



SCREENING DECISION REPORT NIRB FILE No.: 17XN021

NPC File No.: 148429

October 2, 2017

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Government of Nunavut's "Iqaluit Marine Infrastructure – Deep Sea Port" is not required pursuant to paragraph 92(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

Subject to the Proponent's compliance with the terms and conditions as set out in below, the NIRB is of the view that the project proposal is not likely to cause significant public concerns, and it is unlikely to result in significant adverse environmental and social impacts. The NIRB therefore recommends that the responsible Ministers accept this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

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REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement) as follows:

"In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area."

These objectives are confirmed under section 23 of the NuPPAA.

The purpose of screening is provided for under section 88 of the NuPPAA:

“The purpose of screening a project is to determine whether the project has the potential to result in significant ecosystemic or socio-economic impacts and, accordingly, whether it requires a review by the Board...”

To determine whether a review of a project is required, the NIRB is guided by the considerations as set out under subsection 89(1) of NuPPAA:

“89. (1) The Board must be guided by the following considerations when it is called on to determine, on the completion of a screening, whether a review of the project is required:

- (a) a review is required if, in the Board’s opinion,*
 - i. the project may have significant adverse ecosystemic or socio-economic impacts or significant adverse impacts on wildlife habitat or Inuit harvest activities,*
 - ii. the project will cause significant public concern, or*
 - iii. the project involves technological innovations, the effects of which are unknown; and*

- (b) a review is not required if, in the Board’s opinion,*
 - i. the project is unlikely to cause significant public concern, and*
 - ii. its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.”*

It is noted that subsection 89(2) provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b).

Where the NIRB determines that a project may be carried out without a review, the NIRB has the discretion to recommend specific terms and conditions to be attached to any approval of the project proposal. Specifically, paragraph 92(2)(a) of NuPPAA provides:

“92. (2) In its report, the Board may also
(a) recommend specific terms and conditions to apply in respect of a project that it determines may be carried out without a review.”

PROJECT REFERRAL

On February 15, 2017 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen the Government of Nunavut’s (GN) “Iqaluit Marine Infrastructure – Deep Sea Port” project proposal from the Nunavut Planning Commission (NPC or Commission), which noted that the project proposal is outside the area of an applicable regional land use plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement)

and section 87 of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the NIRB commenced screening this project proposal and assigned it file number 17XN021.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed “Iqaluit Marine Infrastructure – Deep Sea Port” project is located within the Qikiqtani region (South Baffin) on the coast of the City of Iqaluit. The Proponent intends to construct, operate, and maintain a deep-sea port in order to provide 24-hour access for sealift carriers and improve the reliability, functionality and capacity of transport and the existing delivery of dry cargo and fuel supply. The program is proposed to take place beginning with construction in the summer of 2018, and operations and maintenance commencing in 2021 as a permanent facility for 100+ years with construction being undertaken by GN – Community and Government of Services Department, and Operations and Maintenance conducted by GN - Economic Development and Transportation Department.

As required under subsection 86(1) of the NuPPAA, the Board accepts the scope of the Iqaluit Marine Infrastructure – Deep Sea Port project as set out by the Government of Nunavut in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Development of a deep sea wharf structure, a sealift cargo laydown area and landing ramp for barges, new fuel receiving manifold, a new road connecting Akilliq Road to the port development area, and space to relocate mobile site offices;
- Use of approximately 300,000 cubic metres [m³] bedrock from an area of approximately three (3) hectares from cut-fill operation when producing the laydown area to develop the deep sea port and the small craft harbour;
- Development of the deep sea wharf structure on solid bedrock:
 - Dredging to remove a layer of weak overburden materials with disposal at sea (up to 64,000 m³);
 - Use of explosives to blast rock to provide fill material largely from general fill material from the laydown area cut for the shoreline protection material;
 - Vibratory pile driving;
 - Development of drainage structures;
 - Development of a wharf causeway;
 - Development of two (2) shore moorings;
 - Riprap laid directly on the exposed rock fill structure to protect the structure from wave and ice action
- Development of a four (4) hectare laydown area and a 30 metre sealift ramp:
 - Use of explosives to blast rock with the use of the fill material from the laydown area cut to fill the laydown area;
 - Use of general fill material from the laydown area cut for the development of the sealift ramp;
- Development of fuel receiving manifold and pipeline;
 - Pig receiver located behind the fixed wharf;
 - Equipped with containment measures including drip trays at connection and sample points;

- Construction of an access road to access the laydown area from the end of Akilliq Road;
 - Southern third of the road to follow topography of the area;
 - Middle third of the road to require bridging of a small inlet with the use of rock fill with the inlet still expected to drain to the ocean through the road fill;
 - Northern third of the road to require cutting a bench into the bedrock similar to the laydown area;
 - Access road to be completed with a crushed granular road surfacing material and appropriate vehicle barricades;
- Use of a combination of cargo ships (barges/sealift) and aircraft as needed to transport materials and equipment required for construction, operations and maintenance of the deep sea wharf structure;
- Use of heavy equipment and light vehicles to transport personnel and equipment to site for construction, operation and maintenance of the facility;
- Relocation of existing sealift and security offices at the Sealift Beach to the laydown area for operations;
- Potable water, sanitary and solid waste disposal, and fuel to be provided Iqaluit city services during the construction and operation phases;
- All wastes (non-hazardous and sanitary) would be taken to the appropriate facilities for proper disposal in Iqaluit during the construction phase;
- Use of fuel for refuelling of equipment in designated fuelling areas with marine fleet to refuel at sea from bunker tanks;
- Use of water for dust control on the deep sea port site and site access;
- Use of facilities in Iqaluit for accommodations, water source, and waste management and purchasing of local supplies for local and non-local construction workers;
- Ongoing maintenance of the facility once constructed; and
- Potential access of deep sea port to commercial and recreational boaters as an additional boat launching and dock area.

2. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal; however, the NIRB notes that as the project is proposed as permanent, reclamation of the site would be assessed as a separate project at a time when more is understood about the activities required at that stage. Further, the Iqaluit – Small Craft Harbour (NIRB File No. 17XN022) is another infrastructure project in Iqaluit proposed in proximity to the deep sea port proposal; however, as the projects are not integrally linked to development or operations of the other, these projects will be assessed separately. As a result, the NIRB proceeded with screening the project based on the scope as described above.

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
February 15, 2017	Receipt of project proposal and positive conformity determination from the NPC
February 22, 2017	Information request

June 12, 2017	Proponent responded to information request
June 12, 2017	Scoping pursuant to subsection 86(1) of the NuPPAA
July 7, 2017	Public engagement and comment request
July 28, 2017	Receipt of public comments
August 2, 2017	Proponent provided with an opportunity to address comments/concerns raised by public
August 16, 2017	Proponent responded to comments/concerns raised by public
July 27, 2017	Ministerial extension requested from the responsible Ministers.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on July 7, 2017 to community organizations in Iqaluit, as well as to relevant federal and territorial government agencies, Inuit organizations and other parties. The NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by July 28, 2017 regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic or socio-economic effects; and if so, why;
- Whether the project proposal is likely to cause significant adverse impacts on wildlife habitat or Inuit harvest activities; if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

The following is a summary of the comments and concerns received by the NIRB:

Environment and Climate Change Canada (ECCC)

- Proponent will need to provide information required for the Disposal at Sea permit application.
- Concerns regarding the Project potentially being located in an identified Nesting Zone, and Project activities may impact migratory birds, nests, or eggs. Recommended Proponent take proper measures to avoid disturbing birds and nests.
- Recommended Proponent monitor and record interactions with Species at Risk.

Fisheries and Oceans Canada (DFO)

- Concerns regarding the proposed project having the potential to cause significant harm to fish and impact Inuit fishing rights.

Indigenous and Northern Affairs Canada (INAC)

- Concerns regarding water usage and the capacity of the City of Iqaluit to supply the anticipated water required. Recommended the Proponent consider the issue as part of the project proposal.
- Concerns regarding public access (including local hunters) to the area during construction. Recommended the Proponent outline plans to manage and/or restrict traffic during construction and how local usage of the area was addressed.
- Concerns regarding the cumulative effects of climate change. Recommended the Proponent discuss any considerations made during project design and proposed operations to address this.
- Concerns regarding waste production during operation. Recommended the Proponent consider providing additional detail on waste management practices during operations.
- Concerns regarding onshore erosion, sediment control, and water management during construction. Recommended the Proponent clarify the methods it intends to use to manage these risks.
- Concerns regarding acid rock drainage (ARD) in the cut rock on site; recommended the Proponent clarify what contingencies would be used should ARD be identified.
- Recommended the Proponent enhance the policy zero tolerance of illicit drugs to include alcohol and legal drugs.
- Concerns regarding emergency response plan for both construction and operations; recommended the Proponent provide information regarding its emergency response plans for the facilities.
- Concerns there is a lack of clarity regarding what data will be submitted in the Environmental Monitoring Reports; recommended more detail be provided on data collection and reporting.
- Concerns regarding insufficient detail regarding marine construction monitoring; recommend a discussion on minimum requirements of a monitoring program prior to development of a plan by the contractor.
- Recommended a site-specific Spill Prevention and Response Plan be developed.
- Recommended refueling of mobile equipment occur only at designated refueling stations.
- Recommended more detail be provided on where onshore equipment is to be refueled and serviced.
- Concern that the new deep sea port (DSP) facility will require site-specific measures to deal with fuel spills during fuel transfers when in operation. Recommended Proponent commit to providing specific mitigation measures in an Operational Environmental Management Plan.
- Concerns the construction activities will not adapt to local hunters; recommends the Proponent state how they will accommodate local Inuit harvesters.

Natural Resource Canada (NRCan)

- Noted no concerns.

Transport Canada (TC)

- Requested a map showing the three infrastructure projects located in that area of Frobisher Bay: the Deep Sea Port Project (17XN021), the Iqaluit Airport Approach Lighting Replacement Project (17UN006), and Iqaluit Small Craft Harbour Breakwater Project (17XN022).

5. Comments and Concerns with respect to Inuit Qaujimaningit, Traditional, and Community Knowledge

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project; however, as noted above DFO indicated concerns with respect to the proposed project potentially causing significant harm to fish and potentially impacting Inuit fishing rights, while INAC noted concerns regarding public access including local hunters to the area during the construction phase of the project.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on August 16, 2017.

- In response to concerns regarding public access (including local hunters) to the area during construction, the Proponent has confirmed that:
 - The area of the proposed project is not regularly used by boaters or members of the public by vehicle (including snowmobiles in winter) or on foot;
 - Consultation with community members indicated harvesting of fish, which occurs in the vicinity of the proposed project could be moved with no anticipated impact on the harvest; and
 - The public would be kept informed of project activities and protected by physical barriers, warning signs, and regular public announcement and community updates.
- In response to concerns regarding the cumulative effects of climate change, the Proponent indicated that:
 - The proposed port facility would likely result in no change in greenhouse gas emissions due to the more efficient unloading of cargo and eliminating the requirement for lighters to ferry material to and from ships counteracting the longer trucking distance from the proposed port to Iqaluit;
 - Changes in ice conditions due to climate change are not expected to affect the proposed port;
 - Shipping would not be extended into the ice seasons and cumulative effects are not expected on ice cover; and
 - The deep sea port (DSP) would not be expected to affect ice conditions in Koojessé Inlet.
- In response to concerns regarding waste generation and management, the Proponent noted that waste generated from port operations would be similar to waste generated during current sealift operations, thus current management practices may form a basis for waste management to be developed within the Operations Environmental Management Plan. Specific details on waste receptacles and collection from the DSP would be agreed upon between Government of Nunavut and the City of Iqaluit.
- In response to concerns regarding onshore erosion, sediment control, and water management during construction, the Proponent noted that:
 - The majority of the proposed infrastructure would be located on exposed bedrock, thus minimal erosion would occur;

- Any areas requiring drainage would have designs finalized during the design development phase;
- The contractor would be required to use best management practices for sediment and erosion control; and
- Section 3.5 of the Construction Environmental Monitoring Plan outlines sediment and erosion mitigation measures to be used during construction.
- In response to the concern regarding potential Acid Rock Drainage (ARD), the proponent noted that:
 - Geochemical analysis of samples taken from the proposed port side exhibited minimal potential for ARD generation; and
 - Monitoring for ARD would be carried out and mitigation measures used if potential ARD-generating rock is identified.
- In response to concerns regarding emergency management plans, the Proponent has committed the Contractor developing an Emergency Response Plan.
- The Proponent noted further noted that a map had been provided in the Project Specific Information Requirements document previously submitted that showed the three infrastructure projects located in the Frobisher Bay area.

7. Time of Report Extension

As a result of the time required to allow parties sufficient time to comment on the project as well as to let the Proponent provide a response to the comments, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the Nunavut Agreement and subsection 92(3) of the NuPPAA. Therefore, on July 27, 2017 the NIRB wrote to the Government of Canada Minister of Natural Resources, Minister of Transport, and Minister of Fisheries and Oceans and the Canadian Coast Guard, Government of Canada; and the Government of Nunavut Minister of Culture and Heritage, and Minister of Community & Government Services, seeking an extension to the 45-day timeline for the provision of the Board's Report.

ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF NUPPAA

In determining whether a review of the project is required, the Board considered whether the project proposal had potential to result in significant ecosystemic or socio-economic impacts.

Accordingly, the assessment of impact significance was based on the analysis of those factors that are set out under section 90 of the NuPPAA. The Board took particular care to take into account Inuit Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

The following is a summary of the Board's assessment of the factors that are relevant to the determination of significant impacts with respect of this project proposal:

1. *The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.*

The proposed Deep Sea Port would be located approximately 750 meters south of the existing causeway on the eastern side of Koojesse Inlet and approximately 350 meters north of the fuel resupply manifold at Inuit Head. The size of the geographic area for proposed infrastructure would fall within an area of approximately 0.5 square kilometres, and would include an approximate 650 meter in length road to tie into Akilliq road.

The area is primarily composed of exposed bedrock, providing minimal existing wildlife habitat; however, the proposed activities may take place within habitat for Arctic fox, Arctic hare, various species of marine fish, marine mammals, and upland and coastal migratory birds, including Species at Risk such as Harlequin Duck, as identified by the Proponent and from mapping sources.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no particular identified ecosystemic sensitivity, however, this area has been identified as having value and priority to the local community for fishing in the waters surrounding the proposed development and from the shore in the area of the proposed DSP. The Proponent has been in discussion with local harvesters to minimize the potential impact of the project on fishing activities. While the general area is also identified as having value and priority for Iqaluit for egg gathering and clamming, the Proponent has provided information received from the local community indicating that egg collecting is not carried out in the project area, and that local people generally avoid gathering clams in Koojesse Inlet due to the perceived issue of pollution from historical and current activities in Iqaluit.

3. *The historical, cultural and archaeological significance of that area.*

The Proponent has indicated that there are a number of known areas of historical, cultural and archaeological significance in the vicinity of the project area. Should the project be approved to proceed, the Proponent has committed to developing a mitigation plan in discussion with the Government of Nunavut-Department of Culture and Heritage for archeological sites potentially impacted by the proposed project. The Proponent would be required to contact the Government of Nunavut-Department of Culture and Heritage if any sites of historical, cultural or archaeological significance are encountered.

4. *The size of the human and the animal populations likely to be affected by the impacts.*

The proposed project would occur at a location on the edge of the existing infrastructure in the community of Iqaluit and there is potential for significant human interaction. Recognizing this, the Proponent has indicated that safety measures would be incorporated to ensure public safety during construction and operations. Given the proximity of the project to Iqaluit, and existing infrastructure and roads isolating the location from the undeveloped land outside Iqaluit, it is unlikely that a significant large mammal population would be affected. Wildlife surveys conducted by the Proponent noted minimal evidence of terrestrial wildlife presence. Bearded seals, harp seals, hooded seals, ringed seals and narwhal are the marine mammals considered most likely to be in the waters of Koojesse Inlet.

Although no significant public concerns were raised during the public commenting period, the NIRB notes that the close proximity of the proposed activities to the community of Iqaluit and an area used by residents for recreational/traditional pursuits could potentially contribute to public concern developing. A term and condition has been recommended to direct engagement with the community, hunters and trappers organization and interested parties, as well as the posting of public notices to ensure residents are aware of the development activities being or to be conducted.

5. *The nature, magnitude and complexity of the impacts; the probability of the impacts occurring; the frequency and duration of the impacts; and the reversibility or irreversibility of the impacts.*

As the “Iqaluit Marine Infrastructure – Deep Sea Port” project comprises the construction of a deep sea port involving blasting, dredging, and disposal of sediments at sea in addition to the construction of the port and a road, there is potential for adverse impacts from project activities to resources on-land and in the marine environment. However, as the permanent structure would be used to replace activities which are potentially more harmful to the environment, and the mitigation measures proposed by the Proponent, the potential adverse impacts would be during the period of construction and may be of moderate magnitude, reversible and mitigable with due care. Due to the in-water disposal of sediment from dredging and excavation activities, areas of the seafloor where the material would be deposited would potentially be affected. The Proponent has selected an area of low biological activity for the marine deposition, and would require permission from Environment and Climate Change Canada in order to carry out this activity.

6. *The cumulative impacts that could result from the impacts of the project combined with those of any other project that has been carried out, is being carried out or is likely to be carried out.*

The proposed project would take place within several kilometers of projects that are currently active, in addition to other projects proposed and currently undergoing assessment by the Board as listed in Table 1 below. These projects include a number of undertakings within the municipal boundaries of the City of Iqaluit and would also occur during normal sealift operations and other marine traffic. The need for this project has been identified to address reliability, functionality and capacity of transport of the existing delivery of dry cargo and fuel supply for the community of Iqaluit, and as such the benefits would be expected to outweigh the impacts; however in the assessment of impacts for this proposed project, to ensure that the adverse impacts are minimized, the NIRB would recommend terms and conditions to mitigate the impacts identified above.

Due to the proximity of this project to the City of Iqaluit and other projects noted, there is potential for cumulative effects to air quality from dust and noise associated with project-related road traffic and development of the deep sea port, and to marine fish and fish habitat from in-water works associated with the establishment of marine infrastructure in Koojesse

Inlet; however, it is noted that this project is not likely to result in significant residual cumulative impacts.

The potential for cumulative impacts to terrestrial wildlife and habitat, fish and fish habitat, marine mammals, migratory birds, water quality, soil quality and ground stability, air quality, cultural and archaeological resources, and traditional wildlife harvesting pursuits from the proposed deep sea port facility, and other projects occurring in the region has been identified and considered in the development of the NIRB’s recommendations. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or reduce the potential for cumulative effects to occur.

Table 1: Project List

NIRB Project #	Project Title	Project Type
<i>Proposed Developments – undergoing assessment</i>		
17XN022	Iqaluit Small Craft Harbour	Marine Infrastructure
<i>Active Projects</i>		
17UN006	Iqaluit Airport Approach Lighting Replacement	Infrastructure
17UN025	Former Iqaluit Metal Dump Remediation	Remediation
<i>Past Projects</i>		
16YN041	Geotechnical and Environmental Baseline Field Studies – Iqaluit Port Development	Research
16YN057	The Burden of Infectious Pathogens in Clams in Iqaluit, Nunavut	Research

7. *Any other factor that the Board considers relevant to the assessment of the significance of impacts.*

The proposed project would allow for more efficient landing of cargo in Iqaluit and safer transfer of both fuel and cargo from ship to shore. Locating cargo and fuel operations on the south side of Koojessé Inlet during sealift season and eliminating the need for lighters to transport cargo from ship to shore during high tide would create greater public safety for boaters by removing vessels and lighters from the middle of the inlet, as well as eliminating the need for a floating fuel line during fuel delivery.

VIEWS OF THE BOARD

In considering the factors as set out above in the screening of the project proposal, the NIRB has identified a number of issues below and respectfully provide the following views regarding whether or not the proposed project has the potential to result in significant impacts. In addition, the NIRB has proposed terms and conditions that would mitigate the potential adverse impacts identified.

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the following project-specific terms and conditions have been recommended: 1-4.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to fish and fish habitat, benthic organisms, marine mammals, and freshwater and marine water quality, from site preparation, from construction activities, including the development of the deep sea port infrastructure with the use of heavy equipment, use of explosives, removal of overburden material with potential increase in noise associated with these activities, and disposal at sea of dredged material. In addition, potential adverse impacts may occur during the operations of the deep sea port.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) associated with the proposed activities may overlap with natural ranges of several terrestrial and marine wildlife species. The project construction may adversely impact fish and fish habitat, benthic organisms, marine mammals, and freshwater and marine water quality, from destruction of intertidal and benthic habitat from the deep sea port construction activities. Specifically, the proposed deep sea port and access road construction will directly disturb an intertidal/sub-tidal area of approximately 45,000 square metres. Also, adverse impacts to marine water in proximity to the deep sea port footprint are likely due to sedimentation into open water during construction of the wharf, wharf causeway, sealift ramp, and access road causeway, however, no significant long-term adverse impacts are expected, as the sedimentation should quickly dissipate due to wave and tidal action.

The disposal of approximately 64,000 m³ of dredged overburden will disturb the seafloor onto which it will be dumped. Fish and marine mammals may be disturbed during disposal activities. The Proponent has indicated the area identified for disposal at sea is an area of seafloor with minimal productivity, therefore overall effects due to the disrupted area are expected to be minimal.

To mitigate potential project impacts to these natural resources, the Proponent has provided a Spill Prevention and Response Plan which includes storage measures, spill response measures, equipment requirements, and overall handling procedures for the management of fuel and chemicals. Further, the Proponent has committed to implement measures such as sediment and silt fences to minimize the potential environmental impacts as noted within the Construction Environmental Management Plan. In addition to the Proponent's proposed mitigation measures, it is expected that standard operational considerations would mitigate any potential adverse impacts to the water quality, and fish and fish habitat in the direct project area and areas adjacent to the proposed project.

The Proponent would be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act* and the *Canadian Environmental Protection Act*, the *Arctic Waters Pollution Prevention Act*, and the *Canada Shipping Act* (see Regulatory Requirements section).

Noted Inuit Qaujimaningit, traditional or community knowledge: The Proponent noted in its report of community consultation that local harvesters have indicated fishing activities could be carried out in locations in Koojesse Inlet.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent use appropriate measures to prevent unplanned deposition of sediment and runoff during construction, minimizing release of explosive residue into water, and preventing fuel and other hydrocarbon spills. The NIRB recommends the following additional terms and conditions are recommended to mitigate the potential adverse impacts to fish and fish habitat: 5, 6, 9, 10, 12, 13, 19, 21, and 22.

Issue 2: Potential adverse impacts to terrestrial wildlife, migratory birds, non-migratory birds, and their respective habitats from site preparation, from construction activities due to disturbance of habitat and operation activities during the sealift months with potential increase in noise associated with these activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) associated with the proposed activities, such as site preparation and road construction, overlaps the natural ranges of several terrestrial wildlife species including Arctic fox, Arctic hare, and migratory and non-migratory birds. The potential impacts to terrestrial wildlife and migratory and non-migratory birds are associated with destruction of vegetation within the project footprint and potential loss of habitat due to the development of the deep-sea port and laydown areas. However, as noted by the Proponent, the location of the proposed project would be predominately located within exposed bedrock with minimal wildlife habitat identified, therefore no significant disturbance is anticipated and the potential impacts to terrestrial wildlife and migratory and non-migratory birds are considered to be of low magnitude, short duration, and reversible.

The Proponent would also be required to follow the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, *Species at Risk Act*, and the *Wildlife Act (Nunavut)* (see Regulatory Requirements section)

Recommended Mitigation Measures: It is recommended that the potential adverse impacts be mitigated by measures such as requiring the Proponent to minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting, and to ensure that all project personnel are made aware of the measures to protect wildlife. The NIRB recommends the following terms and conditions to mitigate potential adverse impacts to terrestrial wildlife, migratory and non-migratory birds: 7, 8, 11, 13 through 17, 20, 23, and 24.

Issue 3: Potential adverse impacts to vegetation, ground stability and soil quality from the development of the access road, construction activities for the deep-sea port, and the use of heavy equipment for site preparation and on-land transportation.

Board Views: The activities proposed for the project, including the use of heavy equipment for site preparation and hauling quarried rock to the breakwater site, may result in adverse impacts to soil quality and soil stability from erosion and rutting associated with land disturbance. In addition, fuel spill incidents from general construction activities and potential acid rock drainage from exposed bedrock rock in the proposed deep sea port area may adversely impact soil quality. However, the potential for impacts is likely limited to the project footprint, and the probability of long-term impacts occurring is considered to be low. To mitigate potential impacts, the Proponent has committed to avoiding the use of machinery and vehicles over unstable areas and maintaining spill prevention and recuperation materials at the project site. The Proponent has also committed to limiting slope steepness for all structures associated with the project, including the breakwater, and protecting such structures and exposed surfaces from erosion. The potential adverse impacts to ground stability and soil quality are considered to be of low magnitude and reversible.

The Proponent would also be required to follow the *Transportation of Dangerous Goods Regulations, Transportation of Dangerous Goods Act*, and the *Canadian Environmental Protection Act*.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. The Board recommends the following terms and conditions to mitigate the potential adverse impacts to ground stability and soil quality: 9, 10 through 12, 18, 19, 25, 27, and 28.

Issue 4: Potential adverse impacts to air quality from project activities, including dust and emissions generated by the use of explosives to blast rock and the use of heavy equipment for site preparation, access road construction, and development of the deep sea port.

Board views: There is potential for adverse impacts to air quality from site preparation, use of heavy equipment and machinery (terrestrial and marine), and blasting with the project, which would be limited to within the project footprint with a low probability of extending beyond the geographic area. The Proponent has committed to minimizing dust emissions by using water for dust control on the deep sea port site and site access. The potential adverse impacts to air quality are considered to be of low magnitude, short-term, and reversible.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as requiring the Proponent to use water or other non-

toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality. The Board recommends the following term and condition to mitigate the potential adverse impacts to air quality: 20, and 21.

Issue 5: Potential adverse impacts to traditional land use activities, fishing and other on-land and marine resource use activities in the area due to safety concerns requiring the public to maintain a distance from project activities, from noise and movement disruptions associated with the access road and deep sea port construction.

Board Views: There is potential for the proposed land- and marine-based activities, such as site preparation, access road and deep sea port construction, and road transport, to disrupt the movement of residents in Iqaluit to areas for traditional land use pursuits. These project activities may also interfere with other land users and marine resource users. Although the proposed project would include temporary activities (less than three-year construction period) with limited potential for long-term impacts with respect to noise, there is potential for long-term impacts as a result of navigation interference. Terms and conditions have also been recommended to ensure that potential impacts to traditional land use activities are minimized should they be observed.

Noted Inuit Qaujimaningit, traditional or community knowledge: Within the project application the Proponent has reported that discussions with local harvesters has indicated that fishing activities could be carried out in a different location to avoid conflict with the development activities with no anticipated effect on the catch. Additionally, the Proponent identified that project activities would be carried out in an area that is generally avoided by the community for gathering of clams in Koojesse Inlet due to the perceived issue of pollution from historical and current activities in Iqaluit.

Recommended Mitigation Measures: Term and condition 29 is recommended to ensure that the affected communities and organizations are informed about the project proposal and term and condition 30 has been recommended to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area. In addition, terms and conditions 32 and 33 are recommended to provide for public safety during the development of the deep sea port.

Socio-economic effects on northerners:

Issue 6: Potential adverse impacts to historical, cultural and archaeological sites from development activities.

Board Views: The Proponent is proposing to work in an area of known historical significance which may cause potential negative impacts and is required to contact the Culture and Heritage Department when encountering historical sites and is required to follow the *Nunavut Act* (as recommended in Regulatory Requirements section).

Recommended Mitigation Measures: Term and condition 29 is recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring to any additional historical sites.

Issue 7: Potential adverse impacts to human health and safety from the construction of the deep sea port and from noise associated with the use of heavy equipment, and use of explosives.

Board Views: There is potential for injury to community members traversing the project area, including the deep sea port construction site. Also, an increase in noise levels from explosives use, construction traffic, and the use of heavy equipment for the development of the port may pose a nuisance to community residents. To mitigate these potential adverse impacts to humans, the Construction Environmental Management Plan notes the intention of limiting project construction period to day work hours, and installing gates at the access road to the port construction site to reduce public safety risks. With the implementation of mitigation measures proposed and committed to by the Proponent, the adverse impacts to human health and safety are likely to be infrequent, short-term, and of low magnitude.

Recommended Mitigation Measures: It is recommended that potential adverse impacts to human health and safety be mitigated by measures such as requiring the Proponent to ensure that access to work areas is controlled and restricted to construction personnel. The Board recommends terms and conditions 20 and 32 to mitigate the potential adverse impacts to human health and safety.

Issue 8: Potential positive impacts to the local community from the sourcing of accommodations for personnel within the community, purchasing of local goods and services, the hiring of local guides and the use of wildlife monitors.

Board Views: It is noted that the Proponent will be employing local residents when possible. In addition, the Proponent has committed to the purchasing of local goods and services and to source accommodations within the community which would allow the community to increase income and expenditures within the community.

Recommended Mitigation Measures: Terms and conditions 29 and 31 have been recommended to ensure the Proponent continues to inform the community of the construction activities as well as provide community members with information to ensure a successful local hiring opportunity.

Issue 9: Potential positive impacts to the local community from improvements to transportation and sealift infrastructure and efficiency and greater public safety.

Board Views: It is noted that the proposed port would, if approved and constructed, allow for more efficient loading and unloading during sealift due to directly unloading cargo from ship on to the shore without needing to stop due to tides. Moreover, sealift activities would be concentrated at one location in Koojesse Inlet, moving cargo handling and

lightening activities from the middle of the inlet and thus decreasing the risk to the public due to possible interaction between sealift activities and resident marine activities such as fishing or boating.

Recommended Mitigation Measures: Term and condition 26 has been recommended to ensure the Proponent continues to inform the community of the construction and operation activities.

Significant public concern:

Issue 10: No significant public concern was expressed during the public commenting period for this file.

Board Views: Follow up consultation and involvement of local community members is expected to mitigate any potential for public concern resulting from project activities. The Proponent has committed to conduct additional consultation. In addition, it is recommended that the Proponent considers hiring local people for the project activities.

Recommended Mitigation Measures: Term and condition 29 is recommended to ensure that the affected community and organizations are informed about the project proposal, and to provide the Proponent with an opportunity to proactively address or mitigate any concerns that may arise from the project activities findings. Term and condition 30 is recommended to ensure that the Proponent provide community members with information to ensure a successful local hiring opportunity.

Technological innovations for which the effects are unknown:

No specific issues have been identified associated with this project proposal.

In considering the above factors and subject to the Proponent's compliance with the terms and conditions necessary to mitigate against the potential adverse environmental and social effects, the Board is of the view that the proposed project is unlikely to cause significant public concern and its adverse ecosystemic and socioeconomic impacts are unlikely to be significant, or are highly predictable and can be adequately mitigated by known technologies.

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The Board is recommending the following specific terms and conditions to apply in respect of the project:

General

1. The Government of Nunavut (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall forward copies of all permits obtained and required for this project to the Nunavut Impact Review Board (NIRB) prior to the commencement of the project.

3. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (Application to Determine Conformity, February 17, 2017), and the NIRB (Online Application Form, June 12, 2017, and Response to Comments, August 16, 2017).
4. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

5. The Proponent shall not extract water from any fish-bearing waterbody unless the water intake hose is equipped with a screen of appropriate mesh size to ensure that there is no entrapment of fish.
6. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless approved by the Nunavut Water Board or Fisheries and Oceans Canada.

Waste Disposal

7. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.

Fuel and Chemical Storage

8. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
9. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations.
10. The Proponent shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available during any transfer of fuel or hazardous substances, at all fuel storage sites, and at all refuelling stations.
11. The Proponent shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.
12. The Proponent shall ensure that all personnel are properly trained in fuel and hazardous waste handling procedures, as well as spill response procedures. All spills of fuel or other deleterious materials of any amount must be reported immediately to the 24 hour Spill Line at (867) 920-8130.

Wildlife - General

13. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
14. The Proponent shall not harass wildlife. This includes persistently circling, chasing, hovering over pursuing or in any other way harass wildlife, or disturbing large groups of animals.

15. The Proponent shall ensure that all project personnel are made aware of the measures to protect wildlife and are provided with training and/or advice on how to implement these measures.

Migratory Birds and Raptors Disturbance

16. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metres buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.
17. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.

Ground Disturbance

18. The Proponent shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles must be suspended if rutting occurs.
19. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediment from entering any waterbody.
20. All construction and road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.
21. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

Marine based Activities

22. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including waste water) into any marine waters.
23. The Proponent shall suspend all project activities should any dead fish or wildlife, or any injured wildlife be observed during any works or activities in and around the marine waters.
24. The Proponent shall implement measures designed to minimize disturbance to seabed sediments and benthic communities and marine wildlife when carrying out project activities within the marine environment.
25. The Proponent shall implement suitable erosion and sediment suppression measures on all areas before, during and after conducting activities in order to minimize turbidity plumes from the work site into the waterbody including the installation of silt screens.
26. Deep Sea Port construction shall be carried out during periods when wind, wave and tidal conditions minimize the dispersion of silt and sediment from the work site.

Restoration of Disturbed Areas

27. The Proponent shall remove all garbage, fuel and equipment upon abandonment and completion of the construction activities.

28. The Proponent shall complete all clean-up and restoration of the lands used prior to the end of each field season and/or completion of site construction.

Other

29. The Proponent should engage with local residents regarding planned activities in the area and should solicit available Inuit Qaujimaningit and information regarding current recreational and traditional usage of the project area which may inform project activities. Posting of translated public notices and direct engagement with potentially interested groups and individuals prior to undertaking project activities is strongly encouraged.

30. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

31. The Proponent should, to the extent possible, hire local people and access local services where possible.

32. The Proponent shall ensure that access to work areas is controlled and restricted to construction personnel. This should include the posting of signs noting hazards during construction activities.

33. The Proponent should discuss potential implications of the project on on-land and marine traffic movement with the City of Iqaluit, applicable territorial and federal government agencies, and local facility users before the implementation of the project.

MONITORING AND REPORTING REQUIREMENTS

In addition, the Board is recommending the following:

Environmental Management Plans – Construction and Operations

1. Prior to the start of construction activities, the Proponent will provide the final Construction Environmental Management Plan to the NIRB including an updated Spill Contingency and Emergency Management Plans.
2. The Proponent will provide to the NIRB copies of any new or updated operational plans associated with management of the site, especially the most recent Emergency or Spill Response Plan for the operation of the dock that would include, but not be limited to, identification of signage at the site, description of any consultation measures to educate the public on commitments made for re-fueling, and requirements for spill control and reporting from usage of the small craft harbour.

Final Report – Construction

3. The Proponent shall submit a comprehensive final report to the NIRB at the completion of construction activities and prior to operations. This report must contain the following information:
 - a) A summary of activities undertaken during the construction phase, including:
 - The process undertaken to determine if contaminants were present in the dredged material (including whether on-site or laboratory testing was undertaken);
 - Mitigation measures undertaken if contaminants were identified;

- Reasons for any installation of silt fences or other erosion control measures and location.
- b) A log of wildlife observed in or near the project site, especially marine mammals, including:
- Identification of the wildlife observed and a brief description of the animal or group's behaviour;
 - A description of mitigation activities undertaken, specifically stop work events, and the outcome of the encounter; and
 - Discussions that occurred with any regulatory authorities regarding wildlife encounters, recommendations, and any updated procedures that resulted.
- c) Description of any fuel spills and response measures undertaken to contain or clean up the spill;
- d) A summary of how the Proponent has complied with terms and conditions contained within this Screening Decision Report, and all conditions as required by other authorizations associated with the project proposal.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board is recommending the following:

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission (NPC) and the NIRB of any changes in operating plans or conditions, including phase advancement, associated with this project prior to any such change.

Bear and Carnivore Safety

2. The Proponent should review the Government of Nunavut's booklet on Bear Safety, which can be downloaded from this link: http://gov.nu.ca/sites/default/files/bear_safety_-_reducing_bear-people_conflicts_in_nunavut.pdf. Further information on bear/carnivore detection and deterrent techniques can be found in the "Safety in Grizzly and Black Bear Country" pamphlet, which can be downloaded from this link: http://www.enr.gov.nt.ca/sites/default/files/web_pdf_wd_bear_safety_brochure_1_may_2015.pdf.
3. There are polar bear and grizzly bear safety resources available from the Bear Smart Society with videos on polar bear safety available in English, French and Inuktitut at <http://www.bearsmart.com/play/safety-in-polar-bear-country/>. Information can also be obtained from Parks Canada's website on bear safety at the following link: <http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/d.aspx> or in reviewing the "Safety in Polar Bear Country" pamphlet, which can be downloaded from the following link: http://www.pc.gc.ca/eng/pn-np/nu/quttinirpaaq/visit/visit6/~/_media/pn-np/nu/auyuittuq/pdf/shared/PolarBearSafety_English.ashx.

4. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Iqaluit, phone: (867) 924-6235).

Species at Risk

5. The Proponent review Environment and Climate Change Canada's "Environment Assessment Best Practice Guide for Wildlife at Risk in Canada", available at the following link:
http://www.sararegistry.gc.ca/virtual_sara/files/policies/EA%20Best%20Practices%202004.pdf. The guide provides information to the Proponent on what is required when Wildlife at Risk, including *Species at Risk*, are encountered or affected by the project.

Migratory Birds

6. The Proponent review Canadian Wildlife Services' "Key migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut", available at the following link: <http://publications.gc.ca/site/eng/317630/publication.html> and "Key marine habitat sites for migratory birds in Nunavut and the Northwest Territories", available at the following link: <http://publications.gc.ca/site/eng/392824/publication.html>. The guide provides information to the Proponent on key terrestrial and marine habitat areas that are essential to the welfare of various migratory bird species in Canada.
7. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at <http://www.ec.gc.ca/paom-itmb/>.

Transport of Dangerous Goods and Waste Management

8. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
9. The Proponent shall ensure that proper shipping documents (waste manifests, transportation of dangerous goods, etc.) accompany all movements of dangerous goods. Further, the Proponent shall ensure that the shipment of all dangerous goods is registered with the Government of Nunavut Department of Environment, Department of Environment Manager. Contact the Manager (867) 975-7748 to obtain a manifest if dangerous goods including hazardous wastes will be transported.
10. The Proponent shall provide an authorization or letter of conformation of disposal be obtained from the owner/operator of the landfill to be used for disposal of project-related wastes.

The Proponent is also advised that the following legislation may apply to the project:

Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
4. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix A** is a list of Species at Risk in Nunavut.
5. The *Wildlife Act (Nunavut)* and its corresponding regulations (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
6. The *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix B**.
7. The *Transportation of Dangerous Goods Regulations* (<http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm>), *Transportation of Dangerous Goods Act* (<http://laws-lois.justice.gc.ca/eng/acts/t-19.01/>), and the *Canadian Environmental Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/C-15.31/>).
8. The *Arctic Waters Pollution Prevention Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-12/>).
9. The *Canada Shipping Act, 2001* (<http://laws-lois.justice.gc.ca/eng/acts/C-10.15/>).
10. The *Marine Liability Act* (<http://laws-lois.justice.gc.ca/eng/acts/M-0.7/>).
11. The *Navigation Protection Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-22/index.html>).
12. The *Nunavut Mining Safety Ordinance* and the *Territorial Quarrying Regulations* (<http://www.canlii.org/en/ca/laws/regu/crc-c-1527/latest/crc-c-1527.html>) or equivalent.
13. The *Explosives Act* (<http://laws-lois.justice.gc.ca/eng/acts/E-17/page-1.html#h-5>).
14. The *Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* (<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-197/FullText.html>). The Proponent must identify their tank system to Environment and Climate Change Canada and installation of new systems must comply with the regulations' design requirements.

Other Applicable Guidelines

15. The *Guidelines for the use of Explosives in or near Canadian Fisheries Waters* (<http://publications.gc.ca/site/eng/82558/publication.html>).

Appendix A Species at Risk in Nunavut

Due to the requirements of Section 79(2) of the Species At Risk Act (SARA), and the potential for project-specific adverse effects on listed wildlife species and its critical habitat, measures should be taken as appropriate to avoid or lessen those effects, and the effects need to be monitored. Project effects could include species disturbance, attraction to operations and destruction of habitat. This section applies to all species listed on Schedule 1 of SARA, as listed in the table below, or have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which may be encountered in the project area. This list may not include all species identified as at risk by the Territorial Government. The following points provide clarification on the applicability of the species outlined in the table.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

If species at risk are encountered or affected, the primary mitigation measure should be avoidance. The Proponent should avoid contact with or disturbance to each species, its habitat and/or its residence. All direct, indirect, and cumulative effects should be considered. Refer to species status reports and other information on the species at risk Registry at <http://www.sararegistry.gc.ca> for information on specific species.

Monitoring should be undertaken by the Proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of species at risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.

For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.

Mitigation and monitoring measures must be undertaken in a way that is consistent with applicable recovery strategies and action/management plans.

Schedules of SARA are amended on a regular basis so it is important to check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Updated: September 2017

Terrestrial Species at Risk ¹	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ²
Migratory Birds			
Buff-breasted Sandpiper	Special concern	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Pending	ECCC
Horned Grebe (Western population)	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex ³)	Schedule 1 - Schedule 3	ECCC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Schedule 1	ECCC
Red Knot (<i>rufa</i> subspecies)	Endangered	Schedule 1	ECCC
Red-necked Phalarope	Special concern	Pending	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Blanket-leaved Willow	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Porsild's Bryum (Moss)	Threatened	Schedule 1	Government of Nunavut
Arthropods			
Traverse Lady Beetle	Special Concern	Pending	Government of Nunavut
Terrestrial Wildlife			
Caribou (Barren-Ground population)	Threatened	Pending	Government of Nunavut
Dolphin and Union Caribou	Special Concern	Schedule 1	Government of Nunavut
Grizzly Bear (Western Population)	Special Concern	Pending	Government of Nunavut
Peary Caribou	Endangered	Schedule 1	Government of Nunavut
Peary Caribou (High Arctic Population)	Endangered	Schedule 2	Government of Nunavut
Peary Caribou (Low Arctic Population)	Threatened	Schedule 2	Government of Nunavut
Wolverine	Special Concern	Pending	Government of Nunavut
Wolverine (Western population)	Non-active	Pending	Government of Nunavut
Marine Wildlife			
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Endangered	Schedule 2	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO

Beluga Whale (Southeast Baffin Island – Cumberland Sound population)	Endangered	Schedule 2	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Arctic population)	Endangered	Schedule 2	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO
Polar Bear	Special Concern	Schedule 1	Government of Nunavut/DFO
Fish			
Atlantic Cod, Arctic Lakes	Special Concern	Pending	DFO
Atlantic Wolffish	Special Concern	Schedule 1	DFO
Bering Wolffish	Special Concern	Schedule 3	DFO
Blackline Prickleback	Special Concern	Schedule 3	DFO
Fourhorn Sculpin	Special Concern	Schedule 3	DFO
Fourhorn Sculpin (Freshwater form)	Data Deficient	Schedule 3	DFO
Northern Wolffish	Threatened	Schedule 1	DFO
Roundnose Grenadier	Endangered	Pending	DFO
Spotted Whitefish	Threatened	Schedule 1	DFO
Thorny Skate	Special Concern	Pending	DFO

¹ The Department of Fisheries and Oceans has responsibility for aquatic species.

² Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency.

Appendix B
Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders



INTRODUCTION

The Department of Culture and Heritage (CH) routinely reviews land use applications sent to the Nunavut Water Board, Nunavut Impact Review Board and the Indigenous and Northern Affairs Canada. These terms and conditions provide general direction to the permittee/proponent regarding the appropriate actions to be taken to ensure the permittee/proponent carries out its role in the protection of Nunavut’s archaeological and palaeontological resources.

TERMS AND CONDITIONS

- 1) The permittee/proponent shall have a professional archaeologist and/or palaeontologist perform the following **Functions** associated with the **Types of Development** listed below or similar development activities:

	Types of Development (See Guidelines below)	Function (See Guidelines below)
a)	Large scale prospecting	Archaeological/Palaeontological Overview Assessment
b)	Diamond drilling for exploration or geotechnical purpose or planning of linear disturbances	Archaeological/ Palaeontological Inventory
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/ Palaeontological Inventory or Assessment or Mitigation

Note that the above-mentioned functions require either a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit. CH is authorized by way of the *Nunavut and Archaeological and Palaeontological Site Regulations*¹ to issue such permits.

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.

¹P.C. 2001-1111 14 June, 2001

- 3) The permittee/proponent shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 4) The permittee/proponent shall immediately contact CH at (867) 934-2046 or (867) 975-5500 should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity.
- 5) The permittee/proponent shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation until permitted to proceed with the authorization of CH.
- 6) The permittee/proponent shall follow the direction of CH in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act Indigenous and Northern Affairs Canada directions will also be followed.
- 7) The permittee/proponent shall provide all information requested by CH concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 8) The permittee/proponent shall make best efforts to ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.
- 9) If a list of recorded archaeological and/or palaeontological sites is provided to the permittee/proponent by CH as part of the review of the land use application the permittee/proponent shall avoid the archaeological and/or palaeontological sites listed.
- 10) Should a list of recorded sites be provided to the permittee/proponent, the information is provided solely for the purpose of the proponent's land use activities as described in the land use application, and must otherwise be treated confidentially by the proponent.

Legal Framework

As stated in Article 33 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement):

Where an application is made for a land use permit in the Nunavut Settlement Area, and there are reasonable grounds to believe that there could be sites of archaeological importance on the lands affected, no land use permit shall be issued without written consent of the Designated Agency. Such consent shall not be unreasonably withheld. [33.5.12]

Each land use permit referred to in Section 33.5.12 shall specify the plans and methods of archeological site protection and restoration to be followed by the permit holder, and any other conditions the Designated Agency may deem fit. [33.5.13]

Palaeontology and Archaeology

Under the *Nunavut Act*², the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under

² s. 51(1)

the *Nunavut Archaeological and Palaeontological Sites Regulations*³, it is illegal to alter or disturb any palaeontological or archaeological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement).

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

Fossil means the hardened or preserved remains or impression of previously living organisms or vegetation and includes:

- (a) natural casts;*
- (b) preserved tracks, coprolites and plant remains; and*
- (c) the preserved shells and exoskeletons of invertebrates and the preserved eggs, teeth and bones of vertebrates.*

Guidelines for Developers for the Protection of Archaeological Resources in the Nunavut Territory

(**Note:** Partial document only, complete document at: www.ch.gov.nu.ca/en/Archaeology.aspx)

Introduction

The following guidelines have been formulated to ensure that the impacts of proposed developments upon heritage resources are assessed and mitigated before ground surface altering activities occur. Heritage resources are defined as, but not limited to, archaeological and historical sites, burial grounds, palaeontological sites, historic buildings and cairns. Effective collaboration between the developer, the Department of Culture, and Heritage (CH), and the contract archaeologist(s) will ensure proper preservation of heritage resources in the Nunavut Territory. The roles of each are briefly described.

CH is the Nunavut Government agency which oversees the protection and management of heritage resources in Nunavut, in partnership with land claim authorities, regulatory agencies, and the federal government. Its role in mitigating impacts of developments on heritage resources is as follows: to identify the need for an impact assessment and make recommendations to the appropriate regulatory agency; set the terms of reference for the study depending upon the scope of the development; suggest the names of qualified individuals

³ P.C. 2001-1111 14 June, 2001

prepared to undertake the study to the developer; issue an archaeologist or palaeontologist permit authorizing field work; assess the completeness of the study and its recommendations; and ensure that the developer complies with the recommendations.

The primary regulatory agencies that CH provides information and assistance to are the Nunavut Impact Review Board, for development activities proposed for Inuit Owned Lands (as defined in Section 1.1.1 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (Nunavut Agreement)), and the Indigenous and Northern Affairs Canada, for development activities proposed for federal Crown Lands.

A developer is the initiator of a land use activity. It is the obligation of the developer to ensure that a qualified archaeologist or palaeontologist is hired to perform the required study and that provisions of the contract with the archaeologist or palaeontologist allow permit requirements to be met; i.e. fieldwork, collections management, artifact and specimen conservation, and report preparation. On the recommendation of the contract archaeologist or palaeontologist in the field and the Government of Nunavut, the developer shall implement avoidance or mitigative measures to protect heritage resources or to salvage the information they contain through excavation, analysis, and report writing. The developer assumes all costs associated with the study in its entirety.

Through his or her active participation and supervision of the study, the contract archaeologist or palaeontologist is accountable for the quality of work undertaken and the quality of the report produced. Facilities to conduct fieldwork, analysis, and report preparation should be available to this individual through institutional, agency, or company affiliations. Responsibility for the curation of objects recovered during field work while under study and for documents generated in the course of the study as well as remittance of artifacts, specimens and documents to the repository specified on the permit accrue to the contract archaeologist or palaeontologist. This individual is also bound by the legal requirements of the *Nunavut Archaeological and Palaeontological Sites Regulations*.

Types of Development

In general, those developments that cause concern for the safety of heritage resources will include one or more of the following kinds of surface disturbances. These categories, in combination, are comprehensive of the major kinds of developments commonly proposed in Nunavut. For any single development proposal, several kinds of these disturbances may be involved

- *Linear disturbances: including the construction of highways, roads, winter roads, transmission lines, and pipelines;*
- *Extractive disturbances: including mining, gravel removal, quarrying, and land filling;*
- *Impoundment disturbances: including dams, reservoirs, and tailings ponds;*
- *Intensive land use disturbances: including industrial, residential, commercial, recreational, and land reclamation work, and use of heritage resources as tourist developments.*

- *Mineral, oil and gas exploration: establishment of camps, temporary airstrips, access routes, well sites, or quarries all have potential for impacting heritage resources.*

Types of Studies Undertaken to Preserve Heritage Resources

Overview: An overview study of heritage resources should be conducted at the same time as the development project is being designed or its feasibility addressed. They usually lack specificity with regard to the exact location(s) and form(s) of impact and involve limited, if any, field surveys. Their main aim is to accumulate, evaluate, and synthesize the existing knowledge of the heritage of the known area of impact. The overview study provides managers with baseline data from which recommendations for future research and forecasts of potential impacts can be made. A Class I Permit is required for this type of study if field surveys are undertaken.

Reconnaissance: This is done to provide a judgmental appraisal of a region sufficient to provide the developer, the consultant, and government managers with recommendations for further development planning. This study may be implemented as a preliminary step to inventory and assessment investigations except in cases where a reconnaissance may indicate a very low or negligible heritage resource potential. Alternately, in the case of small-scale or linear developments, an inventory study may be recommended and obviate the need for a reconnaissance.

The main goal of a reconnaissance study is to provide baseline data for the verification of the presence of potential heritage resources, the determination of impacts to these resources, the generation of terms of reference for further studies and, if required, the advancement of preliminary mitigative and compensatory plans. The results of reconnaissance studies are primarily useful for the selection of alternatives and secondarily as a means of identifying impacts that must be mitigated after the final siting and design of the development project. Depending on the scope of the study, a Class 1 or Class 2 Permit is required for this type of investigation.

Inventory: A resource inventory is generally conducted at that stage in a project's development at which the geographical area(s) likely to sustain direct, indirect, and perceived impacts can be well defined. This requires systematic and intensive fieldwork to ascertain the effects of all possible and alternate construction components on heritage resources. All heritage sites must be recorded on Government of Nunavut Site Survey forms. Sufficient information must be amassed from field, library and archival components of the study to generate a predictive model of the heritage resource base that will:

- allow the identification of research and conservation opportunities;
- enable the developer to make planning decisions and recognize their likely effects on the known or predicted resources; and
- make the developer aware of the expenditures, which may be required for subsequent studies and mitigation. A Class 1 or 2 permit is required.

Assessment: At this stage, sufficient information concerning the numbers and locations of heritage resources will be available, as well as data to predict the forms and magnitude of impacts. Assessments provide information on the size, volume, complexity and content of a

heritage resource, which is used to rank the values of different sites or site types given current archaeological knowledge. As this information will shape subsequent mitigation program(s), great care is necessary during this phase.

Mitigation: This refers to the amelioration of adverse impacts to heritage resources and involves the avoidance of impact through the redesign or relocation of a development or its components; the protection of the resource by constructing physical facilities; or, the scientific investigation and recovery of information from the resource by excavation or other method. The type(s) of appropriate mitigative measures are dictated by their viability in the context of the development project. Mitigation strategies must be developed in consultation with, and approved by, the Department of Culture and Heritage. It is important to note that mitigation activities should be initiated as far in advance of the construction of the development as possible.

Surveillance and monitoring: These may be required as part of the mitigation program.

Surveillance may be conducted during the construction phase of a project to ensure that the developer has complied with the recommendations.

Monitoring involves identification and inspection of residual and long-term impacts of a development (i.e. shoreline stability of a reservoir); or the use of impacts to disclose the presence of heritage resources, for example, the uncovering of buried sites during the construction of a pipeline.