

The primary objectives of the NIRB are set out in Article 12, Section 12.2.5 of the *Nunavut Agreement* and are confirmed by s. 23 of the *NuPPAA*:

Nunavut Agreement, Article 12, Section 12.2.5: 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.

The purpose of screening is provided for under Article 12, Section 12.4.1 of the *Nunavut Agreement* and s. 88 of the *NuPPAA* which states:

NuPPAA, s. 88: 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 Article 12, Section 12.4.2(a) and (b) of the *Nunavut Agreement* and s. 89(1) of *NuPPAA* which states:

NuPPAA, s. 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 under Article 12, Section 12.4.2(c) and s. 89(2) of the *NuPPAA* provides that the considerations set out in s.89(1)(a) prevail over the considerations set out in s. 89(1)(b) of the *NuPPAA*.

As set out under Article 12, Section 12.4.4 of the *Nunavut Agreement* and s. 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister. The contents of the NIRB's report are specified under *NuPPAA*:

NuPPAA, s. 92(1): The Board must submit a written report to the responsible Minister containing a description of the project that specifies its scope and indicating that:

- (a) a review of the project is not required;
- (b) a review of the project is required; or
- (c) the project should be modified or abandoned.

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 pursuant to paragraph 92(2)(a) of *NuPPAA* as follows:

NuPPAA, s. 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 December 3, 2018 the Nunavut Impact Review Board (NIRB or Board) received a referral to screen City of Iqaluit's "New Landfill and Waste Transfer Station" project proposal from the Nunavut Planning Commission (NPC or Commission). The NPC noted that the project 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 s. 87 of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (*NuPPAA*), the NIRB has commenced screening this project proposal. Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB file **13UN034**, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project History and Key Stages of Screening

On December 4, 2018 the NIRB requested that the Proponent complete the online application form through the NIRB's public registry system and ensure, pursuant to s. 144(1) of the *NuPPAA*, that the information provided be sufficient to determine the scope of the project activities being proposed and that sufficient information has been provided to commence screening. On December 18, 2018 the NIRB received the required additional information and commenced the screening pursuant to Part 3 of the *NuPPAA*. On December 20, 2018 the NIRB requested that interested parties review the proposal and provide the Board with any comments or concerns by January 14, 2019. On January 16, 2019, due to the concerns and questions identified in the comments received from parties, the NIRB provided an opportunity for the Proponent to respond to the concerns raised during the commenting period.

On May 30, 2019 the NIRB notified the City of Iqaluit that the assessment activities for this project proposal had been suspended pursuant to s. 143(2) of the *NuPPAA*, following a request from the Proponent on May 28, 2019 to suspend the assessment to allow the City of Iqaluit more time to

respond to reviewers' comments and concern. On August 7, 2019 the NIRB received the requested additional information and on August 20, 2019 the NIRB received a request from the Proponent and re-commenced the screening pursuant to Part 3 of the *NuPPAA*.

The following key stages were completed:

Date	Stage
December 3, 2018	Receipt of project proposal and referral from the NPC
December 4, 2018	Information request
December 18, 2018	Proponent responded to information request
December 18, 2018	Acceptance of Online Application and scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
December 20, 2018	Public engagement and comment request
January 14, 2019	Receipt of public comments
January 16, 2019	Proponent provided with an opportunity to address comments/concerns raised by public
February 1, 2019	Ministerial extension requested from the Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade
May 28, 2019	Proponent request for file suspension
May 30, 2019	Suspension of Assessment Activities pursuant to Subsection 143(2)
August 7, 2019	Proponent responded to comments/concerns raised by public
August 20, 2019	NIRB received a request to unsuspend project and resumed assessment.

2. Project Scope

All documents received and pertaining to this project proposal can be accessed from the NIRB's online public registry at www.nirb.ca/project/125346.

The "Type A Water Licence Renewal" project activities as previously screened by the NIRB (File No. 13UN034) included upgrading and constructing various waste management facilities in Iqaluit. A complete description of the scope of activities previously approved has been included within [Appendix A](#).

The City of Iqaluit is currently proposing the "New Landfill and Waste Transfer Station" project and would be located within the Qikiqtani (South Baffin) region, approximately 8 kilometres (km) northwest of the City of Iqaluit. The Proponent intends to amend the scope of previously approved activities to construct a new landfill and a waste transfer station as part of the City of Iqaluit's Solid Waste Management Initiative. The construction will begin in 2020 and the landfill will have a service life of 75 years.

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the New Landfill and Waste Transfer Station project as set out by the City of Iqaluit in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Construction of a landfill comprised of:
 - Bale-fill design;
 - Bulk construction and demolition waste area (waste routinely covered);

- High-density polyethylene (HDPE) lined bulky waste storage cell(s);
- HDPE lined municipal waste storage cell(s); and
- Bermed and HDPE lined leachate collection sump.
- Electric Fence
- Five (5) km access road
- Construction of a Waste Transfer Station (located 1-2 km north of Iqaluit Airport):
 - Metal Clad Building;
 - Concrete pad;
 - Thermosyphons;
 - Biomass burner – wood and cardboard shredded and used to heat facility;
 - Shredding and recycling of scrap tires, compacting of scrap metal to be stored and shipped to a southern facility for recycling;
 - Compost area;
 - Community re-use area;
 - Household hazardous waste collection area for oils, fluids and household hazardous material to be transferred to a southern facility for disposal; and
 - Low – Density Polyethylene (LDP) Plastic Bale wrapping machine for compacting waste into bales.
- Decommissioning of existing landfill.

3. Inclusion or Exclusion to Scoping List

The NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB proceeded with screening the project based on the scope as described above.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on December 20, 2018 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 January 14, 2019 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; and if so, why;
- Whether the project proposal is of a type where the potential adverse effects are highly predictable and mitigable with known technology, (and providing any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

On or before January 14, 2019 the NIRB received comments from the following interested parties (see Summary of Comments and Concerns section below):

- **Government of Nunavut (GN)**
- **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)**

- **Environment and Climate Change Canada (ECCC)**

On January 16, 2019, due to the concerns and questions identified in the comments received from parties, the NIRB provided an opportunity for the Proponent to respond to the concerns raised during the commenting period. The Proponent provided a response to concerns on August 7, 2019.

- a. Summary of Public Comments and Concerns Received during the Public comment period of this file*

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

Government of Nunavut (GN)

- Recommended the Proponent provide:
 - A comprehensive geotechnical survey of the proposed landfill site to offer insight into the characteristics of the local groundwater flow regime including completing the drilling of the bore holes as planned;
 - Climate Change Predictions including the impact to permafrost;
 - Project specifications that detail facility siting (setbacks), design (liner, filtrate management, regular cover), as well as detailed plans for operation and closure;
 - A Wildlife Deterrence and Response Plan that includes:
 - Additional details on the steps the Proponent will take to deter wildlife from interacting with the project
 - Protocols once an animal is observed; including reporting protocols
 - What tools will be available to staff
 - Education plans for the staff

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

- Recommended that the Proponent submit a Spill Contingency Plan.
- Recommended terms and conditions with regards to washing, re-fueling, servicing equipment and machinery, and for the storage of fuel and other materials so as to prevent any harmful substances entering the water.

Environment and Climate Change Canada (ECCC)

- Recommended the Proponent conduct appropriate sampling and analysis for any deposits that could enter fish bearing waters.
- Noted Monitoring and Management Plans should identify appropriate management of drainage/runoff including contingency measures to ensure that any deposits are non-deleterious to fish-bearing waters.
- Recommended that the Proponent identify any potential project effects and provide mitigation for any Species at Risk that could be encountered and affected by the project and that they undertake monitoring of Species at Risk mitigation; including recording locations and dates of observation of Species at Risk, behaviour or actions taken by the animals, and any actions taken to avoid contact or disturbance of the species and its habitat.
- Recommended the Proponent ensure they comply with legislation and regulations and that if active nests are encountered during project activities that they be avoided until nesting is complete, and that the nest be protected with a buffer zone appropriate for the species and surrounding habitat.

b. 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.

5. Proponent's Response to Public Comments and Concerns

The Proponent provided the following documentation on August 7, 2019 in response to parties' comments and concerns on the "New Landfill and Waste Transfer Station" proposal:

- Provided the following reports:
 - Supplementary Waste Transfers Station Environmental Site Assessment Investigation Report
 - Collected baseline environmental data (e.g., soils, groundwater and/or surface water)
 - Data used to document current site conditions to compare to future sampling programs and develop a Qualitative Risk Assessment and Risk Management Plan for site development.
 - Waste Transfer Station Geothermal Analysis Report
 - Compilation of climate data
 - Regional geological and permafrost conditions
 - Results of geotechnical drilling
 - Results of geothermal modeling
 - Geotechnical recommendations on suitable foundation options
 - Geotechnical recommendations on site grading and drainage.
 - Preliminary Geotechnical Investigation Report
 - Results of investigation of geotechnical and groundwater conditions at the landfill location
 - Assessment of Leachate Treatment Options Report
 - Presented alternatives for treatment of leachate
 - Design and Construction Option Technical Brief for Waste Transfer Station
 - Draft Facility Operations and Maintenance Manual for Landfill and Waste Transfer Station
 - Access Control
 - Personnel and Staffing
 - Site Structures
 - Equipment
 - Liner Development
 - Waste Receiving, Placement, Types of Waste, Inspection, Baling
 - Nuisance Control (Litter, Odour, Dust, Noise, Bird and Animal Control)
 - Surface Water Management
 - Landfill Gas Management
 - Leachate Management
 - Site Monitoring
 - Emergency Response Plan

- Draft Climate Change Resilience Assessment Investing in Canada Infrastructure Programs (ICIP) Report
 - Assessment conducted to determine climate change related impacts on the project infrastructure and develop potential resilience options.
- Draft Closure and Decommissioning Plan
- Draft Environmental Management Plan which includes
 - Draft Environmental Protection Plans
 - Identification of the potential effects for any Species at Risk
 - Measures to be taken by Proponent to ensure compliance with legislation and regulations to protect migratory birds, and their nests and eggs.
 - Additional details on the steps the Proponent will take to deter wildlife from interacting with the project; protocols once an animal is observed, including reporting protocols; what tools will be available to staff; and education plans for staff.
 - Emergency Response Plan
- Maps
- Operation and Maintenance Manual Water Treatment System, City of Iqaluit Landfill Site
 - Treatment of contaminants present in leachate from the landfill site
- Phase I Design Report
 - Supplementary site investigations
 - Facility performance and design parameters
 - Design and construction options analysis
 - Conceptual design information

6. Time of Report Extension

As a result of the time required to allow the Proponent to provide the information necessary to screen the proposal, 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 s. 92(3) of the *NuPPAA*. Therefore, on February 1, 2019 the NIRB wrote to the Minister of Intergovernmental Affairs, Northern Affairs and Internal Trade, Government of Canada, 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 s. 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:

Factor	Comment
<p>The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.</p>	<ul style="list-style-type: none"> ▪ The proposed waste transfer station is located in the City of Iqaluit and the proposed new landfill site is located approximately eight (8) kilometres (km) northwest of the City of Iqaluit. The road between the two sites is approximately five (5) km long. ▪ The surface water on the landfill site drains into Carney (Airport) Creek, within the Frobisher Bay watershed, which has been identified as important habitat for Arctic char and sometimes has been used as a drinking water source. ▪ The proposed activities are likely to take place within habitats for terrestrial wildlife species such as caribou, wolves, foxes, arctic hare, small mammals, migratory and non-migratory birds as well as Species at Risk such as Polar Bear, Harlequin Duck, Red Knot, Red-necked Phalarope and Ross's Gull.
<p>The ecosystemic sensitivity of that area.</p>	<ul style="list-style-type: none"> ▪ The Proponent identified that the <i>Draft</i> Nunavut Land Use Plan (NLUP) mapped four designated protected areas that overlap or are in proximity to the site: <ul style="list-style-type: none"> ○ Sylvia Grinnell Territorial Park, is a designated protected area and is located approximately 1.5 km from the Waste Transfer Station and approximately 4.5 km away from the new landfill location.; ○ A proposed transportation corridor; ○ A designated Char Area of Abundance; and ○ A Water Management Area identified by the Nunavut Waters Regulations.
<p>The historical, cultural and archaeological significance of that area.</p>	<ul style="list-style-type: none"> ▪ The Proponent has identified one (1) new site of historical, cultural or archeological importance within the physical footprint of the proposed project and have provided an archeological impact assessment report on.
<p>The size of the human and the animal populations likely to be affected by the impacts.</p>	<ul style="list-style-type: none"> ▪ The Proponent has identified that residents of Iqaluit use the land and waters on or adjacent to the proposed landfill site for

Factor	Comment
	<p>outdoor recreational and traditional activities in the region.</p> <ul style="list-style-type: none"> ○ An ATV trail crosses to the west of the site is used to access hunting and fishing areas; ○ A winter ski trail route crosses the west and east sides of the site; and ○ Local residents use the site for berry picking, dog walking, picnicking and camping. <p>▪ The transfer station would occur on a previously established site and is unlikely to result in impacts to local human and animal populations.</p>
<p>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.</p>	<ul style="list-style-type: none"> ▪ A zone of influence of up to 50 km from the most potentially disruptive project activities was selected for the NIRB's assessment. ▪ With adherence to the relevant regulatory requirements and application of the mitigation measures recommended by the NIRB, no significant residual effects are expected to occur.
<p>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.</p>	<ul style="list-style-type: none"> ▪ The mitigation measures recommended by the NIRB have been designed with consideration for the potential for cumulative effects to result from the impacts of the project combined with other past, present and reasonably foreseeable projects.
<p>Any other factor that the Board considers relevant to the assessment of the significance of impacts.</p>	<ul style="list-style-type: none"> ▪ This project has been identified to address issues related to containment and disposal of wastes for the City of Iqaluit and is expected to improve site cleanliness, prevent leachate generation, reduce animal attraction, and odour.

Other past, present and reasonably foreseeable projects considered in this assessment:

NIRB Project Number	Project Title	Project Type
<i>Proposed Developments – undergoing assessment</i>		
19YN038	City of Iqaluit Unnamed Lake Water Supply Studies	Research
<i>Present Projects – approved or in operation</i>		
06QN052	City of Iqaluit Quarry	Quarry
15XN051	Iqaluit Landfarm	Infrastructure

NIRB Project Number	Project Title	Project Type
17XN021	Iqaluit Marine Infrastructure Deep Sea Port	Infrastructure
17XN022	Iqaluit Marine Infrastructure Small Craft Harbour	Infrastructure
17XN070	Iqaluit Bulk Fuel Storage Tank Farm Upgrade	Infrastructure
17YN019	Iqaluit MET Mast	Research
18YN041	Characterizing Iqaluit's baseline municipal wastewater contaminant loadings to the marine environment	Research
18YN043	Contaminants in Shellfish, Water and Sediment in Frobisher Bay, Nunavut	Research
18YN046	Concept Advancement for Raw Water Intake	Research
18UN050	Undersea Fibre Optic Cable Installation	Infrastructure
19UN013	City of Iqaluit – Apex Drinking Water Supply	Water
<i>Past Projects</i>		
13UN034	City of Iqaluit – Type A Water Licence Renewal	Water
17UN006	Iqaluit Airport – Approach Lighting Replacement	Infrastructure
18XN001	Bridge to Nowhere – Repair Abutments	Infrastructure
18YN015	Arctic Driftwood as a proxy record of environmental change: a pilot study	Research

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.

Ecosystem, wildlife habitat and Inuit harvesting activities:

- Potential positive impacts to the local community environment from the use of a bale-fill design landfill is expected to improve site cleanliness, prevent leachate generation, reduce animal attraction, odour and public perception. The addition of the new transfer station to sort waste for compost, heating and recycling to a southern location would also divert waste and extend the service life of the new landfill.
- Potential adverse impacts to terrestrial wildlife and migratory and non-migratory birds associated with destruction of existing habitat areas to develop the landfill; disruption from project-related noise; mortality from collisions with vehicles and equipment; attraction of wildlife to the site from smells; and exposure of wildlife to contaminants or wind-blown plastic debris which may enter the food chain. The new bale-fill design proposes compacting waste into bales and wrapping the waste in plastic at the waste transfer station and then stacking at the landfill which should reduce loose plastic and odour attractants. The landfill site would also be fenced and would be inspected for loose debris. The potential adverse impacts are expected to be localized in nature. The Proponent has also provided a Draft Environmental Management Plan which includes a Draft Environmental Protection Plans that would be used for the identification of the potential effects for any

Species at Risk. Specific and general terms and conditions have been previously recommended by the Board to mitigate any potential impacts to wildlife and migratory birds including 9, 14, 22 through 27, and 30 which are still applicable to this project proposal. The Board is also recommending terms and conditions 37 and 42 to mitigate any potential impacts to wildlife and migratory birds from the proposed activities. In addition, the Proponent would be required to follow all Acts and Regulations applicable to the project proposal (see Regulatory Requirements section).

- Potential adverse impacts to surface water quality and on fish and fish habitat from potential erosion associated with land disturbance activities, from fuel spill incidents and from toxic leachate from the landfill site. The Proponent has committed to establishing a containment system for meltwater and stormwater and the entire landfill site would be lined, have a berm, and a leachate collection and treatment system. Details are outlined in the Proponent's Draft Facility Operations and Maintenance Manual Operation and Maintenance Manual Water Treatment System, City of Iqaluit Landfill Site. It is also expected that standard operational considerations would mitigate potential effects to the land and surface water quality. The Board previously recommended terms and conditions 5 through 8, 10 through 16, 18 through 21, 29, 32, and 33 to mitigate the potential adverse impacts, which continues to apply to this project proposal. The Board is also recommending term and condition 41 to mitigate any potential adverse impacts from the proposed project to surface water quality and to fish and fish habitat. In addition, the Proponent would be required to follow all Acts and Regulations applicable to the project proposal (see Regulatory Requirements section).
- Potential adverse impacts to vegetation, ground stability, permafrost and soil quality from the construction of the access road and from potential toxic leachate into the soils at the landfill site, accidental leaks and spillage of fuels, from transportation and heavy equipment operations. Further, the development of the landfill and waste transfer station may cause permafrost degradation. The Proponent has conducted geotechnical investigations and has developed Draft Facility Operations and Maintenance Manual, Draft Environmental Management and Protection Plans, leachate treatment plans and an Emergency Response Plan. The Board previously recommended the following terms and conditions to mitigate any potential impacts: 13, 14, 16, 21, 28 and 29, which continues to apply to this project proposal. In addition, the Proponent would be required to follow all Acts and Regulations applicable to the project proposal (see Regulatory Requirements section).
- Potential adverse impacts to air quality from production of landfill gases (mainly methane (CH₄) and carbon dioxide (CO₂)) and from project activities, including dust and emissions generated by the use of heavy equipment for site preparation, excavation, grading, and on-land transport of waste, and from incineration activities associated with the Waste Transfer Station. The Board previously recommended the following terms and conditions to mitigate the potential adverse impacts to air quality: 13, 15, 16, and 30, which continues to apply to this project proposal. In addition, the Board recommends terms and conditions 38 through 41 to ensure appropriate measures are implemented to address any potential air quality issues that may arise as result of the project activities. In addition, the Proponent

would be required to follow all Acts and Regulations applicable to the project proposal (see Regulatory Requirements section).

- Potential adverse impacts to arise as a result of the project and activities overlapping with recreational and traditional land use and harvesting activities from community members. Noise generated from remediation activities may be a nuisance to community members and may disperse wildlife in the surrounding areas resulting in a reduction in hunting success. The Board is recommending terms and conditions 43 and 44 to ensure that the community and organizations are informed about the project proposal and to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

Socio-economic effects on northerners:

- Potential positive impacts from the hiring and training of local personnel to sort the waste. The Board previously recommended term and condition 34 and is recommending term and condition 43 to ensure the Proponent continues to inform the community of the activities as well as provide community members with information to ensure a successful local hiring opportunity.
- Potential adverse impacts to historical, cultural and archaeological sites from land disturbance activities associated with the project. The Proponent conducted an archaeological survey and their report noted they recorded one (1) new site. This site will be avoided by the development of the project and the probability of encountering other historical, cultural and archaeological sites is considered to be low. The Proponent has a protocol in place should a suspected archaeological site be encountered. The Board recommends term and condition 43 requiring the Proponent to solicit available Inuit Qaujimaningit from local residents to mitigate any potential impacts to any historical sites encountered. The Proponent is also required to follow the *Nunavut Act* (as recommended in the Regulatory Requirements section) and would be required to contact the Government of Nunavut-Department of Culture and Heritage if sites of historical, cultural and archaeological importance are encountered.
- Potential adverse impacts to public safety, and public and traditional land use activities in the area due to the development of landfill and new waste transfer station. The Board has previously recommended term and condition 34 to ensure that the Proponent engages with local residents regarding planned activities in the area. In addition, the Board previously recommended terms and conditions 17 and 31 in order to mitigate dangers to public safety from the development and operations of the landfill and to ensure design features take into consideration public safety around the project which continue to apply to this project proposal. The Board further recommends term and condition 44 to ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities in the area.

Significant public concern:

- Public concern was expressed during the public commenting period for this file and the Proponent has prepared a Solid Waste Management Plan for the City of Iqaluit which has

involved extensive public consultation including public meetings, public service announcements, banners, use of social media and meetings with stakeholder groups. It is noted that there is a potential for public concern developing due to the proximity of the proposed activities to the City of Iqaluit and the residential use the land and waters adjacent to the site for outdoor recreational and traditional activities in the region. The Proponent has committed to future public consultations to discuss the operations and any impacts on residents. Term and condition 43 is recommended to ensure follow-up consultation and the involvement of local the local community in Iqaluit is expected to mitigate any potential for concern resulting from the project activities.

Technological innovations for which the effects are unknown:

- Potential for adverse impacts as this technology has not been tested in an Arctic environment. A similar bale facility was built in a community in New Brunswick without experiencing any issues to date; however, this technology has been untested in Arctic conditions including being exposed to extreme low temperatures and to intense solar radiation which may degrade the plastic. The Proponent noted that the material used to wrap the bales will be a Low – Density Polyethylene (LDP) plastic wrap that has a glass transition temperature of -125°C (-193°F) which means the material should remain flexible rather than become brittle in extreme cold. Wrapped bales are expected to limit moisture infiltration which would limit landfill gases from being produced.

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 Board has previously recommended terms and conditions 1 through 4 which continue to apply to the current project proposal. The Board is also recommending term and condition 36 to ensure complete reference to applicable regulatory requirements.

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 following Terms and Conditions were previously issued by the NIRB in the November 3, 2014 Screening Decision Report for File No: 13UN034, **and continue to apply to the “New Landfill and Waste Transfer Station”**:

General

1. The City of Iqaluit (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 comprising its project proposal as provided to the NIRB (revised NIRB Part 1 and Part 2 forms, July 15, 2014) and as formed its application with the Nunavut Water Board (Application for Water Licence Renewal, October 2, 2012; Annual Reports, Management Plans and Manuals, and applicable City policies, September 3, 2013 to July 16, 2014).
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. Small lakes or streams should not be used for water withdrawal unless approved by the Nunavut Water Board.
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.

Fuel and Chemical Storage

7. (*updated*) Unless otherwise permitted, the Proponent shall locate all fuel and hazardous materials a minimum of thirty-one (31) metres away from the high water mark of any water body and in such a manner as to prevent their release into the environment unless authorized by the Nunavut Water Board.
8. (*updated*) The Proponent shall ensure that re-fuelling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body unless authorized by the Nunavut Water Board.
9. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
10. 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 and at all refueling stations. Appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) must be readily available during any transfer of fuel or hazardous substances, as well as at vehicle-maintenance areas and at drill sites.
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.

Landfill Operations

13. The Proponent shall dispose of non-hazardous materials only at the landfill and shall limit this disposal to those materials listed as acceptable for disposal. Hazardous materials, materials listed as unacceptable for disposal at the landfill, or materials that contain asbestos, fluorescent

tubes or ozone depleting substances are not to be disposed of in the landfill and must be disposed of at an authorized facility, unless otherwise permitted.

14. The Proponent shall ensure that the site is kept free of debris through the use of fencing and other measures to limit wind dispersal of waste materials off-site.
15. The Proponent shall take appropriate dust suppression measures when conducting soil topping of landfill materials, or landfill capping activities.
16. All operations personnel shall be adequately trained prior to commencement of landfill operations, and shall be made aware of all operational guidelines and Proponent commitments relating to the Project.
17. The Proponent shall clearly stake all boundaries so they remain visible to other land users.
18. The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from access or other structures or facilities.
19. The Proponent shall ensure that silt fences/curtains are installed down gradient of any construction activities.
20. The Proponent shall maintain an undisturbed buffer zone between the periphery of the landfill sites and the high water mark of any water body that is of an adequate distance to ensure erosion control.
21. The Proponent shall stockpile all overburden/topsoil generated during construction using proper erosion prevention measures. Upon completion of operation, the Proponent shall back fill, reclaim/re-contour and re-vegetate all disturbed areas.

Wildlife - General

22. The Proponent shall not harass wildlife. This includes persistently worrying or chasing animals, or disturbing large groups of animals. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
23. 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

24. (*updated*) The Proponent shall not disturb or destroy the nests or eggs of any birds. If active nests of any birds are discovered or located (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have naturally left the vicinity of the nest by establishing a protection buffer zone¹ appropriate for the species and the surrounding habitat.

Caribou Disturbance

25. The Proponent shall cease activities, including vehicle traffic along roadways, that may interfere with the migration or calving of caribou, until the caribou have passed or left the area.

¹ Recommended setback distances to define buffer zones have been established by Environment and Climate Change Canada for different bird groups nesting in tundra habitat and can be found at www.ec.gc.ca/paom-itmb.

26. The Proponent shall not block or cause any diversion to caribou migration, and shall cease activities likely to interfere with migration, such as movement of equipment or personnel, until such time as the caribou have passed.
27. During the period of May 15 to July 15, when caribou are observed within 1 km of project operations, the Proponent shall suspend all operations, including movement of equipment or personnel. Following July 15, if caribou cows or calves are observed within 1 km of project operations, the Proponent shall also suspend all operations in the vicinity, including movement of equipment or personnel, until caribou are no longer in the immediate area.

All-Weather Road and Ground Disturbance

28. 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.
29. The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas before, during and after construction in order to prevent sediment from entering any water body.
30. The Proponent shall ensure that all project vehicles are fitted with standard and well-maintained noise suppression devices, and that engine idling is also minimized.
31. The Proponent should consider the potential for public traffic to utilize project roads, and in its design features and consideration of public safety, ensure adequate posting of signage indicating speed limit(s) along the road and within project site(s).

Restoration of Disturbed Areas

32. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state to the extent possible upon reclamation and closure of project activities.
33. The Proponent shall remove all fuel and equipment upon abandonment and ensure that the landfill continued to be monitored as necessary to ensure long-term structural integrity until fully remediated.

Other

34. The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.
35. Any activity related to this application, and outside the original scope of the project as described in the application and considered within this decision, will be considered a new project and should be submitted to the NIRB for Screening.

In addition to the previously issued terms and conditions, the Board recommends the following project-specific terms and conditions:

General

36. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148839), and the NIRB (Online Application Form, December 18, 2018).

Waste Disposal/Incineration

37. The Proponent shall keep all garbage and debris inaccessible to wildlife at all times.
38. The Proponent shall incinerate all combustible wastes daily and remove the ash from incineration activities and non-combustible wastes from the project site to an approved facility for disposal.
39. The Proponent shall ensure that the incineration of combustible wastes comply with the *Canadian Wide Standards for Dioxins and Furans*, and the *Canadian Wide Standards for Mercury*.
40. The Proponent shall ensure that no waste oil/grease is incinerated on site.

Landfill Operations

41. The Proponent shall ensure that it meets the standards and/or limits as set out in the Nunavut Water Board Water Licence and any other permits as required for this project.

Migratory Birds and Raptors Disturbance

42. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.

Other

43. 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.
44. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

MONITORING AND REPORTING REQUIREMENTS

The Board has previously recommended the following on November 3, 2014:

Updated Plans

1. The Proponent shall submit to the NIRB, Project-specific operational, mitigation and/or monitoring plans and details as updated and/or finalized including, but not limited to, the following:
 - a. West 40 Landfill Decommissioning Plan;
 - b. Spill Contingency Plan (to incorporate all updated plans and activities);
 - c. Emergency Response Plan;
 - d. Fire Safety Plan;
 - e. Hazardous Waste Management Plan (including household hazardous waste and waste electronics);
 - f. Abandonment and Restoration Plan;
 - g. Solid Waste Management Plan;
 - h. Decommissioning plans for the Water Treatment Plant, West 40 Wastewater Treatment Plant and the proposed Solid Waste Management Site;

- i. Operational, Contingency and Management Plan (Design and Operations and Maintenance Plan);
- j. Site Development Plan;
- k. Landfill Safety Plan; and
- l. Site mapping showing all components.

In addition to the previously recommended monitoring and reporting requirements, the Board is recommending the following:

Environmental Management Plan

1. Prior to the start of project activities, the Proponent shall submit an updated finalized Environmental Management Plan including finalized Environmental Protection Plan and Emergency Response Plans to the Nunavut Impact Review Board, Government of Nunavut Department of Environment and Environment and Climate Change Canada (ECCC). The Proponent is encouraged to consult with the Government of Nunavut’s Regional Biologists as well as ECCC, regarding project schedule and timelines so as to ensure adequate mitigation of potential wildlife impacts.

Closure and Decommissioning Plan

2. The Proponent shall submit a finalized Closure and Decommissioning Plan **for the current landfill** to the Nunavut Impact Review Board, Crown-Indigenous Relations and Northern Affairs Canada and Government of Nunavut- Department of Environment and Nunavut Water Board prior to undertaking activities in the area. The revised Plan should include procedures for using native plant species for re-vegetation in order to eliminate risk of introducing invasive species to the area pursuant to the Wildlife Act.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board recommended the following on November 3, 2014:

Bear and Carnivore Safety

1. (*updated*) 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.
2. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Iqaluit Conservation Office, (867) 439-2004).

Species at Risk

3. (*updated*) 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.

Change in Project Scope

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

The Board is currently also recommending the following:

Copy of licences, etc. to the Board and Commission

5. As per s. 137(4) of the *NuPPAA*, responsible authorities are required to submit a copy of each licence, permit or other authorization issued for the Project to the Nunavut Planning Commission and the NIRB. Please forward a copy of the licences, permits and/or other authorizations to the NIRB directly at info@nirb.ca or upload a copy to the NIRB's online registry at www.nirb.ca.

Bear and Carnivore Safety

6. 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.

Migratory Birds

7. 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.
8. 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/>.

Incineration of Wastes

9. The Proponent review Environment and Climate Change Canada's "Technical Document for Batch Waste Incineration", available at the following link: <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=F53EDE13-1>. The technical document provides information on

appropriate incineration technologies, best management and operational practices, monitoring and reporting.

Transport of Dangerous Goods and Waste Management

10. Environment and Climate Change Canada recommends that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility.
11. 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.

Nunavut Water Board

12. The Nunavut Water Board impose mitigation measures, conditions and monitoring requirements pursuant to the Water Licence, which require the Proponent to respect the sensitivities and importance of water in the area. These mitigation measures, conditions and monitoring requirements should be in regard to use of water, snow and ice; waste disposal; access infrastructure and operation for camps; drilling operations; spill contingency planning; abandonment and restoration planning; and monitoring programs.

REGULATORY REQUIREMENTS

The Board previously recommended in the November 3, 2014 Screening Decision Report for the “Type A Water Licence Renewal” project the following legislation, which continues to apply to the current proposal:

Acts and Regulations

1. (updated) The *Canadian Environmental Protection Act* (<https://laws-lois.justice.gc.ca/eng/acts/c-15.31/>).
2. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
3. (updated) The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws-lois.justice.gc.ca/eng/acts/n-28.8/>).
4. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
5. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix B** is a list of Species at Risk in Nunavut.
6. 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>).
7. 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 C**.
8. (updated) 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/>).

In addition, the Proponent is also advised that the following legislation may apply to the project:

Other Applicable Guidelines

9. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) guidance document for best practices of hazardous waste management. <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html>.
10. Environmental Guideline for the Management of Contaminated Sites, Department of Environment, Government of Nunavut, Revised December 2014 (https://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf).
11. Environmental Guideline for Contaminated Site Remediation, Department of Environment, Government of Nunavut; Revised March 2009 (<https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Remediation.pdf>).
12. Environmental Guideline for the General Management of Hazardous Waste, Government of Nunavut, Revised October 2010 (https://www.gov.nu.ca/sites/default/files/Guideline%20-%20General%20Management%20of%20Hazardous%20Waste%20-%20revised%20Oct%202010%29_0.pdf).

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the City of Iqaluit's "New Landfill and Waste Transfer Station" The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated September 13, 2019 at Baker Lake, NU.



Kaviq Kaluraq, A/Chairperson

Attachments: Appendix A: Previously Screened Project Proposals
Appendix B: Species at Risk in Nunavut
Appendix C: Archaeological and Palaeontological Resources Terms and Conditions for Land Use Permit Holders

APPENDIX A: PREVIOUSLY SCREENED PROJECT PROPOSAL

The original project proposal (NIRB File No.: 13UN034), was received by the Nunavut Impact Review Board (NIRB or Board) from the Nunavut Water Board (NWB) on October 21, 2013. The project proposal was screened by the Board in accordance with Part 4, Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*. On November 3, 2014 the NIRB issued a *Nunavut Agreement* 12.4.4 (a) screening decision to the Minister of Aboriginal Affairs and Northern Development which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

The City of Iqaluit's (Proponent) original "Type A Water Licence Renewal" project was located in the Qikiqtani (South Baffin) region, within the City of Iqaluit. The Proponent indicated that it intended to upgrade and construct various waste management facilities in Iqaluit. The program was proposed to take place from October 2013 to October 2018.

According to the previously screened project proposal, the scope of the project included the following undertakings, works or activities:

- Upgrade, operation and the eventual decommissioning of the Water Treatment Plant and other associated systems that supply water extracted from Lake Geraldine for municipal use;
 - Proposed maximum annual withdrawal of 1,100,000 cubic metres (m³) of water;
- Operation and the eventual decommissioning of a solid waste management facility at the existing West 40 Landfill and associated infrastructure;
- Upgrade, operation and decommissioning of infrastructure for managing wastewater at the existing West 40 Wastewater Treatment Plant and backup Sewage Lagoon;
- Construction, operation, and the eventual decommissioning and closure of a new Solid Waste Management Site approximately 7.5 kilometres (km) northwest of Iqaluit; and
- Construction of an access road approximately four (4) km northwest of Iqaluit and to be 8.5 m wide (not including the ditch and embankment) and 3.97 km long. While work related to the road forms part of the NIRB's assessment it does not form part of the current NWB Type "A" Water Licence Renewal and Amendment request and is expected to form a NWB Type "B" Water Licence.

APPENDIX B: 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: November 2018

Terrestrial Species at Risk²	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility³
Migratory Birds			
Buff-breasted Sandpiper	Special Concern	Schedule 1	Environment and Climate Change Canada (ECCC)
Common Nighthawk	Threatened	Schedule 1	ECCC
Eskimo Curlew	Endangered	Schedule 1	ECCC
Harlequin Duck	Special Concern	Schedule 1	ECCC
Harris's Sparrow	Special Concern	Schedule 1	ECCC
Horned Grebe	Special Concern	Schedule 1	ECCC
Ivory Gull	Endangered	Schedule 1	ECCC
Olive-sided Flycatcher	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	No Schedule	ECCC
Ross's Gull	Threatened	Schedule 1	ECCC
Rusty Blackbird	Special Concern	Schedule 1	ECCC
Short-eared Owl	Special Concern	Schedule 1	ECCC
Vegetation			
Porsild's Bryum	Threatened	Schedule 1	Government of Nunavut (GN)
Arthropods			
Transverse Lady Beetle	Special Concern	No Schedule	GN
Terrestrial Wildlife			
Caribou (Dolphin and Union Population)	Endangered	Schedule 1	GN
Caribou (Barren-ground Population)	Threatened	No Schedule	GN
Caribou (Torngat Mountains Population)	Endangered	No Schedule	GN
Grizzly Bear (Western Population)	Special Concern	Schedule 1	GN
Peary Caribou	Threatened	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	GN
Wolverine	Special Concern	Schedule 1	GN
Marine Wildlife			
Atlantic Walrus (High Arctic Population)	Special Concern	No Schedule	Fisheries and Oceans Canada (DFO)
Atlantic Walrus (Central/Low Arctic Population)	Special Concern	No Schedule	DFO
Beluga Whale (Cumberland Sound Population)	Threatened	Schedule 1	DFO
Beluga Whale (Eastern Hudson Bay Population)	Endangered	No Schedule	DFO
Beluga Whale (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO

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

3 Environment and Climate Change Canada (ECCC) 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.

Terrestrial Species at Risk²	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility³
Beluga Whale (Western Hudson Bay Population)	Special Concern	No Schedule	DFO
Fish			
Atlantic Cod (Arctic Lakes Population)	Special Concern	No Schedule	DFO
Fourhorn Sculpin (Freshwater Form)	Data Deficient	Schedule 3	DFO
Lumpfish	Threatened	No Schedule	DFO
Thorny Skate	Special Concern	No Schedule	DFO

APPENDIX C: ARCHAEOLOGICAL AND PALAEOLOGICAL 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*⁴ to issue such permits.

⁴P.C. 2001-1111 14 June, 2001

- 2) The permittee/proponent shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 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*⁵, the federal government can make regulations for the protection, care and preservation of palaeontological and archaeological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*⁶, 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

⁵ s. 51(1)

⁶ P.C. 2001-1111 14 June, 2001

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 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.