

Public Registry - Project Proposals

NPC 149366: Baseline Studies for Qikiqtarjuaq Marine Infrastructure

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Proposal Status: Conformity Determination

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[Project Overview](#)

Type of application: New

Proponent name:

Justin McDonell

Proponent company:

Government of Nunavut - Community and Government Services

Project Description:

CBCL Limited (CBCL) has been retained by Government of Nunavut (GN) to provide architectural and engineering services for a deep-water port facility in Qikiqtarjuaq Nunavut. To support the design, CBCL along with their sub-consultants propose to carry out baseline field studies and traditional knowledge or Inuit Qaujimajatuqangit (IQ) gathering in the spring and summer of 2024 to assess the proposed port area and quarry locations. The information obtained will be used to design the deep-water port facility, to evaluate the environmental risks, and to obtain the necessary permits to construct the port. The field studies planned for spring and summer 2024 in Qikiqtarjuaq include the following: •Geotechnical investigation •Terrestrial surveys (wildlife, vegetation, topographic) •Marine surveys (marine fish and habitat, marine mammals, water and sediment quality, bathymetry, tides) •Archaeological assessment •IQ gathering The baseline field studies will be carried out in Qikiqtarjuaq, primarily in the area planned for the future marine infrastructure. The Study Area includes a Marine Study Area in Broughton Channel surrounding the future marine infrastructure, an Upland Study Area, and three potential quarry locations. The purpose of the baseline field studies and IQ gathering is to collect baseline information to support the design and permitting of the Qikiqtarjuaq Marine Infrastructure project. The geotechnical drilling program is needed to evaluate the ocean bottom sediments in the proposed port area, obtain sediment samples for physical and chemical analysis, and obtain bedrock core. The environmental

baseline field program, archaeological assessment and IQ gathering will be done to gather background knowledge about the study area, determine the potential impacts of the Qikiqtarjuaq infrastructure project, and develop appropriate mitigation and monitoring plans. The baseline field studies and IQ gathering will be carried out over the late winter, spring, and summer of 2024. The geotechnical site program will be conducted between March 17, 2024, and May 4, 2024. The environmental baseline field program will be completed in 5 to 6 days between July 15, 2024, and August 30, 2024. The archaeological assessment will be done between July 15, 2024, and August 30, 2024, and the IQ gathering will take place on in late February or March 2024 and in September 2024.

Project Schedule

Start Date:

2024-03-17

End Date:

2024-09-30

Project Map

List of project geometries:

Id
Geometry
Location Name

[10687](#)

point

Quarry survey area

[10688](#)

point

Port survey area

NPC Planning regions:

No Approved Plan

Project Land Use and Authorizations

Project Land Use:

Other

Marine-Based Activities

Licensing Agencies:

Nunavut Research Institute

Government of Nunavut - Department of Environment

Government of Canada - Fisheries and Oceans Canada

Government of Nunavut - Department of Culture and Heritage
Nunavut Impact Review Board

Material Use

Equipment:

	Type Quantity Type Use
Motorboat	1
Approx. 5 to 8 m	
Marine baseline studies (fish, plankton, benthos, sediment sampling)	
Coring/Sampling CME Drill Rig on skids with Drill shack	1
approx. 5 m x 6 m	
geotechnical coring/sampling	
Front-end loader	1
TBD	
transportation of drill rig and shack	
Pick-up trucks	4
approx. 2 m x 6 m	
personnel and equipment transportation	
Diesel generators	2
approx. 2 m x 3 m	
portable power source for drill shack	
Water pump	1
approx. 0.5 m x 0.5 m	
marine water for drilling	
Herman nelson heaters	2
approx. 1 m x 2 m	
heat for drill shack	
Oil-fired coil heaters for waterline	1

approx. 1 m x 2 m
 prevent waterline freezing
 Survey equipment (binoculars, spotting scope, tape measure, iPad, GPS, noise meter, camera, hand lens, plant press, transit/total station)

1

approx. 0.5 m x 0.5 m x 0.5 m
 Field data collection (vegetation, wildlife, topographic, noise)
 Remotely operated boat

1

approx. 1 m x 1.5 m
 Bathymetric survey
 Underwater camera or underwater ROV

1

approx. 1 m x 1.5 m
 Fish and fish habitat surveys
 Survey equipment (fishing equipment, depth sounder, sediment sampler, water sampler, water meter, plankton tow nets, GPS, transect line, sample jars, coolers)

1

approx. 0.5 m x 1 m x 0.5 m
 Fish and fish habitat surveys, sediment sampling, water quality sampling
 Tide gauge

1-2

approx. 3.5 m x 0.5 m
 Water level measurement
 Current meter

1-2

approx. 1 m x 0.75 m
 Water current measurement
 Survey equipment (tape measure, iPad, GPS, trowels, brushes)

1

approx. 0.15 m x 0.15 m x 0.15 m
 Field data collection (archaeology)

Fuel Use:

Type Container Capacity Use

Diesel

	34
	250
fuel for diesel generator and equipment	
Gasoline	17
	40
fuel for equipment	
Propane	4
	30

for heating torch

Hazardous Material and Chemical Use:

	Type Container Capacity Use
Sample preservative	1
	1
Sample preservation	
Drilling Mud	36
	50
drilling additive for bedrock coring	
Hydraulic oil	30
	20
Drill rig	
0/30 oil	30
	4
Drill rig	
Heavy duty bearing grease	64
	1
Drill rig	
Transmission fluid	10

	4
Drill rig	
SAE 90 transmission oil	
	30
	4
Drill rig	
Antifreeze	
	68
	4

Drill rig

Water Consumption:

	Daily Amount (m ³)	Retrieval Method	Retrieval Location
38			
at or near the borehole location			
extracted from the marine environment			

Waste and Impacts

Environmental Impacts:

Terrestrial and marine wildlife may be disturbed and move away from or be attracted to land-based and in-water activities. Local field assistants will accompany the field program personnel to monitor for disturbance to marine and terrestrial wildlife and their habitat. Underwater noise generated by the drilling is not expected to reach levels that are likely to disturb marine mammals and is being carried out when the bay is ice-covered and marine mammals are not expected to be present. If marine mammals are observed within 500 m of the drilling location, drilling activities will cease until the marine mammal has left the area. Disruption of fish habitat through direct alteration of the seabed, increased turbidity, or accidental spills. The alteration of the seabed is temporary and limited to the small area occupied by each borehole. A low magnitude increase in suspended sediment will be temporary and limited to the area surrounding each in-water borehole. The alteration of the seabed is limited to the small area occupied by each borehole. The borehole diameter will be limited to approximately 10 cm. The amount of fuel and drilling additive will be limited to that required to complete the drilling for each day. A non-toxic, biodegradable drilling additive will be used, if required.

Secondary containment will be in place under the drill rig motor. A spill response plan and spill response kit adequate to contain the potential volume of fuel in the equipment will be maintained on-site and implemented in the event of a spill. Fish could be drawn into water intake while pumping water from the shoreline. Although the geotechnical program is in marine waters, DFO's Interim code of practice: End-of pipe fish protection screens for small water intakes in freshwater will be followed. Shellfish mortality may occur where sedentary species are in the direct path of the drill head. This is limited to the small area occupied by each borehole. The drill head will be advanced slowly to allow mobile species to escape. Disruption of traditional use. The community will be advised of the field program prior to arrival of the field team. The field program will not interfere with traditional use by local people. Communication with the community and use of a local community member to assist when conducting the environmental field program will mitigate the potential to interfere with local hunting or fishing.

Waste Management:

	Waste Type	Quantity Generated	Treatment Method	Disposal Method
Combustible wastes		approximately 17 garbage bags		
	bagged			
	disposed of at the Qikiqtarjuaq municipal waste disposal facility			
Hazardous		4x250L drums		
	packed into sealed containers			
	transported south for disposal at an approved facility in accordance with regulations			