



SCREENING DECISION REPORT NIRB FILE No.: 19WN050

NPC File No.: 149220
NWB File No.: 3AM-RUT----

May 14, 2020

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of the Government of Nunavut – Community and Government Services' "Renewal and Amendment of the Resolute Bay Utilidor System Water Licence #3 BM-RUT 1520 Type A for Ten (10) yrs. term" is not required pursuant to Article 12, Section 12.4.4(a) of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act*, S.C. 2013, c. 14, s. 2 (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 Minister(s) accepts this Screening Decision Report.

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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 19, 2019 the NIRB received a referral to screen Government of Nunavut – Community and Government Services’ (GN-CGS or the Proponent) “Renewal and Amendment of the Resolute Bay Utilidor System Water Licence #3 BM-RUT 1520 Type A for Ten (10) yrs. term” project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and s. 87 of the *NuPPAA*, the NIRB commenced screening this project proposal and assigned it file number **19WN050**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
December 19, 2019	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
January 10, 2020	Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i>
January 21, 2020	Receipt of online application from Proponent
February 13, 2020 & February 18, 2020	Requests to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the <i>NuPPAA</i>
February 18, 2020 & February 20, 2020	Proponent responded to information requests and provided additional information
February 20, 2020	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>

Date	Stage
February 26, 2020	Public engagement and comment request
March 18, 2020	Receipt of public comments
March 18, 2020	Extension of commenting deadline due to ongoing COVID-19 pandemic
March 30, 2020	Proponent provided with an opportunity to address comments/concerns raised by public
April 3, 2020	Ministerial extension requested from the Minister of Northern Affairs
April 20, 2020	Proponent responded to comments/concerns raised by public
May 5, 2020	Issuance of Screening Decision Report

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/125499.

Project:	Renewal and Amendment of the Resolute Bay Utilidor System Water Licence #3 BM-RUT 1520 Type A for Ten (10) yrs. term
Region:	Qikiqtani (North Baffin) Region
Location:	Resolute Bay
Summary of Project Description:	The Proponent intends to continue the licenced operations and upgrading of the municipal utilidor and to permit water use in excess of 300 cubic metres (m ³) per day by upgrading its existing Nunavut Water Board (NWB) Type "B" Water Licence (Licence No. 3BM-RUT 1520, expires March 29, 2020) to a NWB Type "A" Water Licence.
Project Proposed Timeline:	The municipal services under the proposed upgraded Type "A" Water Licence would be permitted to continue operations from March 2020 through March 2030.

As required under s. 86(1) of the *NuPPAA*, the Board accepts the scope of the project as set out by GN-CGS in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Increase of the total amount of water drawn to 160,000 cubic metres (m³) annually to meet community needs for water and proper functioning of the utilidor system;
- Construction and operation of a wastewater treatment plant to treat municipal wastewater and sewage before discharge;
- Continuation of activities to treat, store and transport water for municipal use, and transport and discharge wastewater and sewage, as previously approved by the Nunavut Water Board under a Type "B" Water Licence:
 - Use of pump station at Char Lake and Signal Hill, and the Signal Hill Water Treatment Plant;
 - Use of utilidor system which includes a water line, sewer line, access vaults, fire hydrants and macerator system;

- Construction activities to replace the Char Lake pump station, upgrades to the intake from Char Lake to Signal Hill and Signal Hill Water Treatment Plant;
- Use of municipal roads for operational maintenance and construction activities on the utilidor facilities;
- Use of heavy equipment and local fuel supplies for operational maintenance and construction activities on the utilidor facilities; and
- Discharge of diluted sewage effluent into the ocean.
- Decommissioning of the airport facilities' sewage lagoon when the wastewater treatment facility is operational as sewage will be treated through this facility.

3. Inclusion or Exclusion to Scoping List

At this time, the NIRB has identified no additional works or activities in relation to the project proposal. As a result, the NIRB will proceed 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 February 26, 2020 to community organizations in Resolute Bay, 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 March 18, 2020 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 March 18, 2020 the NIRB received comments from the following interested parties:

- **Crown Indigenous Relations and Northern Affairs Canada (CIRNAC)**
- **Environment and Climate Change Canada (ECCC)**

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:

Crown Indigenous Relations and Northern Affairs Canada (CIRNAC)

- Provided common practices to mitigate potential impacts of the project:
 - Avoid unstable areas that may result in erosion or scouring (e.g., alluvial fans, meander bends, braided streams, active floodplains);

- Dispose or temporarily store all materials used or generated in a manner that mitigates their entry to waterbody;
- Prohibit or limit access to banks or areas adjacent to waterbodies to protect the structural integrity of banks and stream bed;
- Remove all construction materials from site upon project completion;
- Ensure machinery used on site arrives and is maintained in a clean condition free of fluid leaks, invasive species, etc.;
- Wash, refuel and service machinery and store fuel and other materials so as to prevent any harmful substances entering the water; and,
- Where dewatering is necessary treat discharge water by settling ponds, filter bags, etc.
- Recommended that the Proponent provide a brief written summary of any interactions with community representatives regarding the Project proposal. Suggested the Proponent consider:
 - Briefing community members on the operational status of the project;
 - Briefing community members on planned activities; and
 - Training and employment opportunities for community members.
- Requested clarification on location of activities.
- Requested submission of the Spill Response Plan.
- Recommended that the Proponent provide the Operation and Maintenance Manuals for the structures under construction prior to the initiation of these project buildings for review by the NIRB.
- Requested clarification of the potential environmental impacts identified for the project proposal, due to conflicting information in the application;
- Requested clarification on the mitigation measures proposed for each potential impact identified;
- Requested clarification on the determination of the project's positive impact on water quality.
- Requested clarification on whether sewage is treated or analyzed in accredited labs in Ottawa.

Environment and Climate Change Canada (ECCC)

- No comments regarding the proposal for the NIRB; however, provided comments for the Nunavut Water Board for the water licence application process.

5. Proponent's Response to Public Comments and Concerns

On March 30, 2020, 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 following is a summary of the Proponent's response to concerns as received on April 20, 2020:

- In response to concerns regarding lack of community consultation, the Proponent noted that no interaction with community representatives have occurred. Public consultation may occur through the NWB water licence hearing process.

- In response to clarification on the location of activities, the Proponent indicated that the infrastructure components of the proposed project are located around the municipality of Resolute Bay.
- In response to a request for clarification of the potential environmental impacts, the Proponent noted that environmental impacts are expected to occur during the construction of the Char Lake pump station and the Environmental Management Plan for the construction work will be prepared by a consultant.
- In response to clarification on the determination of the project's positive impact on water quality, the Proponent indicated that no adverse impacts on water quality are expected,
- In response to concerns with respect to treatment of sewage, the Proponent indicated that sewage effluent would be analyzed by an accredited lab in Ontario.

6. Time of Report Extension

As a result of the time required to address the potential for operational challenges for affected communities and interested parties associated with the ongoing COVID-19 pandemic, 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 April 3, 2020 the NIRB wrote to the Minister of Northern Affairs, 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
The size of the geographic area, including the size of wildlife habitats, likely to be affected by the impacts.	<ul style="list-style-type: none"> ▪ The physical footprint of the proposed project components is seven (7) square kilometres (km²) within the municipal boundaries of Resolute Bay. ▪ As the project is located within an inhabited and developed area it is expected to only interact intermittently with terrestrial wildlife including small mammals, and migratory and non-migratory birds. However, proposed project activities including the increased

Factor	Comment
	extraction of water and discharge into the marine environment are expected to interact with fresh water and marine species.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> ▪ The Proponent has not identified any areas of ecosystemic sensitivity and activities are proposed to occur within a disturbed area. However, construction activities and increased extraction of water can have a greater impact on freshwater and terrestrial ecosystems.
The historical, cultural and archaeological significance of that area.	<ul style="list-style-type: none"> ▪ No specific areas of historical, cultural and archaeological significance have been identified by the Proponent within the physical footprint of the proposed project.
The size of the human and the animal populations likely to be affected by the impacts.	<ul style="list-style-type: none"> ▪ The proposed project would occur within the community of Resolute Bay therefore interaction with human populations is expected. Although the project would occur in an inhabited area there is still potential for interaction with animal populations.
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.	<ul style="list-style-type: none"> ▪ The project's continuation of municipal services is unlikely to have an increased impact; however, the construction and upgrade of municipal facilities is likely to cause temporary increased noise disturbance in the community. ▪ 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.
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.	<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
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> ▪ Upgrades to the municipal utilidor would ensure continued water delivery to the community

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.

The NIRB has listed specific Acts and Regulations below that may be applicable to the project proposal but this list should not be considered as a complete list and the Proponent is responsible to ensure that it follows all Acts and Regulations that may be applicable to the project proposal.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Valued Component	Small mammals, migratory and non-migratory birds
Potential effects:	The proposed project is located within the municipality of Resolute Bay and due to existing noise and visual disturbance, and lack of habitat within an inhabited area it is unlikely that the project location falls within the range of large mammals. There is potential for negative effects to small mammals and both migratory and non-migratory birds that may become habituated and interact with the project. Continuing use of existing facilities, utilidor infrastructure and municipal roads is unlikely to create additional negative impacts for terrestrial wildlife; however, construction activities associated with the proposed new infrastructure and decommissioning of the sewage lagoon can increase auditory and visual disturbance to terrestrial wildlife that may be in range of these proposed project activities.
Nature of Impacts:	Increased disturbances arising from construction activities are expected to be temporary.
Mitigating Factors:	The NIRB has recommended the below terms and conditions to ensure that wildlife is protected during project operations including proper waste management and noise prevention. As well, that project personnel are properly trained to manage wildlife in the project vicinity.
Proposed Terms and Conditions:	6, 7, 13 through 20 and 23
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. The <i>Migratory Birds Convention Act</i> and <i>Migratory Birds Regulations</i> (http://laws-lois.justice.gc.ca/eng/acts/M-7.01/). 2. The <i>Species at Risk Act</i> (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. 3. The <i>Wildlife Act (Nunavut)</i> and its corresponding regulations (http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html).

Valued Component	Marine environment and marine aquatic species
Potential effects:	Discharge of wastewater effluent has the potential for negative effects to the marine environment and species within from distribution of fecal coliforms and other pathogens as well as metals, nutrients, and other contaminants found within the effluent.
Nature of Impacts:	Potential negative impacts are expected to be limited and reversible with proper mitigation factors and monitoring of wastewater effluent. Further, impacts would be reduced once the wastewater treatment facility is commissioned.
Mitigating Factors:	The Proponent has noted that the total fecal coliform limit has been determined for discharge into selected site and that the wastewater is tested during the summer season to ensure that it meets specifications for ocean discharge. The Proponent is concurrently applying for a Type A water licence from the Nunavut Water Board and water quality thresholds must meet licence standards.
Proposed Terms and Conditions:	8
Related Acts and/or Regulations:	1. The <i>Arctic Waters Pollution Prevention Act</i> (http://laws-lois.justice.gc.ca/eng/acts/A-12/) and the <i>Arctic Shipping Safety and Pollution Prevention Regulations</i> (https://laws-lois.justice.gc.ca/eng/regulations/SOR-2017-286/index.html).

Valued Component	Surface water quality, fish and fish habitat, and aquatic environment
Potential effects:	<p>It is expected that the proposed project will not affect any additional bodies of freshwater as surface water extraction will continue from Char Lake. Furthermore, no additional negative effects are expected from continuation of previously approved water treatment, water storage and use of the utilidor system for water and sewage transportation. However, there is potential for negative impacts on surface water and fish habitat in Char Lake from the increased extraction of water, and increased volume of leaks and spills from sewage conveyance due to increased water running through the utilidor system.</p> <p>Potential for negative impacts from new activities including construction of the wastewater treatment plant and decommissioning of the sewage lagoon from creation of dust and debris and possible siltation from movement of earth, and potential for fuels leaks from equipment use.</p>
Nature of Impacts:	The potential for negative impacts from construction activities are expected to be temporary and mitigable. Potential for negative impacts from potential fuel leaks and spills are considered to be limited and are mitigable and reversible in nature with proper fuel handling and clean up.
Mitigating Factors:	Continuation of previously approved activities are subject to existing operational standards and protocols for the protection of environmental

	features. For new construction activities, as highlighted by CIRNAC, it is expected that the Proponent would follow proper operations and construction protocols to mitigate any potential negative impacts to surface and ground water quality and fish habitat. The Proponent is concurrently applying for a Type A water licence from the Nunavut Water Board for extraction of greater than 300 cubic meters (m ³) per day. The NIRB recommends the below terms and conditions to ensure receipt of the licence for project activities to occur. As well, to ensure proper construction management for proper waste storage and dust prevention to protect water bodies.
Proposed Terms and Conditions:	4, 5, 9 through 12 and 22
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. <i>Nunavut Waters Nunavut Surface Rights Tribunal Act</i> and its corresponding regulations (https://www.canlii.org/en/ca/laws/regu/sor-2013-69/latest/sor-2013-69.html). 2. The <i>Fisheries Act</i> (http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html). 3. The <i>Transportation of Dangerous Goods Regulations</i> (http://www.tc.gc.ca/eng/tdg/clear-to-fc-211.htm), <i>Transportation of Dangerous Goods Act</i> (http://lawslois.justice.gc.ca/eng/acts/t-19.01/), and the <i>Canadian Environmental Protection Act</i> (http://laws-lois.justice.gc.ca/eng/acts/C-15.31/).

Valued Component	Vegetation, soils, terrain stability, permafrost
Potential effects:	Potential negative impacts on vegetation, terrain stability and permafrost from movement of earth as well as use of heavy equipment on the terrain during construction of new infrastructure. Potential negative impacts to vegetation from dust generated from construction activities. As well, potential negative impacts on vegetation and soil from fuel leakage from use of construction and services equipment for the utilidor and increased impact to soils from leakage/spillage from the increased water in the utilidor system.
Nature of Impacts:	The potential for impacts on the footprint of the new infrastructure are expected to be permanent but limited to a small geographic zone in a disturbed area. The potential for impacts from use of construction equipment from soil disturbance and dust generation are expected to be temporary in nature mitigable and reversible. The potential for impacts from a fuel or sewage leakage/spillage are expected to be limited and reversible with proper mitigation measures put in place.
Mitigating Factors:	It is expected that the Proponent would follow proper operations and construction protocols to mitigate any potential negative impacts on vegetation, soils and permafrost to manage any current environmental sensitivities in the construction area. The Proponent has committed to

	using proper municipal waste storage facilities for any hazardous waste created from spills or sewage treatment sludge. The NIRB has recommended the below terms and conditions to mitigate impacts from ground disturbance and fuel spills as well as ensure that the construction site is properly restored upon abandonment.
Proposed Terms and Conditions:	11, 12, 22, 23 and 24
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. The <i>Transportation of Dangerous Goods Regulations</i> (http://www.tc.gc.ca/eng/tdg/clear-to-fc-211.htm), <i>Transportation of Dangerous Goods Act</i> (http://lawslois.justice.gc.ca/eng/acts/t-19.01/) 2. <i>Canadian Environmental Protection Act</i> (http://lawslois.justice.gc.ca/eng/acts/C-15.31/).

Valued Component	Air quality
Potential effects:	Continued use of equipment for servicing and maintenance of the utilidor as well as continued use of utilidor facilities are not expected to cause additional impacts on air quality. However, there is the potential for negative impacts on air quality from burning of fuel and creation of dust by heavy equipment from construction of the wastewater treatment facility and decommissioning of the sewage lagoon. As well, there is the potential for negative impacts to air quality from the wastewater treatment facility production of greenhouse gases.
Nature of Impacts:	Impacts from construction activities are expected to be temporary in nature, however, impact from running the wastewater treatment facility expected to last the life of the facility but is not expected to impact areas outside municipal lands.
Mitigating Factors:	The NIRB has recommended the below terms and conditions to mitigate some impacts from construction activities.
Proposed Terms and Conditions:	23 and 24
Related Acts and/or Regulations:	n/a

Valued Component	Public and traditional land use
Potential effects:	As the construction activities of the wastewater treatment plant and maintenance and servicing to the utilidor system would be located in an inhabited area, there is potential for visual and noise disturbance for community members. Additionally, increased discharge of effluent has the potential for negative impacts on traditional land use from potential effects on ice formation in the bay.

Nature of Impacts:	The potential for impacts from construction and maintenance activities are expected to be temporary and intermittent. The potential for impacts on ice formation are expected to be mitigable with proper discharge placement and rate.
Mitigating Factors:	The NIRB recommends the below terms and conditions to reduce noise impacts from construction and maintenance equipment.
Proposed Terms and Conditions:	23, 25 and 26
Related Acts and/or Regulations:	n/a

Socio-economic effects on northerners:

Valued Component	Historical or cultural sites
Potential effects:	The Proponent did not identify any areas of historical or cultural significance within the given project area. However, should the project extend its boundaries or historical or cultural sites later be identified the Proponent would be required to contact the Government of Nunavut, Culture and Heritage Department.
Nature of Impacts:	The potential for impacts is considered to be minimal due to the nature of the activities and due care of the Proponent to avoid disturbance of sites if encountered
Proposed Terms and Conditions:	25
Related Acts and/or Regulations:	1. The <i>Nunavut Act</i> (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 .

Valued Component	Local hiring, contracting and economic impacts.
Potential effects:	Potential positive impacts due to potential local hiring by the contracted companies and local purchasing. However, the NIRB suggests below term and condition to emphasize local hiring practices.
Nature of Impacts:	Positive potential impacts to the community.
Proposed Terms and Conditions:	27
Related Acts and/or Regulations:	n/a

Significant public concern:

Valued Component	Public concern.
Potential effects:	No significant public concern was expressed during the public commenting period for this file.
Nature of Impacts:	The potential for impacts is considered to be minimal as long as the Proponent follows the recommended terms and conditions.
Mitigating Factors:	The Board is recommending terms and conditions to ensure project activities do not interfere with Inuit wildlife harvesting or traditional land use activities, to the extent possible hire local people and access local services where possible, and to ensure planned activities in the area utilize available Inuit Qaujimaningit.
Proposed Terms and Conditions:	25 through 27
Related Acts and/or Regulations:	n/a

Technological innovations for which the effects are unknown:

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

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: 1-3.

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. Government of Nunavut – Community and Government Services (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149220), to the Nunavut Water Board (NWB File No.: 3AM-RUT----) and the NIRB (Online Application Form, February 20, 2020)

3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.

Water Use

4. 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 otherwise authorized by the Nunavut Water Board.
5. The Proponent shall not use water, including constructing or disturbing any stream, lakebed or the banks of any definable water course unless otherwise authorized by the Nunavut Water Board.

Waste Disposal

6. The Proponent shall keep all small 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.
7. The Proponent shall remove wastes from the project site to an approved facility for disposal.
8. The Proponent shall ensure that it meets the testing requirements for the wastewater effluent and the standards and/or limits for discharge of wastewater effluent as set out in the authorizing agencies' permits or licences as required for this project.

Chemical Storage

9. The Proponent shall locate all 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 otherwise authorized by the Nunavut Water Board.
10. The Proponent shall ensure that re-fueling of all equipment occurs a minimum of thirty-one (31) metres away from the high water mark of any water body unless otherwise authorized by the Nunavut Water Board.
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 not hunt or fish, unless proper Nunavut authorizations have been acquired.
16. 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

17. The Proponent shall avoid conducting land clearing activities during the migratory bird season.
18. 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.
19. The Proponent shall minimize activities during periods when birds are particularly sensitive to disturbance such as migration, nesting and moulting.
20. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl by three (3) kilometres.

Ground Disturbance

21. 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.
22. The Proponent shall implement suitable dust, erosion and sediment suppression measures on all areas before, during and after conducting activities in order to prevent sediments or fugitive dust from entering any waterbody or surrounding environment.
23. All construction and road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

Restoration of Disturbed Areas

24. The Proponent shall remove all garbage, fuel and equipment upon abandonment.

Other

25. 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.
26. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
27. The Proponent should, to the extent possible, hire local people and access local services where possible.

MONITORING AND REPORTING REQUIREMENTS

In addition, the Board is recommending the following:

Spill Contingency Plan

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.

1. The Proponent shall submit a Spill Contingency Plan to the Nunavut Impact Review Board, the Nunavut Water Board and Crown Indigenous Relations and Northern Affairs Canada that includes but is not limited to:
 - a. Spill mitigation and response measures for fuel leakage and spills from equipment use; and
 - b. Spill mitigation and response measures for water and sewage leakage and spills from utilidor water and sewage conveyance.
2. The Proponent shall implement the recommendations found in the 2003 CCME Guidance Document PN 1326 entitled “*Environmental Code of Practice for Above Ground and Underground Storage Tank Systems containing Petroleum Product and Allied Petroleum Products*”.

Community Consultation Report

3. The Proponent shall submit a public consultation report six (6) months prior to the commencement of project activities associated with the construction of the new wastewater treatment facility to the Nunavut Impact Review Board and Crown Indigenous Relations and Northern Affairs Canada. The report shall include a copy of materials presented to community members, a description of issues and concerns raised, and advice offered to the company as well as any follow-up actions that were required or taken to resolve any concerns expressed about the project proposal.

Operations and Maintenance Manuals

4. The Proponent shall submit revised and updated Operations and Maintenance Manuals six (6) months prior to the commencement of project activities associated with the construction of the new wastewater treatment facility to the Nunavut Impact Review Board and Crown Indigenous Relations and Northern Affairs Canada.

Water Discharge Impacts and Mitigation Measures

5. The Proponent shall submit a report on sewage discharge impacts and mitigation measures six (6) months following the issuance of Type A Water Licence to the Nunavut Impact Review Board and Crown Indigenous Relations and Northern Affairs Canada. The report at a minimum should include:
 - a. Impact observed to the receiving marine water quality;
 - b. Mitigation and monitoring measures for water quality; and
 - c. Impact observed to the ice thickness from year-round water discharge.

Sewage Lagoon Decommissioning Plans

6. The Proponent shall submit a non-technical summary of activities in English and Inuktitut, an environmental management plan and any other plans associated with decommissioning of the Airport Sewage Lagoon to the Nunavut Impact Review Board and Nunavut Water Board (6) months prior to the commencement of project activities associated with decommissioning of the lagoon.

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 the 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.

Copy of licences, etc. to the Board and Commission

2. The NIRB respectfully requests that responsible authorities submit a copy of each licence, permit or other authorization issued for the Project to the NIRB to assist in enabling possible project monitoring that may be required. 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.

Use of Inuit Qaujimaningit

3. The Proponent is encouraged to work with local communities and knowledge holders to inform project design, to carry out the project, and to confirm or validate the perspectives represented in publications, film or other media produced as part of the project. Care should be taken to ensure that Inuit Qaujimaningit and local knowledge collected for the project is used with permission and is accurately represented.

Species at Risk

4. 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

5. 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.
6. 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://publications.gc.ca/collections/collection_2013/ec/CW66-324-2013-eng.pdf.

Transport and Management of Dangerous Goods

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

Nunavut Water Board

8. 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.

Crown Indigenous and Northern Affairs Canada – Water Resources Division

9. CIRNAC – Water Resources Division should consider the importance of conducting regular inspections, pursuant to the authority of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, while the project is in operation. Inspectors should focus on ensuring the Proponent is in compliance with the conditions imposed through the Water Licence.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Government of Nunavut – Community and Government Services' "Renewal and Amendment of the Resolute Bay Utilidor System Water Licence #3 BM-RUT 1520 Type A for Ten (10) yrs. term". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated May 14, 2020 at Baker Lake, NU.



Kaviq Kaluraq, Chairperson

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

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 2019

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	Threatened	Schedule 1	ECCC
Peregrine Falcon	Special Concern	Schedule 1	ECCC
Red Knot Islandica Subspecies	Special Concern	Schedule 1	ECCC
Red-necked Phalarope	Special Concern	Schedule 1	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	ECCC
Peary Caribou	Endangered	Schedule 1	GN
Polar Bear	Special Concern	Schedule 1	ECCC
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

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 (Eastern High Arctic-Baffin Bay Population)	Special Concern	No Schedule	DFO
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 B: 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 Overview Assessment and/or Inventory and Documentation and/or Mitigation
c)	Construction of linear disturbances, Extractive disturbances, Impounding disturbances and other land disturbance activities	Archaeological/Palaeontological Overview Assessment and/or Inventory and Documentation and/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.