal of dredge material (approximately 698 cubic meters) at an approved Waste Disposal Site with approval of the site owner/operator. Waste material is to be disposed on site as directed by the site owner/operator.
2. All other waste material generated during this project and operation of the facility shall be considered, prior to disposal, for reuse, resale or recycling.
3. During operations any floating debris, at the project site, is to be secured and retrieved on a daily basis for disposal.
4. Any on-site fuel storage tank system installations other than those connected to a heating appliance of a capacity of 2,500 litres or less are subject to the Storage and Handling of Gasoline and Associated Products Regulations and will require approval by the Government Service Centre prior to installation.
5. All fuel storage tank systems connected to a heating appliance of a capacity of 2,500 litres or less must comply with the *Heating Oil Storage Tank System Regulations*.
6. The storage, handling and disposal of used oil and lubricants must comply with the *Used Oil Control Regulations, NLR 82/02*.
7. All vehicles and heavy equipment must be in good repair and inspected regularly to ensure there are no oil or fuel leaks.
8. Re-fueling, maintenance activities and the storage of gasoline and other associated products such as oil, grease, diesel, hydraulic and transmission fluids should take place far as practically possible from any body of water and on level terrain.

- 2 -

*3 Cromer Avenue, Grand Falls-Windsor, NL, Canada A2A 1W9 Tel. 709.292.4206  
Fax. 709.292.4528*

9. In order to ensure that a quick and effective response to a spill event is possible, spill response equipment should be readily available on-site. Response equipment, such as absorbents and open-ended barrels for collection of cleanup debris, should be stored in an accessible location on-site. Personnel working on the project should be knowledgeable about response procedures. The proponent should consider developing a contingency plan specific to the proposed undertaking to enable a quick and effective response to a spill event.

10. Should site work reveal any actual or suspected site contamination the proponent shall contact the Department at 292-4367 or by calling the twenty-four hour Environmental Emergency Line at 722-2083 or 1-800-563-9089.

11. This approval does not release the proponent from the obligation to obtain appropriate approvals from other concerned provincial, federal and municipal agencies.

12. Dredge spoils are to be transported in water tight trucks or containers to prevent leakage during transport.

13. Dredge material may be redistributed or used on site as per the requirements of section 7.5 and 8.0 of the guidance document below.

[http://www.mae.gov.nl.ca/env\\_protection/waste/guidancedocs/ExcSoilsConcreteRubbleDredgedMaterials.pdf](http://www.mae.gov.nl.ca/env_protection/waste/guidancedocs/ExcSoilsConcreteRubbleDredgedMaterials.pdf)

14. Dredge spoils must be visually checked for possible contamination (i.e. fuel oil, sewage and organic contaminants of concern).

Should you have any questions or comments, please contact me at the address above or by telephoning (709) 292-4347.

Yours truly,

---

**Paul McInnis, B. Tech. Env. Eng., MES**  
**Environmental Protection Officer**  
PM:tc

cc: Town of Seal Cove, FB

## **Appendix D SEDIMENT RESULTS**



Your P.O. #: 700419188  
Site Location: Seal Cove, NL  
Your C.O.C. #: D26849

Attention: Cathy Martin  
Public Works & Government Services Canada  
PO Box 4600  
10 Barter's Hill  
St. John's, NL  
CANADA A1C 5T2

Report Date: 2018/10/01  
Report #: R5422893  
Version: 1 - Final

### CERTIFICATE OF ANALYSIS

MAXXAM JOB #: BR04658  
Received: 2018/09/19, 09:55  
Sample Matrix: SEDIMENT  
# Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Benzo(b,j)fluoranthene Sum (LI soil)	4	N/A	2018/09/25	N/A	Auto Calc.
Benzo(b,j)fluoranthene Sum (LI soil)	2	N/A	2018/09/28	N/A	Auto Calc.
Boron Solid MS - Hot Water Soluble	4	2018/09/24	2018/09/24	ATL SOP 00058	EPA 6020A R1 m
Boron Solid MS - Hot Water Soluble	2	2018/09/24	2018/09/25	ATL SOP 00058	EPA 6020A R1 m
Hexavalent Chromium in Soil by IC (1, 3)	6	2018/09/24	2018/09/26	CAM SOP-00436	EPA 3060/7199 m
TEH in Soil (PIRI) (3)	6	2018/09/21	2018/09/23	ATL SOP 00111	Atl. RBGA v3.1 m
Metals Solids Acid Extr. ICPMS	4	2018/09/25	2018/09/25	ATL SOP 00058	EPA 6020A R1 m
Metals Solids Acid Extr. ICPMS	2	2018/09/26	2018/09/26	ATL SOP 00058	EPA 6020A R1 m
Weak Acid Dissociable Cyanides (2)	6	2018/09/26	2018/09/27	STL SOP-00035	MA300-CN 1.2 R3 m
Total Cyanide (2)	6	2018/09/26	2018/09/27	STL SOP-00035	MA300-CN 1.2 R3 m
Moisture	6	N/A	2018/09/21	ATL SOP 00001	OMOE Handbook 1983 m
PAH in sediment by GC/MS (Low Level) (3)	4	2018/09/24	2018/09/25	ATL SOP 00102	EPA 8270E 2017 m
PAH in sediment by GC/MS (Low Level) (3)	2	2018/09/27	2018/09/27	ATL SOP 00102	EPA 8270E 2017 m
Low Level PCB in Soil by GC-ECD	1	2018/09/20	2018/09/25	ATL SOP 00106	EPA 8082A m
Low Level PCB in Soil by GC-ECD	5	2018/09/21	2018/09/25	ATL SOP 00106	EPA 8082A m
PCB Aroclor sum (low level soil)	6	N/A	2018/09/25	N/A	Auto Calc.
ModTPH (T1) Calc. for Soil	6	N/A	2018/09/24	N/A	Atl. RBGA v3.1 m
VPH in Soil (PIRI) - Field Preserved (4)	6	N/A	2018/09/20	ATL SOP 00119	Atl. RBGA v3.1 m

Sample Matrix: Solid  
# Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Semivolatile Organic Compounds (TCLP) (1)	1	2018/09/27	2018/09/28	CAM SOP-00301	EPA 8270D m
Semivolatile Organic Compounds (TCLP) (1)	1	2018/09/27	2018/09/29	CAM SOP-00301	EPA 8270D m
TCLP - % Solids (1)	2	2018/09/26	2018/09/27	CAM SOP-00401	EPA 1311 Update 1 m
TCLP - Extraction Fluid (1)	2	N/A	2018/09/27	CAM SOP-00401	EPA 1311 Update 1 m
TCLP - Initial and final pH (1)	2	N/A	2018/09/27	CAM SOP-00401	EPA 1311 Update 1 m

Remarks:

Your P.O. #: 700419183  
Site Location: Seal Cove, NL  
Your C.D.C. #: D26849

Attention: Cathy Martin  
Public Works & Government Services Canada  
PO Box 4800  
10 Barter's Mill  
St. John's, NL  
CANADA A1C 5T2

Report Date: 2018/10/01  
Report #: R5422893  
Version: 1 - Final

### CERTIFICATE OF ANALYSIS

**MAXXAM JOB #: 8804638**

Received: 2018/09/19, 09:55

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

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Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Analytics Mississauga

(2) This test was performed by Bedford To Montreal Office

(3) Soils are reported on a dry weight basis unless otherwise specified.

(4) No lab extraction date is given for C6-C10/BTEX and VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.

**Encryption Key**



Maxxam  
01 Oct 2018 18:06:17

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Maryann Comeau, Project Manager  
Email: MComEAU@maxxam.ca  
Phone: (902) 420-0205

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**RESULTS OF ANALYSES OF SEDIMENT**

Maxxam ID		HUF314	HUF315	HUF316	HUF317	HUF318	HUF319		
Sampling Date		2018/09/13	2018/09/13	2018/09/13	2018/09/13	2018/09/13	2018/09/13		
CDC Number		D26849	D26849	D26849	D26849	D26849	D26849		
	UNITS	SAMPLE #1	SAMPLE #2	SAMPLE #3	SAMPLE #4	SAMPLE #5	SAMPLE #6	RDL	QC Batch
<b>Inorganics</b>									
Moisture	%	31	32	17	30	21	21	1.0	5741499
Total Cyanide (CN)	mg/kg	ND	ND	ND	ND	ND	ND	0.50	5755603
WAD Cyanide (Free)	mg/kg	ND	ND	ND	ND	ND	ND	0.50	5755602
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected									

Maxxam ID		HUF319		
Sampling Date		2018/09/13		
CDC Number		D26849		
	UNITS	SAMPLE #6 Lab-Dup	RDL	QC Batch
<b>Inorganics</b>				
Total Cyanide (CN)	mg/kg	ND	0.50	5755603
WAD Cyanide (Free)	mg/kg	ND	0.50	5755602
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected				



Maxxam Job #: B804658  
Report Date: 2018/10/01

Public Works & Government Services Canada  
Site Location: Seal Cove, NL  
Your P.O. #: 700419188  
Sampler Initials: SS

**ELEMENTS BY ICP/MS (SEDIMENT)**

Maxxam ID		HUF314		HUF315		HUF316		HUF317	HUF318	HUF319		
Sampling Date		2018/09/13		2018/09/13		2018/09/13		2018/09/13	2018/09/13	2018/09/13		
COC Number		D26849		D26849		D26849		D26849	D26849	D26849		
	UNITS	SAMPLE #1	RDL	SAMPLE #2	RDL	SAMPLE #3	RDL	SAMPLE #4	SAMPLE #5	SAMPLE #6	RDL	QC Batch
<b>Metals</b>												
Soluble (Hot Water) Boron (B)	mg/kg	4.0	0.30	6.1	3.0	3.2	0.30	7.3	5.8	19	3.0	5747056
RDL = Reportable Detection Limit												
QC Batch = Quality Control Batch												

**ELEMENTS BY ATOMIC SPECTROSCOPY (SEDIMENT)**

Maxxam ID		HUF314	HUF315	HUF316	HUF317		HUF318	HUF319		
Sampling Date		2018/09/13	2018/09/13	2018/09/13	2018/09/13		2018/09/13	2018/09/13		
COC Number		D26849	D26849	D26849	D26849		D26849	D26849		
	UNITS	SAMPLE #1	SAMPLE #2	SAMPLE #3	SAMPLE #4	QC Batch	SAMPLE #5	SAMPLE #6	RDL	QC Batch
<b>Inorganics</b>										
Chromium (VI)	µg/g	ND	ND	ND	ND	5748082	ND	ND	0.2	5748082
<b>Metals</b>										
Acid Extractable Aluminum (Al)	mg/kg	3600	3500	3500	3900	5749014	3500	2500	10	5751404
Acid Extractable Antimony (Sb)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	2.0	5751404
Acid Extractable Arsenic (As)	mg/kg	2.2	2.5	2.0	3.6	5749014	2.3	3.9	2.0	5751404
Acid Extractable Barium (Ba)	mg/kg	7.9	6.1	7.3	6.8	5749014	5.6	7.8	5.0	5751404
Acid Extractable Beryllium (Be)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	2.0	5751404
Acid Extractable Bismuth (Bi)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	2.0	5751404
Acid Extractable Boron (B)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	50	5751404
Acid Extractable Cadmium (Cd)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	0.30	5751404
Acid Extractable Chromium (Cr)	mg/kg	5.9	5.3	5.8	13	5749014	5.2	16	2.0	5751404
Acid Extractable Cobalt (Co)	mg/kg	2.1	2.0	2.0	2.3	5749014	2.3	2.2	1.0	5751404
Acid Extractable Copper (Cu)	mg/kg	3.1	3.7	3.2	19	5749014	4.6	32	2.0	5751404
Acid Extractable Iron (Fe)	mg/kg	8100	7500	7500	10000	5749014	9500	16000	50	5751404
Acid Extractable Lead (Pb)	mg/kg	5.0	5.2	5.0	6.0	5749014	5.6	5.4	0.50	5751404
Acid Extractable Lithium (Li)	mg/kg	15	15	15	17	5749014	15	11	2.0	5751404
Acid Extractable Manganese (Mn)	mg/kg	160	160	150	190	5749014	170	200	2.0	5751404
Acid Extractable Mercury (Hg)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	0.10	5751404
Acid Extractable Molybdenum (Mo)	mg/kg	ND	ND	ND	ND	5749014	ND	6.9	2.0	5751404
Acid Extractable Nickel (Ni)	mg/kg	4.1	3.7	3.7	9.5	5749014	4.6	19	2.0	5751404
Acid Extractable Rubidium (Rb)	mg/kg	4.3	4.6	4.7	5.5	5749014	4.5	4.0	2.0	5751404
Acid Extractable Selenium (Se)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	1.0	5751404
Acid Extractable Silver (Ag)	mg/kg	ND	ND	ND	ND	5749014	ND	ND	0.50	5751404
Acid Extractable Strontium (Sr)	mg/kg	120	130	120	110	5749014	130	490	5.0	5751404
Acid Extractable Thallium (Tl)	mg/kg	ND	ND	ND	ND	5749014	ND	0.12	0.10	5751404
Acid Extractable Tin (Sn)	mg/kg	2.2	2.1	ND	2.8	5749014	2.0	2.9	2.0	5751404
Acid Extractable Uranium (U)	mg/kg	1.9	1.6	2.0	1.7	5749014	1.7	1.4	0.10	5751404
Acid Extractable Vanadium (V)	mg/kg	14	13	14	13	5749014	12	8.3	2.0	5751404
Acid Extractable Zinc (Zn)	mg/kg	19	21	19	44	5749014	23	29	5.0	5751404
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
ND = Not detected										



SEMI-VOLATILE ORGANICS BY GC-MS (SEDIMENT)

Maxxam ID		HUF314	HUF315	HUF316	HUF317		HUF318		
Sampling Date		2018/09/13	2018/09/13	2018/09/13	2018/09/13		2018/09/13		
COC Number		D26849	D26849	D26849	D26849		D26849		
	UNITS	SAMPLE #1	SAMPLE #2	SAMPLE #3	SAMPLE #4	QC Batch	SAMPLE #5	RDL	QC Batch
<b>Polyaromatic Hydrocarbons</b>									
1-Methylnaphthalene	mg/kg	ND	ND	ND	ND	5746962	ND	0.0050	5754190
2-Methylnaphthalene	mg/kg	ND	ND	ND	ND	5746962	ND	0.0050	5754190
Acenaphthene	mg/kg	0.028	0.096	ND	0.15	5746962	0.029	0.0050	5754190
Acenaphthylene	mg/kg	0.014	0.029	0.0060	0.042	5746962	0.035	0.0050	5754190
Anthracene	mg/kg	0.058	0.29	ND	0.52	5746962	0.39	0.0050	5754190
Benzo(a)anthracene	mg/kg	0.41	1.0	0.059	1.6	5746962	1.5	0.0050	5754190
Benzo(a)pyrene	mg/kg	0.19	0.55	0.029	0.79	5746962	0.66	0.0050	5754190
Benzo(b)fluoranthene	mg/kg	0.24	0.68	0.039	0.99	5746962	0.89	0.0050	5754190
Benzo(b,j)fluoranthene	mg/kg	0.36	0.98	0.058	1.4	5739764	1.3	0.010	5739764
Benzo(g,h,i)perylene	mg/kg	0.053	0.16	0.0077	0.24	5746962	0.20	0.0050	5754190
Benzo(j)fluoranthene	mg/kg	0.12	0.31	0.019	0.45	5746962	0.41	0.0050	5754190
Benzo(k)fluoranthene	mg/kg	0.12	0.34	0.021	0.50	5746962	0.44	0.0050	5754190
Chrysene	mg/kg	0.23	0.68	0.030	1.2	5746962	1.0	0.0050	5754190
Dibenz(a,h)anthracene	mg/kg	0.014	0.041	ND	0.063	5746962	0.051	0.0050	5754190
Fluoranthene	mg/kg	1.2	2.8	0.057	4.6	5746962	5.0	0.0050	5754190
Fluorene	mg/kg	0.035	0.24	ND	0.31	5746962	0.18	0.0050	5754190
Indeno(1,2,3-cd)pyrene	mg/kg	0.050	0.15	0.0072	0.23	5746962	0.20	0.0050	5754190
Naphthalene	mg/kg	ND	ND	ND	ND	5746962	ND	0.0050	5754190
Perylene	mg/kg	0.060	0.17	0.0078	0.25	5746962	0.20	0.0050	5754190
Phenanthrene	mg/kg	0.24	1.6	0.0096	1.8	5746962	1.6	0.0050	5754190
Pyrene	mg/kg	0.74	1.9	0.030	2.8	5746962	3.4	0.0050	5754190
<b>Surrogate Recovery (%)</b>									
D10-Anthracene	%	105	104	113	104	5746962	93		5754190
D14-Terphenyl	%	102	100	107	97	5746962	88		5754190
D8-Acenaphthylene	%	98	100	105	103	5746962	95		5754190
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected									

**SEMI-VOLATILE ORGANICS BY GC-MS (SEDIMENT)**

Maxxam ID		HJF318			HJF319		
Sampling Date		2018/09/13			2018/09/13		
COC Number		D26849			D26849		
	UNITS	SAMPLE #5 Lab-Dup	RDL	QC Batch	SAMPLE #6	RDL	QC Batch
<b>Polyaromatic Hydrocarbons</b>							
1-Methylnaphthalene	mg/kg	ND	0.0050	5754190	ND	0.0050	5754190
2-Methylnaphthalene	mg/kg	ND	0.0050	5754190	ND	0.0050	5754190
Acenaphthene	mg/kg	0.026	0.0050	5754190	0.019	0.0050	5754190
Acenaphthylene	mg/kg	0.026	0.0050	5754190	0.031	0.0050	5754190
Anthracene	mg/kg	0.21 (1)	0.0050	5754190	0.27	0.0050	5754190
Benzo[a]anthracene	mg/kg	1.0	0.0050	5754190	1.3	0.0050	5754190
Benzo[a]pyrene	mg/kg	0.54	0.0050	5754190	0.49	0.0050	5754190
Benzo[b]fluoranthene	mg/kg	0.69	0.0050	5754190	0.76	0.0050	5754190
Benzo[k]fluoranthene	mg/kg				1.1	0.010	5739764
Benzo[ghi]perylene	mg/kg	0.17	0.0050	5754190	0.15	0.0050	5754190
Benzo[j]fluoranthene	mg/kg	0.31	0.0050	5754190	0.36	0.0050	5754190
Benzo[h]fluoranthene	mg/kg	0.33	0.0050	5754190	0.37	0.0050	5754190
Chrysene	mg/kg	0.74	0.0050	5754190	0.79	0.0050	5754190
Dibenz[a,h]anthracene	mg/kg	0.040	0.0050	5754190	0.041	0.0050	5754190
Fluoranthene	mg/kg	3.4	0.0050	5754190	3.2	0.0050	5754190
Fluorene	mg/kg	0.068 (1)	0.0050	5754190	0.085	0.0050	5754190
Indeno[1,2,3-cd]pyrene	mg/kg	0.16	0.0050	5754190	0.15	0.0050	5754190
Naphthalene	mg/kg	ND	0.0050	5754190	ND	0.0050	5754190
Perylene	mg/kg	0.17	0.0050	5754190	0.15	0.0050	5754190
Phenanthrene	mg/kg	0.81 (1)	0.0050	5754190	0.78	0.0050	5754190
Pyrene	mg/kg	2.4	0.0050	5754190	2.1	0.0050	5754190
<b>Surrogate Recovery (%)</b>							
D10-Anthracene	%	93		5754190	97		5754190
D14-Terphenyl	%	86		5754190	92		5754190
D8-Acenaphthylene	%	94		5754190	94		5754190
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected (1) Duplicate: results are outside acceptance limit. Sample was past recommended hold time for repeat analysis.							



Maxxam Job #: 8804658  
Report Date: 2018/10/01

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### ATLANTIC RBCA HYDROCARBONS (SEDIMENT)

Maxxam ID		HUF314	HUF315		HUF316		HUF317		
Sampling Date		2018/09/13	2018/09/13		2018/09/13		2018/09/13		
COC Number		D26849	D26849		D26849		D26849		
	UNITS	SAMPLE #1	SAMPLE #2	RDL	SAMPLE #3	RDL	SAMPLE #4	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>									
Benzene	mg/kg	ND	ND	0.050	ND	0.025	ND	0.050	5741425
Toluene	mg/kg	ND	0.40	0.050	ND	0.025	ND	0.050	5741425
Ethylbenzene	mg/kg	ND	ND	0.050	ND	0.025	ND	0.050	5741425
Total Xylenes	mg/kg	ND	ND	0.10	ND	0.050	ND	0.10	5741425
C6 - C10 (less BTEX)	mg/kg	ND	ND	5.0	ND	2.5	ND	5.0	5741425
>C10-C16 Hydrocarbons	mg/kg	ND	ND	10	ND	10	ND	10	5744066
>C16-C21 Hydrocarbons	mg/kg	18	17	10	ND	10	19	10	5744066
>C21-<C32 Hydrocarbons	mg/kg	24	35	15	ND	15	42	15	5744066
Modified TPH (Tier1)	mg/kg	42	52	15	ND	15	61	15	5739049
Reached Baseline at C32	mg/kg	Yes	Yes	N/A	NA	N/A	Yes	N/A	5744066
Hydrocarbon Resemblance	mg/kg	COMMENT (1)	COMMENT (1)	N/A	NA	N/A	COMMENT (1)	N/A	5744066
<b>Surrogate Recovery (%)</b>									
Isobutylbenzene - Extractable	%	87	82		84		87		5744066
n-Dotriacontane - Extractable	%	100	91		88		97		5744066
Isobutylbenzene - Volatile	%	102 (2)	103 (2)		97		94 (2)		5741425
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable (1) Unidentified compound(s) in fuel / lube range. (2) Elevated VPH RDL(s) due to limited sample.									

**ATLANTIC RBCA HYDROCARBONS (SEDIMENT)**

Maxxam ID		HUF318	HUF319		
Sampling Date		2018/09/13	2018/09/13		
COC Number		026849	026849		
	UNITS	SAMPLE #5	SAMPLE #6	RDL	QC Batch
<b>Petroleum Hydrocarbons</b>					
Benzene	mg/kg	ND	ND	0.025	5741425
Toluene	mg/kg	ND	ND	0.025	5741425
Ethylbenzene	mg/kg	ND	ND	0.025	5741425
Total Xylenes	mg/kg	ND	ND	0.050	5741425
C6 - C10 (less BTEX)	mg/kg	ND	ND	2.5	5741425
>C10-C16 Hydrocarbons	mg/kg	ND	ND	10	5744066
>C16-C21 Hydrocarbons	mg/kg	17	23	10	5744066
>C21-<C32 Hydrocarbons	mg/kg	35	43	15	5744066
Modified TPH (Tier1)	mg/kg	52	66	15	5739049
Reached Baseline at C32	mg/kg	Yes	No	N/A	5744066
Hydrocarbon Resemblance	mg/kg	COMMENT (1)	COMMENT (2)	N/A	5744066
<b>Surrogate Recovery (%)</b>					
Isobutylbenzene - Extractable	%	87	81		5744066
n-Dotriacontane - Extractable	%	93	96		5744066
Isobutylbenzene - Volatile	%	99	96		5741425
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable (1) Unidentified compound(s) in fuel / lube range. (2) Unidentified compound(s) in fuel oil range. One product in fuel / lube range.					



Maxxam Job #: 8804658  
Report Date: 2018/10/01

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**POLYCHLORINATED BIPHENYLS BY GC-ECD (SEDIMENT)**

Maxxam ID		HUF314	HUF315	HUF316	HUF317	HUF318	HUF319		
Sampling Date		2018/09/13	2018/09/13	2018/09/13	2018/09/13	2018/09/13	2018/09/13		
COC Number		D26849	D26849	D26849	D26849	D26849	D26849		
	UNITS	SAMPLE #1	SAMPLE #2	SAMPLE #3	SAMPLE #4	SAMPLE #5	SAMPLE #6	RDL	QC Batch
<b>PCBs</b>									
Aroclor 1016	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Aroclor 1221	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Aroclor 1232	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5744084
Calculated Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.010	5739765
<b>Surrogate Recovery (%)</b>									
Decachlorobiphenyl	%	107	99	101	104 (1)	101	105		5744084
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
ND = Not detected									
(1) PCB samples were extracted using a flat-bed shaker instead of the accelerated mechanical shaker due to matrix incompatibility.									



Maxxam Job #: B804658  
Report Date: 2018/10/01

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Sampler Initials: SS

# RESULTS OF ANALYSES OF SOLID

Maxxam ID		HUF320	HUF321		
Sampling Date		2018/09/13	2018/09/13		
COC Number		D26849	D26849		
	UNITS	TIMBER #1	TIMBER #2	RDL	QC Batch
<b>Inorganics</b>					
Final pH	pH	4.93	4.98		5752873
Initial pH	pH	6.13	6.16		5752873
TCLP - % Solids	%	100	100	0.2	5752855
TCLP Extraction Fluid	N/A	FLUID 1	FLUID 1		5752870
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Maxxam Job #: 8804658  
Report Date: 2018/10/01

Public Works & Government Services Canada  
Site Location: Seal Cove, NL  
Your P.O. #: 700419188  
Sampler Initials: SS

# SEMI-VOLATILE ORGANICS BY GC-MS (SOLID)

Maxxam ID		HUF320	HUF321		
Sampling Date		2018/09/13	2018/09/13		
COC Number		D26849	D26849		
	UNITS	TIMBER #1	TIMBER #2	RDL	QC Batch
<b>Semivolatile Organics</b>					
Leachable Benzo(a)pyrene	ug/L	0.80	4.2	0.80	5755320
Leachable m/p-Cresol	ug/L	21	71	20	5755320
Leachable o-Cresol	ug/L	290	49	20	5755320
Leachable Cresol Total	ug/L	310	120	20	5755320
Leachable Pentachlorophenol	ug/L	ND	ND	20	5755320
<b>Surrogate Recovery (%)</b>					
Leachable 2,4,6-Tribromophenol	%	81	59		5755320
Leachable 2-Fluorobiphenyl	%	62	55		5755320
Leachable 2-Fluorophenol	%	29	21		5755320
Leachable D14-Terphenyl (F5)	%	101	65		5755320
Leachable D5-Nitrobenzene	%	74	58		5755320
Leachable D5-Phenol	%	21	11		5755320
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
ND = Not detected					