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2022 Nunavut Impact Review Board Annual Report

Eureka High Arctic Weather Station



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1. Introduction

The Eureka High Arctic Weather Station (HAWS; the Project; the site) is located on the north side of Slidre Fjord, at the northwestern tip of Fosheim Peninsula, Ellesmere Island, NU. Since 1947, Environment & Climate Change Canada (ECCC; the Proponent) has owned and managed the overall operations and maintenance of the site under Land Reserve #1021. The total area of the Project is approximately 2.23 hectares. There are presently 15 primary buildings and other facilities at the HAWS. The Eureka runway is located 1.5 kilometres northeast of the HAWS main site and is the primary way by which the HAWS is accessed year-round.

The Eureka HAWS is an operational weather monitoring facility as well as a hub of activity for the Department of National Defence (DND), the Polar Continental Shelf Project and the Polar Environment Atmospheric Research Laboratory (PEARL). Additional sites at Eureka are operated by the Canadian Network for the Detection of Atmospheric Change including the PEARL and the Surface and Atmospheric Flux, Irradiance and Radiation Extension, and Zero Altitude PEARL Auxiliary Laboratory (Arcadis 2018).

The Nunavut Impact Review Board (NIRB) is an institute of Territorial government created by the Nunavut Agreement to assess potential impacts of developmental projects in the territory of Nunavut before the approval of required project authorizations (NIRB 2020).

1.1 Purpose of this Document

The purpose of the NIRB Annual Report is to provide a yearly reference and summary of the activities undertaken as part of the Project, monitored and predicted effects, and the Project's compliance with terms and conditions included in the NIRB Screening Decision Reports for the Project. This document contributes to the well-being of existing and future residents and communities and the protection of ecosystem integrity of the Nunavut Settlement Area by helping to ensure that the Project is complying with legislation, regulations, and the terms and conditions set out by the NIRB in the Screening Decision Report, NIRB FILE No. 12XN020 (the Screening Decision; NIRB 2018).

As per the NIRB 2018 Screening Decision, an annual report is a requirement for the Project. This Annual Report summarizes the following:

- A summary of Project engagement activities undertaken between January 1, 2022 – December 31, 2022
- Project activities completed or performed between January 1, 2022 – December 31, 2022
- The status of the Post-Environment Assessment Monitoring Program (PEAMP)
- The Project's compliance with the terms and conditions outlined in the Screening Decision (NIRB 2018).
- A summary of results from site visits and/or inspections that took place during the reported year

This report also considered the terms and conditions of all additional NIRB Screening Decision Reports for the Project which do not have formal annual reporting requirements. NIRB Screening Decision Reports applicable to the Project are referenced in **Section 1.3.2**.

1.2 Project Overview

ECCC is currently undertaking or planning a number of construction and infrastructure upgrade projects to the HAWS. To support these projects, ECCC has obtained a number of permits. Due to project updates, design changes, unforeseen issues such as the discovery of contaminated soils or the need for additional infrastructure to support the HAWS operation or projects, ECCC may be required to re-apply for new or amended licences and permits. The numerous improvement projects currently being undertaken or planned for include the following:

- Eureka Airport Runway Recapitalization Project
- Eureka Water and Wastewater Treatment Infrastructure Upgrades Project
- Fuel Tank Inspections
- Development of Landfarm
- Human Health and Ecological Risk Assessment and Remedial Action Plan
- Long Term Monitoring Plan

1.3 Regulatory Context

1.3.1 *NIRB Screening Decision Report*

The terms and conditions are contained in the Screening Decision (NIRB 2018). The Screening Decision was issued on June 1, 2018. Per the Screening Decision, *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* (NIRB 2018).

1.3.2 *Existing Permits*

Over the years, ECCC has applied for and received various regulatory permits, licences and approvals that have been required to operate the facilities at the site, including the currently planned construction and infrastructure upgrades. The existing permits and licences include the following:

- Land Use Permit N2017N0017 (2017)
- Amended Land Use Permit N2017N0017 (2018)
- Quarry Permit 2022QP0002 (2022)
- Quarry Permit 2022QP0003 (2022)
- Quarry Permit 2020QP0002 (2020)
- Type 'B' Water Licence 8BC-EUR2131 (2022)
- NIRB Screening Decision File No. 12XN020 (NIRB 2018)
- NIRB Screening Decision File No. 21UN002, 21QN005, 21XN012 (2021)
- Nunavut Planning Commission (NPC) Conformity Determinations No. 149457, 149587, 149440, 149476 and 149617) (2021)
- Class 2 Nunavut Archaeologist Permit No. 2021-04A (Expired as of October 31, 2021)
- DFO File #18-HCAA-00071, Bridge Construction, Small Creek near Slidre Fiord, Eureka High Arctic Weather Station (February 20, 2018) – Authorization Email from DFO to PSPC ESCSM
- DFO File #21-HCAA-00295, Temporary Culverts, Remus Creek, Baffin Region (March 24, 2021) – Authorization email from DFO to ECCC
- ECCC Damage or Danger to Birds Permit DA-NR-2022-NU-001(2022)

It should be noted that the DND maintains Fort Eureka (the Fort), located south of the Eureka runway. The Fort is occupied for approximately three weeks per year during the summer (typically in July) and DND's water use is

currently captured under ECCC's existing water licence. ECCC is responsible for including DND's annual usage amounts with ECCC's annual report but is not responsible for any DND operations or permits.

1.3.3 *Renewals, Updates and Amendments for the Authorizations*

The following is a list of renewals, updates, and amendments made during 2022:

- Water Licence 8BC-EUR2131 was amended to include the development of the new wastewater treatment system
- Water Licence 8BC-EUR2131 was modified to include:
 - temporary contaminated soils storage,
 - fuel storage tank systems inspections and repairs,
 - secondary containment area for fuels and hazardous materials,
 - Program of Works building improvements, and
 - Blacktop Quarry modification.
- Quarry Permit 2022QP0003 and 2022QP0003 extension to April 1, 2024
- Obtained Damage or Danger Permit from ECCC (DA-NR-2022-NU-001) for removal of unoccupied Snow Bunting Nest from machinery

2. Engagement Activities

This section includes a summary of community consultations undertaken, issues identified and any modifications to monitoring programs.

2.1 Engagement Approach

Community and Indigenous engagement is important for projects in the northern region. Engagement builds new and stronger relationships and maintains relationships with those previously established. The goal is to inform stakeholders, communities, and Indigenous communities using effective communication strategies, prioritizing concerns of the listed parties, and collecting and processing feedback on potential concerns or issues raised.

Meaningful consultation and engagement occur when individuals provide input on how they want to be consulted and engaged, which yields a framework for creating unique and flexible approaches and activities that can be tailored to the needs of Indigenous communities, government agencies, and interested persons. The NIRB conformity review and the NIRB screening processes utilize local/Indigenous consultation through information distribution and public forum. The NIRB process encompasses aspects of this process.

2.2 Engagement Objectives

ECCC has retained PSPC, and the consulting firm AECOM Canada Ltd. (AECOM) to engage with interested groups who may wish to receive Project status updates or general information on upcoming activities. Feedback may also support ongoing planning efforts, operations and decommissioning of the current and proposed activities. Feedback will help ECCC understand how the Project may affect communities, and support ongoing efforts, operations and decommissioning of the current and proposed activities.

2.3 Engagement Activities

ECCC has prioritized the development of engagement activity goals. As recommended by the NIRB, engagement is continuing with the Hamlet of Grise Fiord, and the Iviq Hunter Trapper Organization (HTO). ECCC sent a letter of notification in February 2022 to the Hamlet Council of Grise Fiord and the Iviq Hunter Trapper Organization providing a high-level summary of the project, upcoming works, regulatory process, and soliciting any comments or feedback. This letter will be followed up by a notice sent January 2023 which will provide a status update on the works proposed, a plan for 2023, and requests that any feedback or Inuit knowledge be shared.

There has been no feedback or Inuit knowledge received to date.

2.4 Engagement Activities Planned for 2023

ECCC will distribute a notification in 2023 similar to the notice distributed in January 2022.

3. Operations Overview

3.1 Site Activities Completed in 2022

Below is a summary of activities undertaken at site in 2022:

- Construction camp opening and fleet maintenance began May 7, 2022
- Construction crew began to ramp up June 9, 2022
- Major and minor equipment maintenance and repairs were completed in preparation for the construction season
- Constructed exfiltration trench
- Road maintenance and repairs of access road to West Remus Quarry, including grading, culvert maintenance, freshet observations at Blacktop Creek bridge
- Upgrades and maintenance to the access road between the airstrip and HAWS operations building
- Repair of Blacktop Creek Bridge – undermining of the east abutment required repair and reconstruction between July 21 – 24, 2022. All activities were observed by AECOM field personnel.
- Quarrying and crushing at West Remus Creek quarry
- Construct haul road extension and multi-culvert crossing of Remus Creek to access additional permitted quarry areas
- Hauling crushed granular materials from Blacktop quarry stockpiles to the new water reservoir
- Hauling of crushed granular materials from West Remus quarry to the new water reservoir
- Construction of foundation and new water reservoir berms – approximately 60% complete
- Construct high-density polyethylene (HDPE) lined storage area for containment of hydrocarbon contaminated soils discovered within the new reservoir development area
- Receive and store sealift freight for future Water and Sewer Infrastructure project
- Winterize fleet and camp for final departure of crew on Sept 17, 2022

In 2022, no new temporary camps were constructed. A temporary camp previously constructed was utilized for the 2022 season and flights were restricted (see Section 5.2.8). Runway maintenance occurred simultaneously with any construction activities to ensure availability for incoming air traffic.

3.1.1 *Aggregate Extraction*

In 2022, aggregate was extracted from Remus Creek Quarry as per quarrying permit 2022QP002. A total of 45,266 m³ of aggregate was extracted in 2022 during the months of June to September.

3.1.2 *Progressive Reclamation Activities*

Progressive reclamation has begun in the West Remus quarry. The Quarry was virtually exhausted at the end of the 2022 season. Reclamation of the depleted areas has been started, however the crushing plant remains set up at the last operating location. Reclamation of this area will be completed after the crusher is moved at the beginning of the 2023 season. Reclamation activities include shaping and sloping of the disturbed areas to create positive drainage and natural looking surface contours, similar to the appearance prior to disturbance. The natural drainage path through the quarry area will be maintained/restored at completion of the project. Reclamation activity will continue in the West Remus Creek area throughout the 2023 season.

3.1.3 Wildlife Mitigation and Observations

In 2022, wildlife and wildlife habitat mitigation measures, avoidance, response and safety measures were in accordance with the Wildlife and Wildlife Habitat Management Plan (WWHMP). The purpose of the WWHMP is to help on site personnel comply with legislative and regulatory requirements under the *Migratory Birds Convention Act* (MBCA), Migratory Birds Regulations, *Species at Risk Act* (SARA), and the *Wildlife Act* (Nunavut), and the terms and conditions described in the Screening Decision (NIRB 2018). As a requirement of the WWHMP, wildlife or wildlife activity in 2022 was documented in a Wildlife Observation Log (see **Appendix A**).

There is an Arctic tern (*Sterna paradisaea*) nesting area southwest of the station, at the delta of Station Creek. According to the Eureka safety plan the nesting grounds are located approximately 500 feet West of the connection point of the floating transfer hose to the shore side pipeline and would feel the immediate impact of a spill if the winds were from the East. The protection strategy includes hazing to scare any birds in the area (it is unlikely any birds would be present as Arctic terns do not occupy the area in late August when the fuel transfers occur), relocating the boom to protect the shoreline along the delta if spill containment is ineffective, and understanding the sensitive nature of the area and where to get appropriate advice on the treatment of any affected areas or wildlife.

In June 2022, a snow bunting (*Plectrophenax nivalis*) nest was discovered inside a compactor unit on site and was determined to be abandoned. The event was reported to the ECCC and PSPC and work in the area was delayed until the nest was removed. A Damage or Danger permit was received from ECCC to authorize the removal of the nest. Work resumed once permission was received through the permit and the nest was removed.

No new wildlife mitigation measures were implemented in 2022.

3.1.4 Waste Storage and Disposal

There have been no changes to the waste disposal locations or methods that have been implemented since 2020. The following are the current waste storage and disposal methods:

- Waste oil generated through equipment servicing activities to date was accumulated into double walled steel containers and shipped offsite on the sealift this year. An estimated volume of 12,000 litres of waste oil product was removed from site.
- Ongoing equipment maintenance will continue to generate waste oil products. These materials are collected and deposited in double walled steel tanks for future removal from site.
- Hydrocarbon contaminated soil – a total of 478 m³ of contaminated soil was removed from the foundation area of the raw water reservoir and placed in a lined containment area near the Eureka runway.
- An additional volume of 1479 m³ of potentially hydrocarbon contaminated soil was removed from the raw water reservoir development area and stored temporarily at the area referred to as Johnny's Hole east of the runway.
- Camp waste:
 - Pecto toilets were used throughout the Nuna camp and remote wash car facilities to collect all black water waste, which was then incinerated
 - Grey water waste from the Nuna camp and remote wash car facilities was collected via vacuum truck and deposited in the HAWS wastewater lagoon for treatment prior to discharge
 - Grew water from sinks, showers, and the kitchen is treated by a grey water exfiltration trench
 - All non-hazardous combustible kitchen and camp waste was collected and incinerated on site in compliance with standards for the site
- Non-combustible waste generated in camp or through construction and maintenance activities were deposited in the on site landfill.
- No waste oil or grease is incinerated on site.

3.1.5 Water Usage

The following is a summary of water usage for 2022:

- Water for construction purposes was obtained from West Remus Creek, Blacktop Creek, and Station Creek. The total estimated volume of construction water used for construction in 2022 is 2010 m³
- Potable camp (domestic) water was obtained from Station Creek through the raw water reservoir pumphouse. The total estimated volume of domestic water use in 2022 is 544 m³.

No seeps were observed within the quarry during the 2022 construction season. Ongoing melt water from within the watershed was present within the quarry and natural drainage paths at various times throughout the season. Thawing of permafrost at the base of the active layer after removal of thawed quarry materials was observed throughout West Remus quarry. Further thawing allowed melt water to naturally subside.

3.1.6 Archaeological Sites

In 2022, inspections of rebar markers with flagging tape surrounding significant archaeological sites was conducted. The markers remain in place and are highly visible. Inspections of the markers will continue into 2023.

3.2 Work Plan for 2023

The following activities are proposed to occur during the 2023 summer field season (June – September):

Site Operations

- Ongoing operations of the site, routine facility maintenance, runway operations.

West Remus Creek Quarry Expansion

- Continuation of quarrying activities to provide aggregate material for other projects

Black Top Creek Quarry

- Continuation of quarrying activities to provide aggregate material for other projects

Fuel Storage Tank Inspections

- Continuation of manual inspections and minor repairs of fuel storage tanks

Water & Sewer Infrastructure Upgrades

- Complete earthworks construction of the new raw water reservoir
- Install liner system for the Raw Water Reservoir
- Install foundation pads for four new pumphouse buildings
- Construct foundation for new Waste Water Treatment Plant (WWTP) and install the WWTP
- Begin installation of piping, electrical and pumping systems

Contaminated Soil and Landfarm Project

- Continue excavation and stockpiling of hydrocarbon contaminated soil in various areas throughout the Site
- Construction of onsite landfarm has been delayed and is now commencing in 2023. Stockpiled soil will be transferred to landfarm once landfarm completed.

Fuel/HazMat Secondary Containment Area

- Potential construction of new secondary containment area at Station to store fuel and other hazardous materials

4. Post-Environment Assessment Monitoring Program (PEAMP)

The Post-Environmental Assessment Monitoring Program (PEAMP) for the site was developed in FY 2012/13 after extensive site investigations (ESA Phase I-III). The PEAMP was developed to ensure that site risks related human health and safety and environmental health, as affected by site activities and impacted media, are within or below the established levels on site.

The Long-Term Monitoring (LTM) plan will ensure that pathways, contaminants of concern and receptors at the site are regularly monitored so as to mitigate unnecessary risk.

Impacts in soil and surface water have been/will be tested for Petroleum Hydrocarbons (PHC), BTEX, Poly Aromatic Hydrocarbons (PAH) and metals at the site. Along with decreasing concentrations, sampled monitoring locations will also ensure that contaminants are not migrating from the specified impacted areas.

In 2022, no Post-Environmental Assessment Monitoring occurred.

5. Compliance with Decision Screening Report Terms and Conditions

The following subsections provide a status of compliance in relation to the terms and conditions of the Screening Decision (NIRB 2018), and the other NIRB Screening Decision Reports Applicable to the Project. Compliance monitoring involves an assessment undertaken by regulators and other agencies to establish whether the Project is compliant with relevant legislation, regulations, instruments, commitments and agreements. Compliance monitoring, as reported by authorizing agencies, is also a requirement of the NIRB's Monitoring Program.

Table 5-1 summarizes the compliance criteria used to determine if compliance of a term or condition was met. The Screening Decision conditions for the Project are represented by four statuses of compliance. If a term or condition threshold for compliance has been met (or exceeded), a ranking of "In compliance" was given. Conversely, in instances where some or none of the requirements are met, a ranking of "Incomplete compliance" and "Non-compliance" are given, respectively. In these cases, rationale is provided for why these requirements have not been met and what methodologies, mitigation methods, and/or strategies will be put into place to achieve compliance.

Table 5-1: The Status of Compliance Criteria in relation to the Terms and Conditions of the Screening Decision

Status of Compliance	Compliance Criteria
In compliance	The condition requirements have been met.
Incomplete compliance	Some conditions have been met and evidence towards meeting compliance is demonstrated.
Non-compliance	The condition requirements have not been met.
Not applicable	The condition is related to Project activities or aspects that have not commenced or are not relevant to the Project or work category.

5.1 Performance on General Conditions

The Proponent shall always maintain a copy of the Project Terms and Conditions at the site of operation.

- In compliance

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.

- In compliance: all active permits are contained in **Appendix C**.

The Proponent shall operate in accordance with all commitments stated in correspondence and materials provided as a part of the current application package:

- NIRB Part 1 Form, April 5, 2012;
- NPC Application for Conformity, April 16, 2012
- AANDC Land Use Permit Application, April 4, 2012;
- Operations and Maintenance for Drinking Water, Sewage, Solid waste Disposal and Waste Treatment Facilities, 2021; and,
- Operating procedures for Eureka Land Reserve, March 1, 2011.

- In compliance;

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

- In compliance.

5.2 Compliance with NIRB Screening Decisions

5.2.1 Waste Disposal/Incineration/Landfarms

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.

- In compliance: All ash is collected and stored in 302L salvage barrels and retrograded to a facility down south for disposal.

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

- In compliance: Garbage collected throughout the day is kept indoors in a garbage bin and incinerated every morning. No garbage is stored/kept outdoors.

The Proponent shall ensure that the incineration of combustible camp wastes comply with the Canadian Wide Standards for Dioxins and Furans, and the Canadian Wide Standards for Mercury.

- Not applicable: This relates to the camp.

The Proponent shall ensure that no waste oil/grease is incinerated on site.

- In compliance: All waste oil/grease is stored in 302L salvage barrels and retrograded to a facility down south for disposal.

The Proponent shall remove and treat hydrocarbon contaminated soils/snow on site or transport them to an approved disposal site for treatment.

- In compliance: Contaminated snow or soil as a result of oil/fuel leaks or spills from construction equipment is first contained in place, then excavated and placed into 302L salvage barrels and retrograded to a facility down south for disposal. Contaminated soils may also be temporarily stockpiled prior to the construction of the landfarm.

The Proponent shall only treat petroleum and hydrocarbon contaminated soils using the landfarm facility. Materials contaminated with other substances such as glycol and heavy metals are not to be stored at the landfarm and shall only be disposed of at an authorized facility.

- Not Applicable: There is currently no operational landfarm on site.

5.2.2 Wastewater Disposal and Storage

The Proponent shall ensure required standards, set out in the Nunavut Water Board's Water Licence for this project are met prior to any discharge of collected water in the retention cell.

- In compliance:

Proponent shall ensure that the equipment used in the landfarm operation for aeration, have been cleaned off within the landfarm facilities prior to exiting to prevent contaminated soil transfer.

- Not applicable: Currently no operational landfarm on site.

The Proponent shall take appropriate dust suppression measures when conducting soil turning and removal.

- In compliance: In 2022, water primarily from West Remus Creek was used as a dust suppressant on site. Water from Blacktop Creek and Station Creek was also used. A vacuum type water truck was used to extract water from the creek and then spray on dry, dusty areas as required

All operation personnel shall be adequately trained prior to commencement of any operation in the landfarm facility. Operational personnel should also be trained in the operational guidelines and commitments made by the Proponent for this project.

- Not applicable: Currently no operational landfarm on site.

5.2.3 *Fuel and Chemical Storage*

The Proponent shall ensure that storage of fuel and hazardous materials and re-fuelling of project equipment is conducted at 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.

- In compliance

The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.

- In compliance:

The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting instalberms and fold-a-tanks) when storing barrelled fuel and chemicals at all locations. 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 fuel caches, vehicle-maintenance areas and drill sites. Spill kits and secondary containment structures should accommodate 110% of the capacity of the largest fuel storage container within the cache.

- In compliance; fuel and chemicals are stored in double walled steel storage containers in a lined containment berm area.

The Proponent shall inspect and document the condition of all large fuel tanks on a weekly basis. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.

- In compliance:

The Proponent shall flag all fuel caches on site, so they remain visible in the winter months.

- In compliance

The Proponent shall use drip pans or other equivalent device when refuelling equipment on site. The Proponent shall ensure that appropriate spill kit (e.g., shovels, absorbents, etc.) must be readily available during any transfer of fuel.

- In compliance

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.

- In compliance: Training logs for personnel are provided in **Appendix B**.

5.2.4 Water License Compliance

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.

- In compliance: watercourses used are considered non-fish bearing.

The Proponent shall only discharge water according to NWB license requirements.

- In compliance

Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed effluent quality limits.

- In compliance

The Proponent shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.

- In compliance: To ensure compliance with the Water Licence requirements the following mitigation measures have been completed:
 - Signs have been installed next to the burning location. Directive is in effect and is being followed by station staff and visitors.
 - Station occupants and managers have been notified of the rules related to open burning near water bodies on site.

The Proponent shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been or are in the process of being completed:
 - Increased signage has been installed at site to notify drivers of heavy vehicles.

- ECCC will establish an exclusion zone around the raw water reservoir and the wastewater lagoon to prevent erosion.

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.

- In compliance: To ensure compliance with the Water License requirements the following mitigation measures have been completed:
 - Flow meters have been installed at the raw pump house on site, and after the portable pump near the lagoon and are currently in service.
 - Monitoring of the sewage lagoon is stringent and ongoing. ECCC management will be notified if wastewater levels come close to the limits indicated at site.

5.2.5 Temporary Camps

The Proponent shall ensure that all camps are located on gravel, sand or other durable land.

- Not applicable: In 2022, no temporary camps were erected.

The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

- Not applicable: In 2022, no temporary camps were erected.

5.2.6 Roads and Transportation

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.

- In compliance

The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas in order to prevent sediment from entering any water body.

- In compliance: To date, there has not been a need to install sedimentation and erosion controls along the road or at the airstrip work site. Conditions are monitored continuously; silt fencing is available on site, if needed.

All road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.

- In compliance: All vehicles are fitted with factory exhaust systems.

The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

- In compliance: In 2022, only water was used as a dust suppressant on site.

5.2.7 Aggregate Extraction and Quarrying

The Proponent shall clearly stake and flag pit and quarry boundaries, so they remain visible to other land users.

- In compliance: All quarry sites are properly flagged and staked and visible to land users. Full time survey support is also present and available to monitor ground disturbance, as required.

The Proponent shall not remove any material from below the ordinary high-water mark of any lake or stream.

- In compliance: Quarrying activities occur above the high-water mark.

The Proponent shall not deposit or permit the deposit of sediment into any water body.

- In compliance: The use of silt fencing has been explored; however, has not been required on site. An earth berm has been constructed along the western edge of the approved quarry to isolate and separate the main channel of west Remus Creek from the worksite.

The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.

- In compliance: There are no obstructions to drainage or waterways on site.

The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.

- In compliance: The use of silt fencing has been explored; however, has not been required on site. An earth berm has been constructed along the western edge of the approved quarry to isolate and separate the main channel of West Remus Creek from the worksite.

The Proponent shall maintain an undisturbed buffer zone between the periphery of quarry sites and the high-water mark of any water body that is of an adequate distance to ensure erosion control.

- In compliance: Appropriate buffer zones have been installed around the periphery of the quarry sites.

The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.

- In compliance

The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

- In compliance: In 2022, only water was used as a dust suppressant on site.

5.2.8 Aircraft Flight Restrictions

The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.

- In compliance

The Proponent shall ensure that aircraft maintain a vertical distance of 1,000 metres and a horizontal distance of 1,500 metres from any observed groups (colonies) of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.

- In compliance

The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.

- Not applicable: In 2022, no emergency aircraft was needed.

The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

- Not applicable: Notice to Airmen (NOTAM) was generated during the runway construction project. NOTAM was removed once runway construction was completed.

5.3 Performance on Ecosystemic Conditions

5.3.1 *General Wildlife*

The Proponent and staff will complete bear and carnivore safety training.

- In compliance: Wildlife monitor training lead by Arctic Response Canada. Training records are contained in **Appendix B**

The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.

- In compliance: Safe Operating Procedures (SOPs), wildlife observations and responses are reviewed with the crews during orientation and/or at other appropriate times during the construction phase.

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.

- In compliance: Work site SOP's, wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase.

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.

- In compliance: Work site SOP's, wildlife observations and responses are included in these documents and are reviewed with the crews during orientation and/or at other appropriate times during the construction phase. Training logs for personnel are provided in **Appendix B**.

5.3.2 *Migratory Birds and Raptors*

The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metre buffer around the nests). If active nests of any birds are discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.

- In compliance: In 2022, one instance of bird nesting occurred in the construction zone. Work in the area was stopped until the nest was removed upon obtaining ECCC authorization under the Damage or Danger Permit pursuant to the *Migratory Birds Convention Act*.

5.3.3 *Species at Risk*

As per the Species at Risk Act and the WWHMP, species at risk must be documented and reported to the appropriate authorities.

- Not applicable: No SARA listed species were observed and/or reported on site.

5.3.4 *Reclamation of Disturbed Areas*

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

- Not applicable: Site is still in operation and no areas have been abandoned.

5.4 Performance on Socio-Economic Conditions

The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.

- In compliance: Nuna (the main contractor) provided employment to 18 individuals of Inuit heritage that were living in other locations. In total, these 18 personnel generated approximately 14% of the total manhours for the Nuna team in 2022. Community and Indigenous engagement activities are described in Section 2.

6. NIRB Site Visits and Inspections

In 2022, no formal inspector site visits occurred. The last inspector visit was conducted in July 2019 and a copy of the Inspection Report is provided in the 2020 NIRB Annual Report.

Ongoing work site inspections throughout the work season include inspections of all fuel tanks for leakage/damage. Areas of concern noted during these daily inspections are documented through the reporting system as either a Spill or Equipment Damage event.

7. Closure

Should NIRB have any questions or concerns regarding this document, please contact the undersigned.

Sincerely,

Environment and Climate Change Canada / Government of Canada

Jean-Phillippe Cloutier-Dussault
Property Manager, Assets, Real Property and Security
Directorate
Jean-philippe.cloutier-dussault@ec.gc.ca
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References

Arcadis Canada Inc. (Arcadis), 2018:

Environmental Impact Assessment Addendum for the High Arctic Weather Station Project Improvements for: Construction of New Road, Construction of Water Crossing over Black Top Creek, and Development of New Quarry Site. March 2018. Prepared for Public Services and Procurement Canada.

Nunavut Impact Review Board (NIRB), 2018:

Screening Decision Report File No. 12XN020. NPC File No.: 148746 (Related to NPC File No.: 148232), Nunavut Impact Review Board.

Nunavut Impact Review Board (NIRB), 2020:

Proponent's Guide., NIRB Technical Guide Series. Nunavut Impact Review Board.

Nunavut Impact Review Board (NIRB), 2020:

S. Granchinho, personal communication, September 4, 2020.

Nunavut Impact Review Board (NIRB), 2020:

K. Morrison, personal communication, November 9, 2020.

Appendix A

Wildlife Log

	WST engagements (posturing, any deterrent deployment)
	COSEWIC special status (threatened, endangered, special concern)
	Work impact (postpone due to wildlife, shutdown, incident, etc)

Total known engagements by Arctic Response personnel

13

Total known wildlife sightings (excluding common birds, ducks and other avians)

346

Average monthly bird count (common birds, ducks, and other avians)

489

Date	Time	Report WST	Location	Species	Male	Eureka 2022			Number	Activity
						Female	Unknown	Young		
17 June, 2022	1300	William D	NW of camp	muskox	2				2	grazing, reobserved at 1530
18 June, 2022	915		approx 2 km SE of camp	muskox			x	2	25	grazing and sleeping, reobserved throughout day
19 June, 2022	700		approx 2 km SE of camp	muskox			x	2	25	grazing and sleeping, reobserved throughout day
20 June, 2022	800		south of camp	muskox			x		7	sleeping
	1100		In vicinity of burn pit	muskox	3				2	sleeping, reobserved at 1600
	1400		3km South of burn pit	muskox			x		25	grazing and sleeping
21 June, 2022	630		North end of airstrip	muskox	7				7	grazing reobserved at 1545
	1330		NE of camp	muskox			x		22	grazing
22 June, 2022	700		East of camp	muskox			x		22	grazing
	800		South of burn pit	muskox	3				3	sleeping
	1620		NE of weather station	muskox			x		6	sleeping
	1630		NW of weather station crossing river	Arctic Wolf	1				1	Moving NW, crossed river
23 June, 2022	530		In vicinity of camp	Arctic Wolf	1				1	reported moving near to the camp
	800		running through camp	Arctic Fox			x		1	running through camp
	1015		approx 2km NW of weather station	muskox	5				5	grazing and moving in the hills headed West
	1030		approx 10-15km NW of weather station	muskox			x		11	grazing
	1120		East of weather station	Arctic Hare			x		1	grazing
24 June, 2022	815		approx 2km East of weather station	muskox			x		27	grazing, reobserved at 1015
	815		In vicinity of weather station	arctic hare			x		2	feeding, reobserved at 1120
	815		approx 10-12km East of weather station	muskox			x		22	appeared to be grazing, reobserved at 1030
25 June, 2022	530		In vicinity of camp	arctic hare			x		1	grazing, moving North
	720		West of the west end of the airstrip	muskox			x		8	grazing
	720		North of camp	muskox			x		7	sleeping
	720		approx 8-10km West of airstrip	muskox			x		14	grazing
	930		Compactor Unit	Snow Bunting Nest			x		1	Nest observed and work stopped. Permit from ECCC obtained to remove prior to starting work
	1300		approx 2km E of camp, travelling West	Arctic Wolf	1				1	moving West
26 June, 2022	830		approx 5-8km NE of airstrip	muskox			x		12	sleeping
27 June, 2022	930		NE of airstrip	muskox			x		13	sleeping
	1700		In vicinity of camp	arctic fox	1				1	hunting
28 June, 2022	615		In vicinity of camp	arctic fox	1				1	travelling near camp
	930		In vicinity of Remus	muskox			x		5	grazing
	1130		North of airstrip	muskox			x		11	grazing
29 June, 2022	900		In vicinity of weather station	arctic hare			x		1	grazing
	1300		In vicinity of camp	Arctic Wolf	1				1	hanging around camp, pushed N using 15mm banger
30 June, 2022	815		In vicinity of weather station	arctic hare			x		1	grazing
	1030		In vicinity of airstrip	arctic fox	1				1	travelling off the airstrip
1 July, 2022	1000	Jesse M	In vicinity of weather station	arctic hare	1				1	grazing
2 July, 2022	715		North of airstrip (long distance)	muskox			x		2	grazing
	930		In vicinity of weather station	arctic hare			x		1	grazing
3 July, 2022	630		In vicinity of camp	arctic hare	1				1	running
	930		In camp	arctic hare	1				1	grazing in camp, pushed out of camp area by posturing
	1330		remus	muskox			x		9 to 13	grazing
	1600		remus	muskox			x		8	grazing
4 July, 2022										
5 July, 2022	1730		West of the weather station	arctic fox	1				1	running away
6 July, 2022	1530		on the road near blacktop	arctic hare			x	1	1	hiding in ditch near road
7 July, 2022	1530		West of the weather station	arctic hare	1	1			2	sitting, observing
	1600		West of the weather station	arctic hare	1				1	running away
	1620		West of the weather station	arctic hare	1	1			2	sitting, sleeping
8 July, 2022	930		weather station	arctic hare	1				1	running away
	935		weather station	arctic hare		1			1	sitting and observing
	1000		weather station	arctic hare	1				1	grazing
	1950		Travelling E from weather station	arctic wolf	1				1	travelled E from weather station near camp, headed E past burn pit
9 July, 2022	700		in camp	arctic fox		1			1	moving into camp from west, pushed N by safety tech using posturing
	730		burn pit	arctic fox		1			1	same fox as previous encounter, pushed S to ocean
	900		weather station	arctic hare	1				1	grazing
	1500		weather station	arctic hare		1			1	hopping around
10 July, 2022	730		weather station	arctic hare	1				1	running away
	930		weather station	arctic fox		1			1	running away
	1330		airstrip	arctic hare	1				1	grazing
	1530		weather station	arctic hare	1				1	sitting and resting
	1700		at range from the airstrip	muskox			x		5	grazing
11 July, 2022	900		East side of reservoir	arctic hare	2				2	running away
12 July, 2022	830		weather station	arctic hare	1				2	grazing and sitting
13 July, 2022	720		In vicinity of burn pit	arctic fox	1				1	Scavenging in the burn pit, was pushed to East by monitor via posturing
	835		West side of weather station	snowy owl			x		1	sitting on a post, flew South over ice
	840		weather station	arctic hare				1	1	chased by fox into the the ocean, where it drowned
	840		weather station	arctic fox	1				1	hunting, chased above hare into the ocean
	855		weather station	arctic hare	1				1	grazing, and moving slowly west away from weather station
	1245		weather station	arctic hare	1				1	grooming
14 July, 2022	1340		black top	arctic hare				1	1	playing near the laydown yard
15 July, 2022	830		weather station	arctic hare			x		1	sitting, grazing
	1005		near the weather station road	arctic hare	2				2	sitting/ sleeping
	1520		Remus, along the shoreline	Brandt Geese	1	1			4	walking East along shoreline
	1530		Remus, along the shoreline	Long-tailed duck			x		7	swimming in ocean off Remus
16 July, 2022	920		In vicinity of burn pit	arctic fox	1				1	running away from 2 Arctic Terns
	1125		on the ice at range, West of the weather station	seal			x		2	sunning themselves on the ice
	1130		in the ocean to the West of the weather station	Long-tailed duck			x		7	swimming in ocean to the West of the weather station along the shore
	1415		at range NE of Remus	muskox			x		6	grazing
17 July, 2022	810		weather station	arctic fox		1			1	attempting to hide from kubota
	815		West of the weather station	arctic hare		1			1	grazing
	900		West of the weather station	arctic fox			x		1	running South towards ocean to the far west of the weather station
	1430		at long range North of camp	muskox			x		16	grazing, slowly moving NE
	1500		West side of weather station	long tailed duck			x		4	sitting on the ice, near the shore
	1515		West side of weather station	long tailed duck			x		18	swimming in the water near the shoreline
	1630		burn pit	arctic fox	1				1	scavenging in the burn pit, ran off when noticed by monitor
18 July, 2022	720		west of black top	arctic hare				1	1	attempting to hide from kubota
	1005		in vicinity of reservoir	arctic hare	1				1	running around
	1320		weather station	arctic hare				1	1	running through weather station
	1355		in vicinity of reservoir	arctic hare		1			1	running towards ocean
	1440		in vicinity of reservoir	arctic hare	1				1	running around
	1800		running along the haul road near black top	arctic fox	1				1	ran to the North away from kubota
19 July, 2022	640		in vicinity of airstrip	arctic fox	1				1	ran to the NW away from airstrip
	710		in vicinity of weather station	arctic hare	1				1	running around
	720		in vicinity of weather station	arctic hare	1	1			2	grazing
	830		Remus	arctic hare		1			1	sitting, observing
	1110		weather station	arctic hare				1	1	playing in weather station area
	1120		in ocean near west of weather station	long tailed duck			x		7	swimming
	1420		in ocean near west of weather station	elder duck			x		12	swimming
	1600		burn pit	arctic fox	1				1	Digging in burn pit, pushed to the East by posturing

20 July, 2022	1130		weather station	arctic hare				1	1	running around playing
	1510		weather station	arctic hare	1	1			2	sitting
	1545		in vicinity of weather station	ptarmigan			x		1	hiding among rocks, moved off to North
	1710		in the ocean S of the weather station	Brandt Geese			x		5	swimming in the middle of the bay
	1750		weather station	arctic hare	1				1	grazing
21 July, 2022	705		in the ocean near Remus	eider duck			x		1	swimming, took off and flew East
22 July, 2022	753	Madison D	weather station	arctic hare			x	1	2	sitting, sleeping
	1115		in vicinity of black top	arctic hare			x		1	hopping around
	1334		to the South of runway, midway to weather station	arctic hare			x		1	running to SW
	1355		west of weather station	long tailed duck			x		15	swimming in ocean
	1620		west of weather station	Great Northern Diver			x		1	swimming in ocean
23 July, 2022	902		weather station	arctic hare			x	1	2	running around weather station
	1035		along road West of reservoir	arctic hare			x		1	running along road
	1118		in ocean South of reservoir	long tailed duck			x		6	swimming in ocean
	1417		weather station	arctic hare				1	1	running around mechanic building
	1627		1km west of reservoir at sandpit	arctic hare			x		1	hiding in pile of sandbags
	1728		on ridge to North of sandpit	arctic fox			x		1	ran to N of ridge
24 July, 2022	804		weather station and reservoir	arctic hare			x	1	2	grazing, running around
	1007		west of reservoir	arctic hare			x		1	grazing
	1020		on ice flows to West of reservoir	seal			x		1	sunning on ice
	1119		west of reservoir	loon			x		1	swimming in ocean
	1406		west of reservoir	long tailed duck			x		12	swimming in ocean
	1520		weather station	arctic hare			x		1	grazing near weather station
	1748		along road the weather station	arctic hare			x	2	3	running along road, heading to weather station
25 July, 2022	735		Nuna Point	arctic hare				1	1	sitting on side of road
	835		in hills S of burn pit towards black top	arctic fox			x		1	running, hunting
	923		weather station	arctic hare				1	1	sitting, sleeping
	1103		weather station	arctic hare			x		1	moving around weather station
	1442		in ocean South of Chimo Way	long tailed duck			x		13	swimming in ocean
	1503		along Chimo Way, West of reservoir	arctic hare	1		x		2	moving along road
	1628		along road between airstrip and weather station	arctic hare				2	2	moving along road
26 July, 2022	754		km #2 on haul road to Remus	arctic hare			x		1	sitting
	804		in ocean South of Remus	long tailed duck			x		8	swimming in ocean
	804		in ocean South of Remus	King Eider	7				7	swimming in ocean
	958		km #3 on Remus haul road	arctic hare			x		1	grazing along road
	1045		South of haul road between blacktop and airstrip	arctic hare				3	3	running around
	1106		in vicinity of water reservoir	arctic hare			x		1	sitting
	1530		west of reservoir	arctic hare			x		1	grazing
	1545		near culverts on Chimo Way	arctic hare			x		3	sitting, sleeping
27 July, 2022	728		weather station	arctic hare				1	1	running through weather station
	941		in ocean West of Remus	loon	1	1		2	4	swimming in bay
	1006		in ocean West of km #2 on haul road	eider duck		6			6	swimming in ocean
	1030		in ocean South of Remus	Brandt Geese			x		2	swimming in ocean
	1349		weather station	arctic hare				1	1	hiding under building at weather station
	1450		reservoir	arctic hare			x		1	resting
	1613		in hills along Chimo Way	arctic hare			x		1	resting
28 July, 2022	615		weather station	arctic hare				1	1	sitting near balloon launch area
	946		along Chimo Way, West of reservoir	arctic hare			x		1	sitting in culvert
	1022		sandpit, West of reservoir	arctic hare	1				1	resting near pallets
	1318		4km North of blacktop	musko			x		20	moving SE
	1350		3km North of blacktop	musko			x		4	travelling S, separate from previous herd
	1704		weather station	arctic hare			x		1	grazing
	1728		weather station	arctic hare			x		1	grazing
29 July, 2022	718		burn pit	arctic hare			x		1	hiding near the burn pit
	1026		weather station	arctic hare			x		1	sitting
	1342		in hills to East of weather station	arctic hare		1		1	2	running in hills
	1423		in hills 2km NW of reservoir	musko	1				1	Moving north
	1618		weather station	arctic hare				1	1	running around weather station
30 July, 2022	714		weather station	arctic hare		1			1	hopping around buildings
	746		junk yard North of weather station	arctic hare	2				2	hiding in junk yard
	823		culvert along Chimo Way West of weather station	arctic hare	1				1	hiding in culvert
	840		South of weather station	eider duck			x		20	flying over water
	852		in hills 1km West of weather station	arctic hare			x		1	running in hills
	905		sandpit, West of reservoir	arctic hare				2	2	playing in sand pit
	1036		in hills SE of camp	arctic fox			x		1	hunting Ruddy Turnstones in hills
	1052		in ocean near km #5 on haul road	loon				3	4	swimming in ocean
	1323		weather station	arctic hare			x		1	grazing, resting
	1545		dirt pile at East end of reservoir	arctic hare			x		1	sitting in dirt pile
	1532		near sandpit along Chimo Way	arctic hare			x		1	sitting observing
	1724		in ocean 1km West of weather station	longtailed duck			x		12	swimming
31 July, 2022	753		weather station	arctic hare				1	1	running around weather station
	758		in hills West of reservoir	arctic hare			x		1	running in hills
	1101		in ocean near blacktop bridge	eider duck				3	3	swimming in ocean
	1601		West of reservoir	arctic hare			x		1	grazing, eating
	1737		embankment on West side of reservoir	arctic hare			x		1	sitting on bank
1 August, 2022	932		weather station	arctic hare			x		1	resting
	1041		West of reservoir	arctic hare			x		1	hopping around
	1537		in hills 2km West of weather station	arctic hare	1				1	grazing
	1546		in ocean SW of weather station	eider duck			x		6	swimming in ocean with long tailed ducks
	1546		in ocean SW of weather station	long tailed duck			x		9	swimming in ocean with eider ducks
	1620		1km North of the East of end of the runway	musko	5				5	grazing
2 August, 2022	709		camp	arctic fox	1				1	scavenging in camp, pushed South out of camp with posturing
	805		weather station	arctic hare			x		1	sitting
	941		2 km North of blacktop bridge in valley	musko			x		5	bedded down in valley, sleeping
	1039		in ocean near Remus	Brandt Geese	3	3		11	17	swimming in bay
	1045		in ocean South of Remus	longtailed duck			x		1	swimming in ocean
	1323		weather station	arctic hare				1	1	hiding under building at weather station
	1430		near weather station	eider duck			x		7	flying SW over water
	1659		in vicinity of weather station	arctic hare	1				1	running around pallets near weather station
3 August, 2022	906		weather station	arctic hare	1				1	hopping around weather station
	1036		in hills 1km NW of Remus	musko					13	grazing
	1129		valley 2km North of blacktop bridge	musko			x	1	6	grazing, reobserved throughout the day, moving S
	1403		weather station	arctic hare				1	1	running around
	1520		1km NE of Remus in delta	musko			x		13	running NE
	1639		weather station	arctic hare				1	1	hopping around, grazing
4 August, 2022	834		in ocean South of Remus	longtailed duck			x		>50	swimming in ocean
	908		2km North of blacktop bridge	musko	1				1	grazing
	1549		weather station	arctic hare				1	1	sitting
	1606		3km NW of airstrip in hills	musko			x		1	grazing
5 August, 2022	708		500m NE of runway	musko			x		2	grazing
	726		by road to west of reservoir	arctic hare	1				1	sitting by road
	1017		hills 1km NE of runway	musko			x	1	6	grazing, reobserved all day
	1312		weather station	arctic hare			x		1	sitting
6 August, 2022	722		2Km North of runway	musko			x	2	6	bedded down in hills
	749		on North side of runway	arctic fox			x		1	hunting North of runway, sniffing around vehicles, pushed S by posturing
	819		in vicinity of DND buildings	arctic fox			x		1	same fox as previous encounter, stole a hot dog bun from DND, ran NE
	923		weather station	arctic hare					1	sitting
	943		on beach South of reservoir	Brandt Geese			x		2	sitting resting on beach
	1158		East side of reservoir	arctic hare				1	1	sitting, resting
	1309		burn pit	arctic fox			x		1	same fox as previous, scavenging at burn pit, pushed NE by posturing

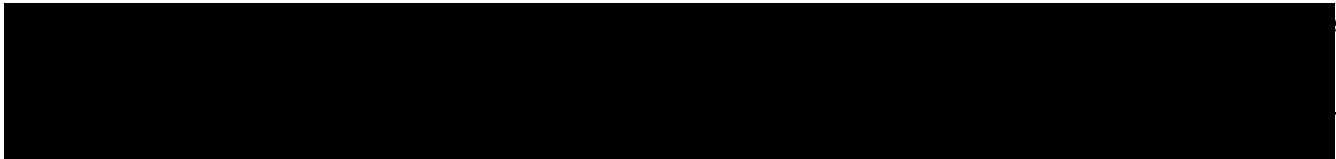
	1519	in ocean SE of blacktop bridge	Brandt Geese			x		26	swimming in ocean
	1532	in ocean South of Remus	eider duck			x		60 to 75	swimming in ocean at range
7 August, 2022	906	1.5km NW of airstrip in hills	arctic fox			x		1	running North
	941	weather station	arctic hare			x		1	running around buildings
	1432	along haul road to Remus near Bob's Lake	Brandt Geese				9	15	resting
	1551	weather station	arctic hare			x		1	resting
	1633	East side of weather station	arctic hare			x		1	resting
	1750	on ice flows SW of weather station	King Eider		4			4	sitting on ice
8 August, 2022	840	weather station	arctic hare			x		1	hiding under building at weather station
	909	hills North of sandpit	arctic hare			x		1	running in hills
	1055	in vicinity of burn pit	arctic fox			x		1	scavenging from burn pit, approached to within 2m of people, pushed SW
	1101	in vicinity of burn pit	arctic hare			x		1	running from fox in previous reports
	1628	in ocean West of weather station	King Eider			x	x	6	swimming in ocean, some resting on ice flows
	1631	in ocean 2km West of weather station	Brandt Geese	3	3			11	17
9 August, 2022	1320	South side of weather station	arctic hare			x		2	4
	1512	in ocean 2km West of weather station	Brandt Geese	3	3			11	17
10 August, 2022	717	in ocean SE of weather station	Brandt Geese	3	3			11	17
	1017	in vicinity of reservoir	arctic hare			x		1	running into weather station
	1244	20m S of km4 on haul road	seal			x		1	laying on ice sunning itself
	1746	in vicinity of weather station	arctic hare			x		1	running around weather station
11 August, 2022	816	in vicinity of camp and DND building	arctic fox			x		1	attempting to get into camp, pushed to W end of runway and then S
	911	near creek at blacktop bridge	arctic fox			x		1	running around, hunting
	1308	along road to weather station	arctic hare			x		1	travelling along road
	1741	weather station	arctic hare			x		1	grazing
12 August, 2022	700	reservoir	arctic wolves	2				2	pulling rags from bulldozer, pushed NE into hills with bear bangers and posture
	730	in vicinity of camp, DND buildings	arctic hare			x		1	chased by wolves towards camp, wolves did not pursue
	1510	valley North of blacktop	muskox			x		3	travelling SW at range
	1550	weather station	arctic hare			x		1	hopping around
13 August, 2022	743	junk yard North of weather station	arctic hare			x		1	grazing, hopping around
	800	East side of reservoir	arctic hare			x		1	hopping around
	838	weather station	arctic hare			x		1	running around weather station
	1326	hills to East of Remus	muskox			x		2	grazing
	1501	weather station	arctic hare			x		1	grazing, running around
	1532	in vicinity of reservoir	arctic hare	1				1	grazing on east slopes of reservoir
14 August, 2022	928	on the South side of the weather station	arctic hare			x		1	grazing
15 August, 2022	1403	blacktop	arctic fox			x		1	hunting for eggs, running close to equipment, pushed to N with posture/15mm
	1744	10km W of airstrip, S of Pearl on hill	muskox			x		6	grazing
16 August, 2022	921	weather station	arctic hare			x		1	grazing
	925	100m W of weather station near road	arctic hare			x		2	grazing, reobserved throughout the day
	1458	2.5km NE of Remus	muskox			x		11	grazing in hills
17 August, 2022	704	between DND building and camp	arctic hare			x		1	attempting to get into camp, pushed S with posture and 15mm
	1044	on ridge 1.5km NNE of Remus	muskox			x		1	grazing
	1334	weather station	arctic hare			x		1	moving around weather station
	1625	10km to W of weather station	seals			x		3	sunning on ice
18 August, 2022	630	weather station	arctic hare			x		5	grazing, reobserved at 0931
	632	10km W of weather station	muskox			x		6	grazing, reobserved at 0910
	935	500m NE of weather station	arctic hare			x		1	grazing
19 August, 2022	631	East side of weather station	arctic hare			x		1	grazing
	652	100m S of DND buildings	arctic hare			x		1	grazing
	924	East side of weather station	arctic hare			x		4	grazing and sleeping
	1304	midway between DND building and weather station	arctic hare			x		1	grazing
	1350	450m N of Remus on hill	muskox			x		1	grazing
20 August, 2022	633	between DND building and weather station	arctic hare			x		4	grazing, sleeping, reobserved throughout the day
	639	100m West of reservoir	arctic hare			x		1	grazing
	646	weather station	arctic hare			x		2	running through station to E
	1041	2km East of airstrip	muskox			x		3	grazing, reobserved moving N throughout the day
	1152	8km West of weather station in hills	muskox			x		4	grazing, reobserved moving S at 1613
	1427	5km SE of Nuna Point	muskox			x		24+	grazing
21 August, 2022	646	300m NNE of weather station	arctic hare			x		3	grazing, reobserved throughout the day
	651	North side of weather station	arctic hare			x		2	grazing
	758	5km+ South of Remus	muskox			x		28	grazing
	1130	8km West of weather station in hills	muskox			x		4	grazing, reobserved at 1617
22 August, 2022	625	200m NNE of weather station	arctic hare			x		3	grazing, reobserved throughout day
	801	weather station	arctic hare			x		1	running around
	805	in valley 9km West of weather station	muskox			x		6	grazing, reobserved throughout day
	944	6km SW of Remus	muskox			x		6	grazing
	1043	4km NW of camp	muskox			x	1	2	grazing, reobserved throughout day
	1142	100m E of used fuel drums	arctic hare			x		1	grazing
23 August, 2022	634	in vicinity of weather station	arctic hare			x		4	grazing/sleeping
	636	8km West of weather station in hills	muskox			x		6	grazing, sleeping, reobserved throughout the day
	800	Remus	arctic wolf			x		1	ran through Remus heading E
	1054	4km NW of camp	muskox			x		1	grazing
	1356	5km N of blacktop in valley	muskox			x		2	grazing
24 August, 2022	829	8km West of weather station in hills	muskox			x		11	grazing, reobserved all day
	958	in vicinity of weather station	arctic hare			x		3	grazing, reobserved all day
	1030	1km N of blacktop in valley	muskox			x		1	grazing, moving SE, reobserved at 1557
	1104	2km NW of camp	muskox			x		1	moving North in low ground
25 August, 2022	638	in vicinity of weather station	arctic hare			x		6	grazing, sleeping, reobserved throughout the day
	641	4km West of weather station	muskox			x		8	grazing, reobserved all day
	758	4km SW of Remus	muskox			x		20+	grazing, reobserved at 1545
	912	9km West of weather station near Astro Lab	muskox			x		12	grazing, reobserved all day
	1136	200m East of used fuel drums	arctic hare			x		1	grazing
	1334	4km N of blacktop in valley	muskox			x		1	grazing
26 August, 2022	621	in vicinity of weather station	arctic hare			x		3	grazing, reobserved all day
	630	4km West of weather station	muskox			x		20+	grazing, reobserved at 1120
	633	in ocean near sewage pond	Brandt Geese			x		30	swimming
	908	3.5km SW of Remus	muskox			x		4	grazing, reobserved at 1458
	1512	7km ENE of Remus up valley	muskox			x		2	grazing
27 August, 2022	633	3km West of weather station	muskox			x		10+	grazing, reobserved at 1005 moving to North
	750	in vicinity of weather station	arctic hare			x		5	grazing (2 between station and camp) reobserved all day
	811	10km West of weather station	polar bear			x		1	moving North on ice
	1438	5km South of Remus	muskox			x		17+	grazing
	1659	2-3km N of blacktop	muskox			x		1	grazing
28 August, 2022	635	5km West of weather station	muskox			x		6	grazing, reobserved all day
	655	midway between DND building and weather station	arctic hare			x		1	sleeping
	751	6km South of Remus	muskox			x		12	grazing, moving South, reobserved at 1500
	1053	75m North of airstrip midpoint	Gyrfalcon			x		1	hunting, perched on post
	1128	near reservoir at ocean's edge	Brandt Geese			x		34	resting on shore, reobserved at 1645
29 August, 2022	630	3km North of camp	muskox			x		1	grazing, reobserved all day
	633	West side of DND building	arctic hare			x		2	sleeping
	648	6km West of weather station	muskox			x		2	grazing, reobserved all day
	653	weather station	arctic hare			x		1	grazing, reobserved all day
	958	2km ESE of Remus	muskox			x		12	grazing, reobserved at 1508
	1310	50m East of used fuel drums	arctic hare			x		1	sleeping
	1440	2.5km North of blacktop	muskox			x		4	grazing
30 August, 2022	608	75m East of used fuel drums	arctic hare			x		2	sleeping
	623	in vicinity of weather station	arctic hare			x		8	grazing/sleeping
	631	6km West of weather station	muskox			x		5	grazing, reobserved all day
	718	2.5km North of blacktop	muskox			x		4	grazing, reobserved until 1100 when they moved into the low ground
	745	in valley immediately North of airstrip	muskox			x		9	grazing, reobserved all day

	1420		5km South of Remus	muskox			x		18+	grazing, reobserved all day
	1430		300m North of Remus	muskox	1				1	grazing, moved NW up valley at 1451
31 August, 2022	650		in vicinity of DND fuel dump	arctic hare			x		1	running SW
	747		in vicinity of reservoir	arctic hare			x		6	grazing/sleeping
	837		2.5km North of blacktop	muskox			x		1	grazing
	913		100m North of reservoir	arctic wolves			x		4	hunting, moving W along CHIMO way, headed N after muskox in hills at 0926
	1514		7km East of Remus	muskox			x		16+	grazing
	1522		800m North of end of haul road at Remus	muskox			x	1	6	grazing, moved off to North
	1559		3-4km SSE of Remus	muskox			x		1	grazing
1 September, 2022	621		in vicinity of DND fuel dump	arctic hare			x		1	sleeping
	905		2.5km NW of blacktop	muskox			x	1	6	grazing, last observed moving North at 1249
	947		6km SSE of Remus	muskox			x		7+	grazing
	1051		200m East of weather station in Ocean	seals			x		2	swimming/diving in ocean
	1111		50m West of reservoir	arctic hare			x		1	grazing
	1135		in vicinity of weather station	arctic hare			x		2	sleeping
2 September, 2022	830	William D	in vicinity of camp	arctic hare	1				1	grazing
3 September, 2022	1230		camp	arctic hare	1				1	grazing
4 September, 2022	745		West side of weather station	arctic hare			x		8	grazing
5 September, 2022	1500		in vicinity of weather station	arctic hare			x		2	grazing
6 September, 2022	700		weather station	arctic hare			x		1	grazing
	750		in vicinity of camp	arctic hare			x		2	grazing
7 September, 2022	630		in vicinity of weather station	arctic hare			x		2	grazing
8 September, 2022	1000		in vicinity of camp	arctic hare			x		1	grazing
	1330		North of blacktop	muskox			x		13	sleeping
	1400		in vicinity of burn pit	arctic fox			x		1	scavenging
9 September, 2022	1330		North of blacktop	muskox			x		13	sleeping
10 September, 2022	830		Remus	arctic fox			x		1	hunting
	1030		in vicinity of Remus	muskox			x		13	grazing/sleeping

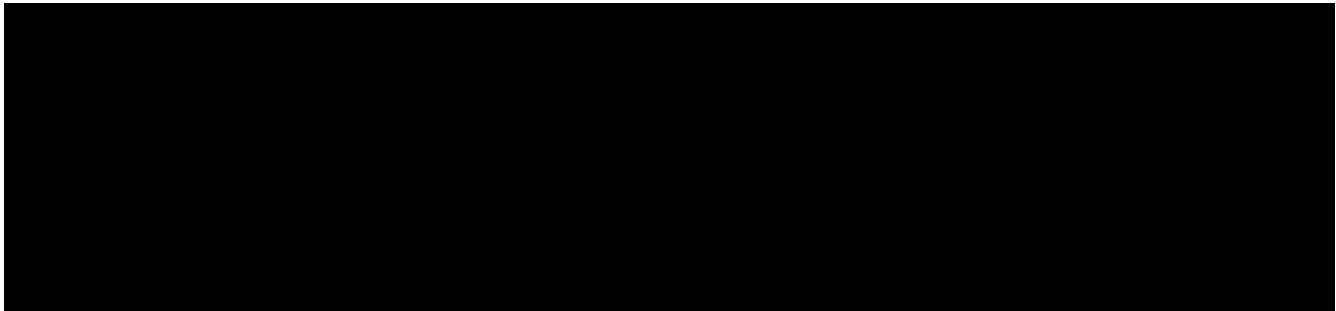
Appendix B

Personnel Training Records

Jesse Malboeuf Training Records



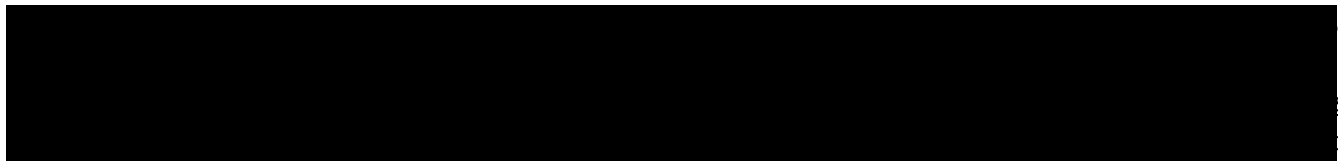
<u>Course</u>	<u>Date of initial training</u>	<u>Most recent requal</u>	<u>Current Expiry Date</u>
Predator Defense (WM)	May 1, 2018	May 31, 2022	May 31, 2025
Intermediate First Aid		June 2, 2022	June 2, 2025
CFSC (Pal)			June 4, 2023
WHMIS	May 1, 2018		
Fire Extinguisher	May 1, 2018		
Aircraft Extrication	May 1, 2018		
ATV/UTV Operator	May 1, 2018		
Underwater Egress	May 1, 2018		
Aircraft Safety lvl 1	May 1, 2018		



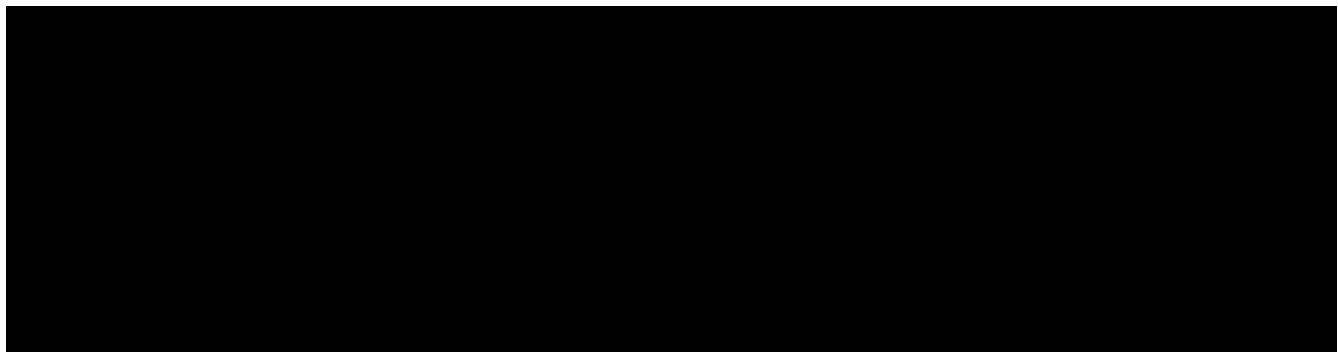
Madison Dahl Training Records

<u>Course</u>	<u>Date of initial training</u>	<u>Most recent requal</u>	<u>Current Expiry Date</u>
Predator Defense (WM)	11 July, 2022		11 July, 2025
Intermediate First Aid	11 July, 2022		11 July, 2025
CFSC (Pal)			
WHMIS			
Fire Extinguisher			
Aircraft Extrication			
ATV/UTV Operator	12 July, 2022		nil
WSCC Supervisor Safety			
WFA			
Underwater Egress	30 Aug, 2021		30 Aug, 2021
Aircraft Safety lvl 2	2 Sept, 2021		02-Sep-24
Swiftwater Rescue	June, 2019		?

Sean Acheson Training Records



<u>Course</u>	<u>Date of initial training</u>	<u>Most recent requal</u>	<u>Current Expiry Date</u>
Predator Defense (WM)	May-18	inst 2021	19 Nov, 2024
Intermediate First Aid	Jul-05	inst 2021	23 Nov, 2024
CFSC (Pal)	Nov-16	Aug-21	12-Nov-26
WHMIS	Jul-05	inst 2021	15 Nov, 2024
Fire Extinguisher	May-18	inst 2021	15 Nov, 2024
Aircraft Extrication	May-18	inst 2021	16 Nov, 2024
ATV/UTV Operator	May-18	inst 2021	17 Nov, 2024
WSCC Supervisor Safety	Sep-20	inst 2021	
WFA	Nov-19	inst 2021	14-Jul-24
Underwater Egress	May-18	inst 2021	30-Aug-24
Aircraft Safety lvl 2	May-19	inst 2021	02-Sep-24
GSAR	Jan-20	inst 2021	
Swiftwater Rescue	May-19	10-Sep-21	10-Sep-24
Ice Rescue Technician	Jan-20	inst 2021	Mar-24
Survival (Treeline)	Jan-20	inst 2022	Jul-05
Airport Wildlife Management	ongoing		
CFSC Instructor	application in AB/NT		
Snowmobile Operator	Nov-20		Nov-23
PCOC	May-19		



Total Deployed Days

William Day Training Records

<u>Course</u>	<u>Date of initial training</u>	<u>Most recent requal</u>	<u>Current Expiry Date</u>
Predator Defense (WM)	Jan, 2016	19 Nov, 2021	19 Nov, 2024
Intermediate First Aid	Jan, 2016	23 Nov, 2021	23 Nov, 2024
CFSC (Pal)	March, 1980		15-Jun-26
WHMIS	Jan, 2016	15 Nov, 2021	15 Nov, 2024
Fire Extinguisher	Jan, 2016	15 Nov, 2021	15 Nov, 2024
Aircraft Extrication	Jan, 2016	16 Nov, 2021	16 Nov, 2024
ATV/UTV Operator	Jan, 2016	17 Nov, 2021	
WSCC Supervisor Safety	Jan, 2016		
WFA	Jan, 2016	10 Feb, 2020	10 Feb, 2023
Underwater Egress	Jan, 2016	11 Feb, 2020	11 Feb, 2023
Aircraft Safety lvl 2	Feb, 2020	13 Feb, 2020	13 Feb, 2023
ICS 100	22 July, 2022		
ICS 200	in progress		

Appendix C

Active Permits

Land Use Permit



Indigenous and
Northern Affairs Canada

Affaires autochtones
et du Nord Canada

Land Administration
P.O. Box 100
IQALUIT, NU X0A 0H0
Phone: 867-975-4283
FAX: 867-975-6445
Email: landsmining@aandc.gc.ca

August 8th, 2017

Environment & Climate Change Canada
160 Chemin Tour de L'isle
Montreal, QC
H3C 4G8

Dear Jean Philippe Cloutier-Dussault,

Re: Land Use Permit #N2017N0017
Type of Operation: Research Facility
Location: Eureka, Baffin, NU, NTS 49G

Enclosed is your copy of Land Use permit number N2017N0017, authorizing your project as described in your application dated July 4th, 2017. This permit replaces permit N2012N0012. Please note that all obligations and liabilities held under this permit have now been transferred to your new permit.

Your application has received a wide distribution to other Federal departments, Government of the Nunavut departments, communities in the area of your operation and concerned Inuit groups. In distributing your application the Nunavut Impact Review Board (NIRB) sought comments from these various agencies based on their area of expertise that will help ensure minimum negative impact on the environment. The issuance of this permit indicates that as a result of the NIRB environmental screening process it was decided that the potentially adverse environmental effects that may be caused by your proposal are mitigable with known technology and are not significant. The terms and conditions in the permit will, in our opinion, provide the necessary protection to the environment.

Please ensure that you adhere to the operating conditions, including all reporting requirements, annexed to your permit. Should you have any questions regarding any conditions of this permit, please contact Karen McIntyre at (867)-975-4283 or email landsmining@aandc.gc.ca.

Sincerely,

Tracey McCaie
Manager, Land Administration

cc: Manager, Field Operations
RMO - Baffin



**LAND USE PERMIT
NORTHERN AFFAIRS PROGRAM**

**PERMIS D'UTILISATION DES TERRES
PROGRAMME DES AFFAIRES DU NORD**

Permit Class - Permis Catégorie

A

Permit No - NE de permis

N2017N0017

Subject to the Territorial Land Use Regulations and the terms and conditions in this permit, authority is hereby granted to:

Sous réserve du Règlement sur l'utilisation des terres territoriales et des conditions de ce permis:

Environment & Climate Change Canada

Permittee - Détenteur de permis

To proceed with the land use operation described in the application of:

Est autorisé à entreprendre les travaux d'exploitation des terres décrits dans la demande de permis du:

Signature

Jena-Philippe Cloutier-Dussault

Date

July 4th, 2017

Type of Land Use Operation - Genre de travaux d'exploitation des terres

Research Facility

Location - Emplacement

Eureka, Baffin, NU, NTS 49G

The conditions attached to this permit are incorporated into and form an integral part of the permit.

Les conditions attachées à ce permis en font partie intégrante.

This permit may be assigned, extended, discontinued, suspended or cancelled pursuant to the Territorial Land Use Regulations.

Ce permis peut faire l'objet d'une cession, d'une prolongation d'une cessation d'une suspension ou d'une annulation, en vertu du Règlement sur l'utilisation des terres territoriales.

Dated at

Date à

Iqaluit

Engineer

Ingénieur

This

Ce

8th

Day of

Jour de

August, 2017.

Commencement Date

Date du début des travaux **July 4th, 2017**

Expiry Date

Date d'achèvement **July 3rd, 2022**

NOTE

REMARQUE

IT IS A CONDITION OF THIS PERMIT THAT THE PERMITTEE COMPLY WITH ANY OTHER APPLICABLE ACT, REGULATION, ORDINANCE BY-LAW OR ORDER. DEFAULT HEREOF MAY RESULT IN SUSPENSION OR CANCELLATION OF THIS PERMIT.

LE DÉTENTEUR DU PRÉSENT PERMIS DOIT SE CONFORMER À TOUT AUTRE RÈGLEMENT, LOI, DÉCRET RÈGLEMENT MUNICIPAL OU ARRÊTÉ APPLICABLE. LE MANQUEMENT À CETTE OBLIGATION POURRAIT DONNER LIEU À LA SUSPENSION OU À L'ANNULATION DU PERMIS.

CONDITIONS ANNEXED TO AND FORMING PART OF LAND USE PERMIT NUMBER N2017N0017

Failure to comply with any term and condition issued as part of this permit is an offence under the Territorial Lands Act. Every person who commits an offence is liable, on summary conviction, for a first offence, to a fine not exceeding \$100 000, and for a second or subsequent offence, to a fine not exceeding \$200 000. Please note that an offence that is committed on more than one day constitutes a separate offence for each day on which it is committed or continued.

31 (1) (a) – Location and Area

1.	The Permittee shall not conduct this land use operation on any land(s) not designated in the accepted application, unless otherwise authorized in writing by the Engineer.	AUTHORIZED AREA OF ACTIVITY
2.	<p>a) The Permittee shall offset vehicle travel in areas without a snow covered surface.</p> <p>b) The Permittee shall confine the line to a maximum width of 10 metres unless otherwise authorized in writing by a Land Use Inspector.</p>	OFFSET VEHICLE TRAVEL
3.	The Permittee shall locate all camps on gravel, sand or other durable land.	CAMP LOCATION
4.	The Permittee shall use existing campsite.	CAMP LOCATION
5.	The Permittee shall locate all lines, trails and rights-of-way to be constructed parallel to streams a minimum of thirty one (31) meters from any stream except at crossings unless otherwise authorized in writing by a Land Use Inspector.	PARALLELLING STREAMS
6.	The Permittee shall not erect camps or store/stage material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use.	STORAGE ON ICE

31 (1) (b) – Time

7.	The Permittee's Field Supervisor shall contact or meet with a Land Use Inspector at the Department of Indigenous and Northern Affairs Canada, phone number (867) 975-4517; at least 48 hours prior to the commencement of this land use operation.	CONTACT INSPECTOR
8.	<p>The Permittee shall advise a Land Use Inspector at least 10 days prior to the completion of the land use operation of:</p> <p>a) a plan for removal or storage of equipment and materials, and;</p> <p>b) when final clean-up and restoration of the lands used will be completed.</p>	REPORTS BEFORE REMOVAL
9.	The Permittee's Field Supervisor shall provide notification of commencement of the land use operation within 10 days, to the Engineer at the Iqaluit office of the Department of Indigenous and Northern Affairs Canada either by emailing landsmine@aandc.gc.ca or by telephone at (867) 975-4283.	NOTICE TO ENGINEER

10.	The Permittee shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of this land use operation, the following information: a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served, b) alternates, and; c) all the indirect methods for contacting the above person(s).	IDENTIFY AGENT
11.	The Permittee shall submit an annual report to the Engineer by March 30 of each year of permitted activities. The annual report must contain, but not limited to, the following information: a) a technical summary of the activities undertaken for the year, b) a table and map showing the following items, if applicable, with exact coordinates in degree/min/sec format, in NAD 83: i. All drilling locations ii. All fuel caches iii. Any other locations where activities were conducted c) a work plan for the following year, d) any progressive reclamation work undertaken.	ANNUAL REPORTING
12.	The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.	CLEAN-UP
13.	The Engineer reserves the right to impose closure to any area to the Permittee in periods when dangers to natural resources are severe.	CLOSURE

31 (1) (c) – Equipment

14.	The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector.	ONLY APPROVED EQUIPMENT
15.	The Permittee shall use a forced-air fuel-fired incinerator to incinerate all combustible garbage and debris. If no incinerator is being established on site, garbage must be backhauled to an approved disposal facility.	INCINERATORS
16.	The Permittee shall keep all garbage and debris in a covered container until disposed of at an approved facility. Garbage must be stored in such a manner as to prevent access by wildlife.	GARBAGE CONTAINERS
17.	The Permittee shall ensure that 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 fuel caches and drill sites. All activities should be conducted according to the approved Spill Response Plan.	SPILL RESPONSE KIT

31 (1) (e) - Type, Location, Capacity and Operation of Facilities

18.	The Permittee shall not locate any sump within thirty one (31) metres of the normal high water mark of any water body. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances do not enter a waterway unless otherwise authorized.	SUMPS FROM WATER
19.	The Permittee shall backfill and restore all sumps prior to the expiry date of this permit or immediately following completion of activity.	BACKFILL SUMPS
20.	The Permittee shall: a) backfill sumps with sufficient material to ensure that no hollows or cavities result from settling of the material; b) Overlap the replaced material a minimum of one (1) metre beyond the edges of the existing sump wall.	BACKFILL SUMP OVERLAP
21.	The Permittee shall ensure that the land use area is kept clean and tidy at all times.	CLEAN WORK AREA

31 (1) (f) - Control or Prevention of Flooding, Erosion and Subsidence of Land

22.	The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.	NATURAL DRAINAGE
23.	The Permittee shall not use the bed of streams for access routes except for the purpose of crossing the streams unless otherwise authorized by a Land Use Inspector.	STREAM BEDS ACCESS
24.	The Permittee shall install erosion and sediment mitigation measures on disturbed areas before, during and after construction and as the land use operation progresses.	EROSION CONTROL
25.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING
26.	The Permittee 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.	VEHICLE MOVEMENT FREEZE-UP
27.	The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs.	SUSPEND OVERLAND TRAVEL

31 (1) (g) - Use, Storage, Handling and Disposal of Chemical or Toxic Material

28.	The Permittee shall remove all garbage and debris from the area of the land use operation to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE
29.	The Permittee shall deposit all sewage into a sump.	SEWAGE DISPOSAL

30.	The Permittee shall store all fuel and chemicals in such a manner as to prevent access by wildlife	STORAGE
31.	The Permittee shall incinerate all combustible wastes daily and remove ash from incineration activities.	GARBAGE DISPOSAL
32.	The Permittee shall backhaul and dispose all combustible waste petroleum products at an approved disposal facility unless there is an approved waste oil burner on site.	WASTE PETROLEUM DISPOSAL
33.	The Permittee shall backhaul and dispose of all hazardous wastes at an approved waste disposal facility.	WASTE CHEMICAL DISPOSAL
34.	The Permittee shall report all spills immediately in accordance with instructions contained in "NT-NU Spill Report" form and to the twenty four (24) hour spill report line (867)920-8130.	REPORT CHEMICAL AND PETROLEUM SPILLS
35.	The Permittee shall not allow petroleum products or chemicals to spread to surrounding lands or into water bodies.	CONTAINMENT OF PETROLEUM PRODUCTS AND CHEMICALS

31 (1) (h) - Wildlife and Fisheries Habitat

36.	The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation.	HABITAT DAMAGE
37.	The Permittee shall not obstruct the movement of fish while conducting this land use operation.	FREE FISH MOVEMENT
38.	The Permittee shall not harass wildlife. This includes persistently worrying, chasing, or disturbing large groups of animals.	HARASSMENT OF WILDLIFE
39.	The Permittee shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Permittee shall take precaution to avoid further interaction and/or disturbance (e.g. a 100 meter buffer around the nests). If active nests are discovered (i.e. with eggs or young) the Permittee shall avoid these areas until nesting is complete and the young have left the nest.	WILDLIFE SENSITIVITY
40.	The Permittee shall not touch, feed or entice wildlife to approach by holding out of setting out decoys or any such devise, foodstuffs or bait of any kind.	WILDLIFE INTERACTIONS

31 (1) (k) - Petroleum Fuel Storage

41.	The Permittee shall not place any petroleum fuel storage containers within thirty-one (31) metres of the normal high water mark of any water body.	FUEL STORAGE
42.	The Permittee shall locate mobile fuel facilities on land when stationary for any period of time exceeding twelve (12) hours.	FUEL ON LAND

43.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
44.	The Permittee shall: <ul style="list-style-type: none"> a) examine all fuel storage containers for leaks a minimum of once every seven (7) days during operations; b) repair all leaks immediately; c) examine all fuel storage containers for leaks immediately upon delivery. 	CHECK FOR LEAKS
45.	The Permittee shall construct a dyke around each stationary fuel container where any one container, or group of fuel containers piped together, has a capacity exceeding 50,000 litres.	DYKE FUEL CONTAINERS
46.	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
47.	The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times.	IMPERMEABLE DYKE
48.	The Permittee shall seal all container outlets except the outlet currently in use.	SEAL OUTLET
49.	The Permittee shall mark all fuel containers with the Permittee's name and the Land Use Permit number.	MARK CONTAINERS
50.	The Permittee shall use adequate secondary containment or a surface liner (e.g. self-supporting insta-berms and fold-a-tanks), when storing barrelled fuel and chemicals at all locations as well as re-fuelling stations. The volume of the berm area shall be 10% greater than the capacity of the largest fuel container placed therein.	SECONDARY CONTAINMENT
51.	The Permittee shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.	CONTAMINATED SOIL

31 (1) (m) - Matters Not Inconsistent with the Regulations

52.	The Permittee shall display a copy of this permit in a conspicuous place in each campsite established to carry out this land use operation.	DISPLAY PERMIT
53.	The Permittee shall keep on hand, at all times during this land use operation, a copy of the Land Use Permit.	COPY OF PERMIT
54.	The Permittee shall conspicuously display the land use permit number on all vehicles and equipment.	DISPLAY PERMIT NUMBER
55.	The Permittee shall abide by and comply with all applicable lawful rules, acts, regulations, and by-laws of Canada, Nunavut, any Municipal or regulatory body or authority having jurisdiction, the Nunavut Land Claim Agreement, and all other agreements, permits, licenses, and other instruments whatsoever related to the project.	ADHERENCE TO LAWFUL RULES, ACTS, REGS & BYLAWS

ARCHAEOLOGICAL & PALEONTOLOGICAL TERMS AND CONDITIONS

<p>“archaeological site” means a place where an archaeological artifact is found.</p> <p>“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 Nunavut Land Claims Agreement.</p> <p>“paleontological site” means a site where a fossil is found.</p> <p>“fossil” includes:</p> <ul style="list-style-type: none"> (a) natural casts (b) Preserved tracks, coprolites and plant remains; and (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates. 	<p>DEFINITIONS</p>
<p>The Permittee shall avoid any known or suspected archaeological and/or paleontological sites.</p>	<p>AVOIDANCE OF ARCHAEOLOGICAL AND/OR PALEONTOLOGICAL SITES</p>
<p>The Permittee shall not remove, disturb, or displace any archaeological artifact or site, or any paleontological site or fossil.</p>	<p>DISTURBANCE OF ARCHAEOLOGICAL AND/OR PALEONTOLOGICAL SITE</p>
<p>The Permittee shall immediately cease any activity should a suspected archaeological, paleontological, or burial site be discovered during the course of a land use operation.</p> <p>The Permittee is required to immediately contact the Land Administration division at Indigenous and Northern Affairs Canada at (867) 975-4283 or (867) 975-4285 or (867) 975-4280 as well as the Department of Culture and Heritage at (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035.</p>	<p>CEASE OPERATION OF LAND USE ACTIVITY</p>

	<p>Permission to resume land use operation must be obtained from the engineer. At such time the Engineer may, at his/her discretion, require that you have an archaeologist or palaeontologist perform the following functions:</p> <ul style="list-style-type: none"> (a) Survey (b) Inventory and documentation of the archaeological or (c) Paleontological resources of the land use area (d) Assessment of potential for damage to archaeological or paleontological sites (e) Mitigation (f) Marking boundaries of archaeological or paleontological sites (g) Site restoration 	
	<p>The Permittee shall ensure that all persons working under the authority of the permit are aware of these conditions pertaining to archaeological sites and artifacts as well as paleontological sites and fossils.</p>	<p>KNOWLEDGE OF ARCHAEOLOGICAL AND PALEONTOLOGICAL TERMS AND CONDITIONS</p>

Species at Risk in Nunavut

This list includes species listed on one of the Schedules of SARA (Species at Risk Act) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

a) 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.

(b) 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.

(c) 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.

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

Terrestrial Species at Risk	COSEWIC Designation	Schedule of SARA	Government with Lead Management Responsibility
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross' Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern Population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex)	Schedule 1 (<i>anatum</i>) Schedule 3 (<i>tundrius</i>)	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peary Caribou	Endangered	Schedule 1	Government of Nunavut
Barren-ground Caribou (Dolphin and Union population)	Special Concern	Schedule 1	Government of Nunavut
Polar Bear	Special Concern	Schedule 1	Government of Nunavut
Red Knott (<i>rufa</i> subspecies)	Endangered	Pending	EC
Red Knot (<i>islandica</i> subspecies)	Special Concern	Pending	EC
Porsild's Bryum	Threatened	Pending	GN
Horned Grebe (Western population)	Special Concern	Pending	EC
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut
Atlantic Cod, Arctic Lakes	Special Concern	No Schedule	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (Hudson Bay population)	Endangered	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO

CONDITIONS ANNEXED TO AND FORMING PART OF LAND USE PERMIT NUMBER N2017N0017

Amended June 18, 2018

Failure to comply with any term and condition issued as part of this permit is an offence under the Territorial Lands Act. Every person who commits an offence is liable, on summary conviction, for a first offence, to a fine not exceeding \$100 000, and for a second or subsequent offence, to a fine not exceeding \$200 000. Please note that an offence that is committed on more than one day constitutes a separate offence for each day on which it is committed or continued.

31 (1) (a) – Location and Area

1.	The Permittee shall not conduct this land use operation on any land(s) not designated in the accepted application, unless otherwise authorized in writing by the Engineer.	AUTHORIZED AREA OF ACTIVITY
2.	<p>a) The Permittee shall offset vehicle travel in areas without a snow covered surface.</p> <p>b) The Permittee shall confine the line to a maximum width of 10 metres unless otherwise authorized in writing by a Land Use Inspector.</p>	OFFSET VEHICLE TRAVEL
3.	The Permittee shall locate all camps on gravel, sand or other durable land.	CAMP LOCATION
4.	The Permittee shall use existing campsite.	CAMP LOCATION
5.	The Permittee shall locate all lines, trails and rights-of-way to be constructed parallel to streams a minimum of thirty one (31) meters from any stream except at crossings unless otherwise authorized in writing by a Land Use Inspector.	PARALLELLING STREAMS
6.	The Permittee shall not erect camps or store/stage material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use.	STORAGE ON ICE

31 (1) (b) – Time

7.	The Permittee's Field Supervisor shall contact or meet with a Land Use Inspector at the Department of Indigenous and Northern Affairs Canada, phone number (867) 975-4517; at least 48 hours prior to the commencement of this land use operation.	CONTACT INSPECTOR
8.	<p>The Permittee shall advise a Land Use Inspector at least 10 days prior to the completion of the land use operation of:</p> <p>a) a plan for removal or storage of equipment and materials, and;</p> <p>b) when final clean-up and restoration of the lands used will be completed.</p>	REPORTS BEFORE REMOVAL
9.	The Permittee's Field Supervisor shall provide notification of commencement of the land use operation within 10 days, to the Engineer at the Iqaluit office of the Department of Indigenous and Northern Affairs Canada either by emailing landsmining@aadnc.gc.ca or by telephone at (867) 975-4283.	NOTICE TO ENGINEER

10.	<p>The Permittee shall provide updated locations of the following activities, if applicable, related to this project to the Inspector and Engineer within 10 days of establishment :</p> <ul style="list-style-type: none"> a) Campsite b) Fuel caches c) Airstrip d) Drill laydown area e) Quarry locations <p>All coordinates must be provided in degree/min/sec format in NAD 83.</p>	UPDATE LOCATIONS
11.	<p>The Permittee shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of this land use operation, the following information:</p> <ul style="list-style-type: none"> a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served, b) alternates, and; c) all the indirect methods for contacting the above person(s). 	IDENTIFY AGENT
12.	<p>The Permittee shall submit an annual report to the Engineer by March 30 of each year of permitted activities. The annual report must contain, but not limited to, the following information:</p> <ul style="list-style-type: none"> a) a technical summary of the activities undertaken for the year, b) a table and map showing the following items, if applicable, with exact coordinates in degree/min/sec format, in NAD 83: <ul style="list-style-type: none"> i. All drilling locations ii. All fuel caches iii. Any other locations where activities were conducted c) a work plan for the following year, d) any progressive reclamation work undertaken. 	ANNUAL REPORTING
13.	<p>The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.</p>	CLEAN-UP
14.	<p>The Engineer reserves the right to impose closure to any area to the Permittee in periods when dangers to natural resources are severe.</p>	CLOSURE

31 (1) (c) – Equipment

15.	<p>The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector.</p>	ONLY APPROVED EQUIPMENT
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16.	The Permittee shall use a forced-air fuel-fired incinerator to incinerate all combustible garbage and debris. If no incinerator is being established on site, garbage must be backhauled to an approved disposal facility.	INCINERATORS
17.	The Permittee shall keep all garbage and debris in a covered container until disposed of at an approved facility. Garbage must be stored in such a manner as to prevent access by wildlife.	GARBAGE CONTAINERS
18.	The Permittee shall ensure that 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 fuel caches and drill sites. All activities should be conducted according to the approved Spill Response Plan.	SPILL RESPONSE KIT

31 (1) (d) - Methods and Techniques

19.	The Permittee shall ensure that there is no blasting of any kind under this quarry permit.	NO BLASTING
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31 (1) (e) - Type, Location, Capacity and Operation of Facilities

20.	The Permittee shall not locate any sump within thirty one (31) metres of the normal high water mark of any water body. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances do not enter a waterway unless otherwise authorized.	SUMPS FROM WATER
21.	The Permittee shall backfill and restore all sumps prior to the expiry date of this permit or immediately following completion of activity.	BACKFILL SUMPS
22.	The Permittee shall: <ul style="list-style-type: none"> a) backfill sumps with sufficient material to ensure that no hollows or cavities result from settling of the material; b) Overlap the replaced material a minimum of one (1) metre beyond the edges of the existing sump wall. 	BACKFILL SUMP OVERLAP
23.	The Permittee shall ensure that the land use area is kept clean and tidy at all times.	CLEAN WORK AREA
24.	The Permittee shall clearly stake and flag pit and quarry boundaries so they remain visible to other land users throughout the year and do not present a hazard to overland travel.	QUARRY IDENTIFICATION
25.	The Permittee shall not conduct any quarrying activity within thirty-one (31) meters of the high water mark of any water body.	LOCATION OF QUARRY ACTIVITY
26.	The Permittee shall locate any screening and crushing equipment to be utilized on stable ground, at a location with ready access to stockpiles.	LOCATION OF QUARRYING EQUIPMENT

27.	The Permittee shall only treat petroleum and hydrocarbon contaminated soils at the landfarm facility. Materials contaminated with other substances must not be stored at the land farm and must be disposed of at an authorized facility.	LANDFARM OPERATIONS
28.	The Permittee shall ensure that all equipment used for aeration in the landfarm operation has been cleaned off within the landfarm facilities prior to exiting.	LANDFARM EQUIPMENT

31 (1) (f) - Control or Prevention of Flooding, Erosion and Subsidence of Land

29.	The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.	NATURAL DRAINAGE
30.	The Permittee shall not use the bed of streams for access routes except for the purpose of crossing the streams unless otherwise authorized by a Land Use Inspector.	STREAM BEDS ACCESS
31.	The Permittee shall install erosion and sediment mitigation measures on disturbed areas before, during and after construction and as the land use operation progresses.	EROSION CONTROL
32.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING
33.	The Permittee 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.	VEHICLE MOVEMENT FREEZE-UP
34.	The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs.	SUSPEND OVERLAND TRAVEL

31 (1) (g) - Use, Storage, Handling and Disposal of Chemical or Toxic Material

35.	The Permittee shall remove all garbage and debris from the area of the land use operation to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE
36.	The Permittee shall deposit all sewage into a sump.	SEWAGE DISPOSAL
37.	The Permittee shall store all fuel and chemicals in such a manner as to prevent access by wildlife	STORAGE
38.	The Permittee shall incinerate all combustible wastes daily and remove ash from incineration activities.	GARBAGE DISPOSAL
39.	The Permittee shall backhaul and dispose all combustible waste petroleum products at an approved disposal facility unless there is an approved waste oil burner on site.	WASTE PETROLEUM DISPOSAL

40.	The Permittee shall backhaul and dispose of all hazardous wastes at an approved waste disposal facility.	WASTE CHEMICAL DISPOSAL
41.	The Permittee shall report all spills immediately in accordance with instructions contained in "NT-NU Spill Report" form and to the twenty four (24) hour spill report line (867)920-8130.	REPORT CHEMICAL AND PETROLEUM SPILLS
42.	The Permittee shall not allow petroleum products or chemicals to spread to surrounding lands or into water bodies.	CONTAINMENT OF PETROLEUM PRODUCTS AND CHEMICALS

31 (1) (h) - Wildlife and Fisheries Habitat

43.	The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation.	HABITAT DAMAGE
44.	The Permittee shall not obstruct the movement of fish while conducting this land use operation.	FREE FISH MOVEMENT
45.	The Permittee shall not harass wildlife. This includes persistently worrying, chasing, or disturbing large groups of animals.	HARASSMENT OF WILDLIFE
46.	The Permittee shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Permittee shall take precaution to avoid further interaction and/or disturbance (e.g. a 100 meter buffer around the nests). If active nests are discovered (i.e. with eggs or young) the Permittee shall avoid these areas until nesting is complete and the young have left the nest.	WILDLIFE SENSITIVITY
47.	The Permittee shall not touch, feed or entice wildlife to approach by holding out of setting out decoys or any such devise, foodstuffs or bait of any kind.	WILDLIFE INTERACTIONS

31 (1) (k) - Petroleum Fuel Storage

48.	The Permittee shall not place any petroleum fuel storage containers within thirty-one (31) metres of the normal high water mark of any water body.	FUEL STORAGE
49.	The Permittee shall locate mobile fuel facilities on land when stationary for any period of time exceeding twelve (12) hours.	FUEL ON LAND
50.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
51.	<p>The Permittee shall:</p> <ul style="list-style-type: none"> a) examine all fuel storage containers for leaks a minimum of once every seven (7) days during operations; b) repair all leaks immediately; c) examine all fuel storage containers for leaks immediately upon delivery. 	CHECK FOR LEAKS

52.	The Permittee shall construct a dyke around each stationary fuel container where any one container, or group of fuel containers piped together, has a capacity exceeding 50,000 litres.	DYKE FUEL CONTAINERS
53.	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
54.	The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times.	IMPERMEABLE DYKE
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58.	The Permittee shall remove and treat hydrocarbon contaminated soils on site or transport them to an approved disposal site for treatment.	CONTAMINATED SOIL

31 (1) (m) - Matters Not Inconsistent with the Regulations

59.	The Permittee shall display a copy of this permit in a conspicuous place in each campsite established to carry out this land use operation.	DISPLAY PERMIT
60.	The Permittee shall keep on hand, at all times during this land use operation, a copy of the Land Use Permit.	COPY OF PERMIT
61.	The Permittee shall conspicuously display the land use permit number on all vehicles and equipment.	DISPLAY PERMIT NUMBER
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ARCHAEOLOGICAL & PALEONTOLOGICAL TERMS AND CONDITIONS

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	<p>Permission to resume land use operation must be obtained from the engineer. At such time the Engineer may, at his/her discretion, require that you have an archaeologist or palaeontologist perform the following functions:</p> <ul style="list-style-type: none"> (a) Survey (b) Inventory and documentation of the archaeological or (c) Paleontological resources of the land use area (d) Assessment of potential for damage to archaeological or paleontological sites (e) Mitigation (f) Marking boundaries of archaeological or paleontological sites (g) Site restoration 	
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Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon	Special Concern (<i>anatum-tundrius</i> complex)	Schedule 1 (<i>anatum</i>) Schedule 3 (<i>tundrius</i>)	Government of Nunavut
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Atlantic Cod, Arctic Lakes	Special Concern	No Schedule	DFO
Atlantic Walrus	Special Concern	Pending	DFO
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Beluga Whale (Hudson Bay population)	Endangered	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO



Land Administration
P.O. Box 100
IQALUIT, NU, X0A 0H0
Phone: 867-975-4283
Email: aadnc.landsmine.aandc@rcaanc-cirnac.gc.ca

April 1, 2022

Environment & Climate Change Canada
2121 Route Transcanadienne
Dorval, QC
H9P 1J3

Dear Jean-Philippe Cloutier-Dussault:

Re: Land Use Permit # N2017N0017
Type of Operation: Research Facility
Location: Eureka, Baffin, NU, NTS 49G

Further to our letter dated April 1st, 2022, this will confirm that the above land use permit is hereby extended from July 3rd, 2022 to July 3rd, 2024.

Please note that this will be the final extension permitted on this Land Use Permit. If your activities extend beyond the expiry date we ask that you submit a new application for Land Use Permit.

All conditions annexed to land use permit N2017N0017 will apply to this extension.

Sincerely,



Jeremy Fraser
Land Administrator Specialist

Water Licence



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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: 8BC-EUR2131

July 22, 2021

Asif Mohammed
Real Property Management Division
Environment & Climate Change Canada
867 Lakeshore Rd, GROUND
Office L128
Burlington, ON L7S 1A1

Email: asif.mohammed@canada.ca

RE: NWB Amended Renewal Water Licence No: 8BC-EUR2131

Dear Asif Mohammed:

Please find attached Amended Renewal Water Licence Licence No: 8BC-EUR2131 (Renewal Licence or Licence) issued to Environment and Climate Change Canada (ECCC) by the Nunavut Water Board (NWB or Board) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)*. The terms and conditions of the attached Licence related to the use of Water and the deposit of Waste are an integral part of this approval.

If the Licensee contemplates the continuing of this Undertaking after the Water Licence expires, it is the responsibility of the Licensee to apply to the NWB for a renewal water licence. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the renewal Water Licence. Note that if the Licence expires before the NWB issues a new one, then the use of Water and the deposit of Waste must cease, or the Licensee may be in contravention of the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWSRTA)*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least **three (3) months** prior to the Licence expiry date. It should be noted that in accordance with s. 75(1)(a) of the *Nunavut Planning and Project Assessment Act (NuPPAA)*, the Board is not allowed to issue a permit or authorization for any project proposal that has not been submitted to the Nunavut Planning Commission (NPC) in accordance with s. 76 of *NuPPAA*.

If the Licensee contemplates or requires an amendment to this Licence, the NWB may decide, in the public's interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment

process. The process and timing may vary depending on the scope of the amendment; however, a minimum of **sixty (60) days** is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and are acknowledged by the Manager of Licensing.

Sincerely,

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

Enclosure: Licence No: 8BC-EUR2131

Cc: Distribution List – Qikiqtani

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DECISION

LICENCE NUMBER: 8BC-EUR2131

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated June 18, 2021 for an amendment to Water Licence made by:

ENVIRONMENT AND CLIMATE CHANGE CANADA

to allow for the use of Water and the deposit of Waste during camp operations and activities related to the operation and routine maintenance of the federal weather and scientific station that include quarry expansion and operation, dust suppression, temporary storage of contaminated soils, runway surface repair, and construction of a new multi-purpose building at the Environment and Climate Change Canada's Eureka High Arctic Weather Station (HAWS) located on Ellesmere Island within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Project Extents:

Latitude: 80° 0' 10.665" N	Longitude: 85° 54' 57.015" W
Latitude: 79° 59' 21.095" N	Longitude: 85° 57' 5.209" W
Latitude: 79° 57' 18.804" N	Longitude: 85° 18' 51.225" W
Latitude: 79° 56' 29.467" N	Longitude: 85° 21' 1.742" W

Camp Location(s):

Latitude: 79° 59' 29.268" N	Longitude: 85° 52' 17.112" W
Latitude: 79° 59' 21.851" N	Longitude: 85° 53' 59.853" W

DECISION

After having been satisfied that the Application is for a proposal that was previously reviewed by the Nunavut Planning Commission (NPC) and for which the conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, and January 22, 2021, remain applicable, as determined by the NPC¹, and as determined by the Nunavut Impact Review Board (NIRB)², a review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*, the NWB decided that the application could proceed through the regulatory process. In accordance with s. 55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA or Act)* and Article 13 of the *Nunavut Agreement*, public notice of the Application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *Nunavut Agreement* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

¹ Nunavut Planning Commission, Conformity Determination, February 9, 2021.

² Nunavut Impact Review Board (NIRB) Screening Determination, April 21, 2021.

Licence No: 8BC-EUR1621 be amended and renewed as Licence No: 8BC-EUR2131 subject to the terms and conditions contained therein. (Motion #: 2021-B1-08)

Signed this 22nd day of July, 2021 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

WATER LICENCE NO: 8BC-EUR2131

I. BACKGROUND

The water licence amendment/renewal application (Application) being considered by the Nunavut Water Board (NWB or Board) was filed by Environment and Climate Change Canada (the Applicant, Licensee or ECCC) on June 18, 2021 to seek renewal of Type “B” Water Licence No: 8BC-EUR1621 resulting in the issuance of Water Licence No: 8BC-EUR21231 (Licence) for the Eureka High Arctic Weather Station (HAWS or Eureka) Project. The Project is located 425 km north-northwest of Grise Fiord within the Qikiqtani Region of Nunavut.

Facilities at Eureka include operation of water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, incinerator.

ECCC sought to continue the above stated activities. New activities included quarry expansion and temporary storage of contaminated soils.

II. FILE PROCEDURAL HISTORY

On February 6, 2005, the Nunavut Water Board issued a type “B” Water Licence 3BC-EUR0611 to Environment Canada (EC) to allow for the use of water, the disposal of waste and handling or storage of petroleum products or hazardous materials for the Eureka Weather Station. The Licence expired on January 30, 2011.

On June 7, 2011, the NWB issued a type “B” Water Licence 3BC-EUR1116 to EC to allow for the continued use of water and the disposal of waste for the Eureka High Arctic Weather Station (HAWS). The Licence expiry was set at June 7, 2016.

On July 14, 2015, Environment and Climate Change Canada (ECCC) sought to make amendments to the original scope of the licence and submitted an amendment application for Water Licence 3BC-EUR116. On January 20, 2016, the NWB distributed this application for a thirty (30) day review by interested parties. However, given the facts that the Licence was close to its expiration date, and the length of the time required of the review process, which is preceded by the NPC and NIRB review processes the Licensee was advised to withdraw the amendment application and submit a new, combined amendment/renewal application. On June 7, 2016 a combined amendment-renewal application (the Application) for the type “B” Water Licence 3BC-EUR116 was filed by ECCC, which was approved by the Board as licence No: 8BC-EUR1621 on August 11, 2016. On July 18, 2018, the NWB issued an amendment to the licence that authorized the use of water from additional water source (West Remus Creek) for dust suppression, construction of a haul road and water crossing over Blacktop Creek and the development of a new quarry.

On February 9, 2021, the Nunavut Planning Commission (NPC) issued a conformity determination stating that previous conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, and January 22, 2021, remain applicable. The NPC

deemed the Project proposal as conforming to the North Baffin Regional Use Plan. On April 21, 2021, the Nunavut Impact Review Board (NIRB) issued its screening determination that the review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*.

On June 18, 2021, ECCC submitted an application package for a renewal and amendment of licence No: 8BC-EUR1621. The requested changes included water crossings, quarry expansion, and temporary storage of contaminated soil, as well as renewing the licence term to 2031.

III. GENERAL CONSIDERATIONS

Term of Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWSRTA)* s. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The Applicant requested extending the term of the Licence to August 2031. The NWB did not receive from public any objections or concerns with the requested term. Although the Board has accepted with the requested term, the Board would like to remind that the Licensee should do its best to comply with all terms and conditions of Licence. The Licensee is advised that the Renewal Licence No: 8BC-EUR2131 is to supersede the current Water Licence No: 8BC-EUR1621.

A. Scope, Definitions and Enforcement

Scope

The Licence is to allow for the use of water and the deposit of waste in support of activities related to the operation of the federal weather and scientific station that operation of water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, incinerator, construction of a new multi-purpose building, quarry expansion, and temporary storage of contaminated soils.

Enforcement

To ensure that the Licensee complies with the terms and conditions of the Licence, Inspectors designated and empowered by the Minister of Northern Affairs (Minister) may inspect or examine works, activities, and undertakings associated with the use of water and the deposit of waste for the purposes of exercising their powers in accordance with the *NWSRTA*.³

Compliance

ECCC should note that compliance with the terms and conditions of this Licence does not necessarily absolve the Licensee from the responsibility to comply with all other applicable legislation, guidelines, and directives.

B. General Conditions

Part B of the Licence addresses the general terms and conditions that apply to the Undertaking,

³ Sections 85-88 of the *NWSRTA*.

such as annual report submission, protocols for handling documents related to the Licence, posting of signage at sites associated with the Undertaking, and more.

C. Conditions Applying to Water Use

The Licensee shall obtain all fresh water in amounts and from the sources described in Table 1 in Part C, Item 1. The volume of water for all purposes under this Licence shall not exceed ten thousand (10,000) cubic metres per year and two hundred and ninety-nine (299) cubic metres per day. The Eureka HAWS water reservoir is also the source of water for the Department of National Defense (DND)'s Canadian Force Station (CFS) Eureka. Water from the Eureka HAWS reservoir is trucked to the DND CFS-Eureka station and discharged into a cistern system. While there have been two new water sources authorized under this Licence, the total authorized withdrawal annual and daily rates remain the same.

D. Conditions Applying to Waste Disposal

Waste facilities at Eureka include a sewage lagoon, at least four solid waste disposal sites (landfills/dumps), a landfarm, and a temporary contaminated soil storage area. The sewage lagoon at the Eureka HAWS is a single cell, engineered retention lagoon and is located to the south of the complex in the immediate vicinity of the Fjord. The Licensee plans to construct a wastewater treatment plant in the future.

The wastewater is collected in a storage tank where the wastewater is pumped to the lagoon where solids are allowed to settle and limited decomposition takes place. The sewage lagoon is usually discharged twice a year, once at the beginning of July as capacity has been reached and again at the end of August in order to provide sufficient capacity to hold wastewater over the following winter months. The decanting process normally takes about 48 hours. Wastewater samples are collected at the discharge pipe. Samples are analyzed for biochemical oxygen demand (BOD₅), total suspended solids (TSS), ammonia, fecal coliforms, pH, conductivity, metals, major cations, sulphates, oil and grease and total phenol.

East Landfill is used to contain non-organic/non-hazardous waste that cannot be incinerated and is located at the east end of the landing strip (79° 59.484'N and 85° 46.335'W). Non-hazardous ash from the incinerator is disposed of at this landfill. Drum Crushing site is located south of the runway (79° 59.374'N and 85° 55.586'W) and west of the East Landfill. This is a lined area used for crushing of drums prior to disposal. Previous records indicate that other landfills exist: Ash Landfill used to receive ash from the incineration of kitchen wastes (although since 2000 there has been no ash deposited at this site, which has been diverted to the East Landfill); Asbestos Landfill that received asbestos removed from buildings on site; and West Landfill that contained kitchen waste and buried fuel drums. The Licensee noted that other historic landfills could exist, but locating historical plans and drawings of these landfills proved unsuccessful.

In 2020, during runway repair, the Licensee discovered petroleum hydrocarbon-impacted soils while excavating the main apron area. Approximately 3,200 m³ of contaminated soil were placed in a lined, bermed area. The stockpile area was constructed to the south of the airstrip, near an existing landfarm. The base liner was constructed from high-density polyethylene. Berms were constructed from native soil in the stockpile area. The Licensee did not receive the Board's

approval for the construction of this Temporary Contaminated Soil Storage. An as-built drawing was submitted with the Application. The Licensee stated that it retained “a consultant working on preparing a remedial options analysis and remedial action plan which tentatively includes a sampling plan to characterize the stockpile” in summer 2020. Thus, the Board included a provision for the Licensee to submit a remedial options analysis and remedial action plan with the 2021 Annual Report. The Board also included Effluent limits for any discharges from the Temporary Contaminated Soil Storage under Part D, Item 11.

Previously set limits for Effluent discharge from the Landfarm and Landfills remain unchanged in this Licence.

It should be noted that ECCC included the request for open burning of untreated wood. The Board granted the request and set a number of conditions for the Licensee to adhere during open burning of acceptable wood products.

E. Conditions Applying for Camps, Access Infrastructures and Operations

The Licensee shall implement the Plan entitled *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut* prepared by Nuna East Ltd. and dated May 2021 as approved by the Board with the issuance of this Licence. In addition, the Board has approved the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* prepared by Public Services and Procurement Canada (PSPC) and dated June 2021.

F. Conditions Applying to Modifications

The Applicant is required to obtain permission from the NWB for modifications that do not meet the criteria of Part F, Item 1 of the Licence. As per Part F, Item 2, without written approval from the NWB, the Licensee shall not carry out these modifications. Changes that do not meet the definition of a Modification under the Licence or the requirements of Part F may be considered amendments to the Licence.

G. Conditions Applying to Spill Contingency Planning

The Board has approved the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 that was submitted as additional information with the Application.

H. Conditions Applying to Closure and Reclamation or Temporary Closure

The Board has approved the *Interim Abandonment & Restoration Plan* prepared by Public Services and Procurement Canada (PSPC) and dated June 2021 that was submitted as additional information with the Application. At least one (1) year prior to final abandonment, the Licensee shall submit to the Board for approval in writing, a Final Abandonment and Restoration Plan. The Plan shall include, in addition to the content of the Interim Plan, the following:

- a. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the

- contamination;
- b. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
- c. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan:
- d. An implementation schedule for the completion of restoration; and
- e. A detailed monitoring program.

I. Conditions Applying to the Monitoring Program

The requirement to submit for review of the Board, within ninety (90) days of issuance of this Licence, a revised Quality Assurance / Quality Control (QA/QC) Plan was transferred from the previous Licence. The Licensee committed to comply with the requirement. The QA/QC Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 8. The Plan shall include a cover letter from an accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence. Any modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.



NUNAVUT WATER BOARD RENEWAL WATER LICENCE

Licence No: 8BC-EUR2131

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

ENVIRONMENT AND CLIMATE CHANGE CANADA

(Licensee)

867 LAKESHORE RD, GROUND, OFFICE L128, BURLINGTON, ON, L7S 1A1

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of Waste for a period subject to restrictions and conditions contained within this Licence Renewal-Amendment:

Licence Number/Type: **8BC-EUR2131 / TYPE "B"**

Water Management Area: **NANSEN AND EUREKA SOUNDS WATERSHED (59)**

Location: **EUREKA HIGH ARCTIC WEATHER STATION (HAWs)
QIKIQTANI REGION, NUNAVUT**

Classification: **8. OTHER UNDERTAKING**

Purpose: **DIRECT USE OF WATER AND DEPOSIT OF WASTE**

Quantity of Water use not to Exceed: **TEN THOUSAND (10,000) CUBIC METRES PER ANNUM
AT A MAXIMUM RATE OF TWO HUNDRED AND
NINETY-NINE (299) CUBIC METRES PER DAY**

Date of Licence Issuance: **JULY 22, 2021**

Expiry of Licence: **JULY 21, 2031**

This Renewal Licence, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Lootie Toomasie
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of Water and the deposit of Waste for an undertaking classified “Other” as per Schedule 1 of the *Regulations* at the Eureka High Arctic Weather Station (HAWS) Project, located approximately 425 km north-northwest of Grise Fiord within the Qikiqtani Region, Nunavut.

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the deposit of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

“**Act**” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Addendum**” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

“**Amendment**” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

“**Applicant**” means the Licensee;

“**Appurtenant Undertaking**” means an undertaking in relation to which a use of Water or a deposit of Waste is permitted by a licence issued by the Board;

“**Board**” means the Nunavut Water Board established under the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Effluent**” means treated or untreated liquid Waste material that is discharged into the environment from a structure such as a settling pond, landfarm or a treatment plant;

“**Engineer**” means a professional engineer registered to practice in Nunavut in

accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

“Fuel Storage and Transfer Area” means the bulk fuel storage and the area around the connection point between a delivery truck, railcar, or vessel and bulk fuel as described in the *Emergency Plan for Storage Tank Systems of Petroleum and Allied Petroleum Products at Eureka High Arctic Weather Station (HAWS)* dated April 2021 and submitted with the application dated June 18, 2021;

“Greywater” means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Wastes;

“High Water Mark” means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

“Inspector” means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

“Landfarm Facility” means the facility for the petroleum hydrocarbon contaminated soil treatment situated adjacent to the main complex area as referenced in application dated June 18, 2021;

“Landfill” means the facility designed to contain non-hazardous solid waste as described in the application dated June 18, 2021;

“Licensee” means the holder of this Licence;

“Modification” means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“Nunavut Agreement” means the *“Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada”*, including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“Quarry or Quarries” means the area of surface excavation for extracting rock material for use as construction materials in the development of infrastructure and facilities for the project as described in the application dated June 18, 2021;

“Regulations” means the *Nunavut Waters Regulations* SOR/2013-69 18th April, 2013;

“Secondary Containment” means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of

the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles;

“Sewage” means all oillet Wastes and greywater;

“Sewage Treatment Facility” means the sewage lagoon as described in the application dated June 18, 2021;

“Solid Waste Disposal Facilities” means the structures and associated area designed to contain solid waste as described in the application dated June 18, 2021;

“Spill Contingency Plan” means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

“Sump or Sumps” A structure or depression that collects, controls, and filters liquid Waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid Waste;

“Temporary Contaminated Soil Storage” means the lined, bermed area for temporary storage of petroleum hydrocarbon contaminated soil (estimated quantity of 3,200 m³) excavated from the main apron area of the airport in June 2020 as described in the application dated June 18, 2021;

“Toilet Wastes” means all human excreta and associated products, but does not include greywater;

“Waste” means, as defined in s. 4 of the *Act*, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

“Waste Disposal Facilities” means the Sewage Treatment Facility, Landfill, Temporary Contaminated Soil Storage, and Landfarm facilities;

“Water” or “Waters” means waters as defined in section 4 of the *Act*;

“Water Supply Facility” means the area and associated intake infrastructure at Station Creek, West Remus Creek, and Blacktop Creek, the reservoir, storage tanks and piping as described in the application dated June 18, 2021.

3. Enforcement

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;

- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of Waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:
 - a. A summary report of Water use and Waste disposal activities;
 - b. Quantity of Water (in cubic metres/day) obtained for domestic and other purposes from all sources for the reporting period;
 - c. Quantity of Waste disposed of on on-site Waste Disposal Facilities;
 - d. Quantity of Waste backhauled to an approved facility for disposal;
 - e. A list of unauthorized discharges and a summary of follow-up actions taken;
 - f. Any revisions to the management plans, as required by Part B, Item 6, submitted in the form of an Addendum;
 - g. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - h. A summary of all information requested and results of the Monitoring Program;
 - i. A list of seeps originating from quarry activities, water quality monitoring results, and measures taken to prevent the flow of seep into nearby water bodies;
 - j. GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) for the locations of all temporary camps established in support of the project if the actual coordinates differ from that provided in the Application;
 - k. A summary, including photographic records before, during and after any relevant construction activities or Modifications and/or major maintenance work carried out on facilities under this Licence and an outline of any work anticipated for the next year;
 - l. Detailed discussion on the performance, installation, and evaluation, including the use of photographic record, of the primary and secondary containment functions used in fuel storage to safeguard impacts to freshwaters;
 - m. A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted;
 - n. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.
2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this Project at least thirty (30) days prior to any such change.

3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 1.
4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
7. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:
 - (a) **Manager of Licensing:**
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nwb-oen.ca
 - (b) **Inspector Contact:**
Manager of Field Operations, CIRNA
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4284
Fax: (867) 979-6445
9. The Licensee shall submit an electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.

10. The Licensee shall ensure that all documents or correspondence submitted by the Licensee to the NWB are received and acknowledged by the Manager of Licensing.
11. This Licence is assignable as provided for in Section 44 of the *Act*.
12. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all fresh Water in amounts and from the sources described in Table 1. The volume of Water used for all purposes under this Licence shall not exceed ten thousand (10,000) cubic metres per year and two hundred and ninety-nine (299) cubic metres per day.

Table 1: Water Use Authorized for all Purposes

Source	Volume (m ³ /year)	Purpose
Station Creek	8,775	Domestic camp and other use
West Remus Creek	800	Dust suppression
Blacktop Creek	425	Dust suppression
Annual Total	10,000 m³	
Daily total	299 m³	

2. A freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board, shall be maintained at all dykes and earth-fill structures associated with the Water Supply Facilities.
3. The Licensee shall submit to the Board for approval in writing, the following information at least thirty (30) days prior to the use of Water of a sufficient volume that the source water body may be drawn down: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.
4. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.
5. The Licensee shall not conduct any work below the ordinary High Water Mark of any water body unless approved by the Board in writing.
6. The Licensee shall not cause erosion to the banks of any water body and shall provide necessary controls to prevent such erosion.
7. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee shall dispose of and contain all non-combustible solid wastes at the appropriate landfill of the Solid Waste Disposal Facilities or as otherwise approved by the Board.
3. The Licensee is authorized to dispose of all acceptable food Waste, paper Waste and untreated wood products in an incinerator.
4. The Licensee shall backhaul and dispose of all hazardous Wastes, Waste oil and non-combustible Waste generated through the course of the operation at a licensed Waste disposal site.
5. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of Waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the Board in writing.
6. The Licensee is authorized to open burn untreated wood as per following conditions:.
 - a. The Licensee shall follow the *Government of Nunavut Department of Environment, Environmental Guideline for the Burning and Incineration of Solid Waste* (January 2012) and shall not allow the open burning of plastics, wood treated with preservatives, electrical wire, Styrofoam, asbestos or painted wood;
 - b. Solid waste that is conditionally suitable for open burning is untreated wood wastes only;
 - c. Wood and other acceptable products will be kept as dry as possible before and during burning;
 - d. The size of the burn pile will be minimized, and a “**hot burn**” maintained to create an efficient burn using consistent/constant feed rates to avoid over-feeding and damping the fire;
 - e. Burning will only be undertaken during favorable weather conditions (i.e. will not be undertaken during periods of extreme wind or during wet rain conditions);
 - f. Fires will be completely extinguished to ensure that any smoldering of material does not persist;
 - g. The burn pits are to be located on appropriate surfaces (bedrock, gravel or sand) and in areas such that impacts to surface water and groundwater drainage do not occur;
 - h. The burn pits are constructed, operated and maintained so that any materials to be disposed of are contained during the process, including ashes;
 - i. Any residual waste and ashes be collected and disposed of in an appropriate, approved facility; and

- j. Surface water runoff from the burn pit areas shall be managed to prevent any direct or indirect flow into a water body and that no additional impacts to water, including groundwater, are created.
7. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Wastes from HAWS Project prior to any backhauling and disposal of Wastes to those communities.
8. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste. These records shall be made available to an Inspector upon request.
9. The Licensee shall direct all Sewage to the Sewage Treatment Facility or as otherwise approved by the Board in writing.
10. Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Biochemical Oxygen Demand BOD ₅	100 mg/L
Total Suspended Solids	120 mg/L
Fecal Coliforms	1 x 10 ⁶ CFU/100 mL
pH	between 6.0 and 9.0
Oil and grease	No visible sheen

11. Effluent discharge from the Landfarm Facility at Monitoring Program Station EUR-4 and Temporary Contaminated Soil Storage at Monitoring Program Station EUR-6 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Benzene	370 (µg/L)
Toluene	2 (µg/L)
Ethylbenzene	90 (µg/L)
Lead	1(µg/L)
Phenols	20 (µg /L)
Oil and Grease	15 (mg/L) and no visible sheen
pH	Between 6.0 and 9.0

12. If Effluent does not meet the Effluent quality limits of Part D, Items 10 and 11, it shall be considered hazardous waste and disposed of off-site at an approved facility.
13. A freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board in writing, shall be maintained at all dams, dykes and earth-fill structures associated with the Sewage Treatment Facility, Temporary Contaminated Soil Storage or Landfarm Facility.

14. The Licensee shall provide at least ten (10) days written notification to an Inspector, prior to initiating any Effluent discharge from the Sewage Treatment Facility, Temporary Contaminated Soil Storage and Landfarm Facility.
15. The Licensee shall maintain the Waste Disposal Facilities to the satisfaction of the Inspector and operate in such a manner as to prevent structural failure.
16. The Licensee shall, prior to the removal of any treated soil for future use, confirm with the Government of Nunavut, Environmental Protection Service that the soils have been treated to meet all legislatively-required treatment objectives.
17. The Licensee shall not mix or blend soils for the expressed purpose of attaining the specific limits of the relevant quality criteria.
18. The Licensee shall submit a remedial options analysis and remedial action plan for Board approval for the Temporary Contaminated Soil Storage within the 2021 Annual Report.

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall implement the *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut Nuna East Ltd.* dated May 2021 as approved by the Board with the issuance of this Licence.
2. The Licensee shall implement the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* dated June 2021 as approved by the Board with the issuance of this Licence.
3. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.
4. All surface runoff and/or discharge from drainage management systems, during the construction of any facilities and infrastructure associated with this Project, including from quarry development at Monitoring Program Station EUR-5, referred to in Part I, Item 1, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Total Suspended Solids	50 mg/L
Oil and Grease	15 mg/L and no visible sheen
pH	Between 6.0 and 9.5

5. The Licensee shall only use aggregate for construction of infrastructure or facilities under this Licence that is demonstrated to be not potentially acid generating, non-metal leaching and free of contaminants by, carrying out appropriate analyses and retaining the results

and reports for reference for submission on request by the NWB or an Inspector, or have the results submitted with the Annual Report.

6. The Licensee shall construct all winter lake and stream crossings, including ice bridges, entirely of Water, ice or snow. The Licensee shall minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.
7. The Licensee shall not conduct any land-based activity within thirty-one (31) metres of the ordinary High Water Mark of any water body, unless otherwise approved by the Board.
8. Stream crossing shall be a minimum of five hundred (500) meters from spawning areas.
9. The Licensee shall locate stream crossings to minimize approach grades. Approaches shall be stabilized during construction and upon completion of the project, to control runoff, erosion and subsequent siltation to any water body.
10. The Licensee shall limit any in-stream activity to low water periods. In-stream activity is prohibited during fish migration.
11. The Licensee shall not cut any stream bank or remove any material from below the ordinary High Water Mark of any water body.
12. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body is prohibited. These materials shall be disposed a distance of at least thirty one (31) metres from the ordinary High Water Mark in such a fashion that they do not enter the Water.
13. The Licensee shall not mobilize heavy equipment or vehicles for trenching or other activities unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.
14. The Licensee shall, during periods of flow and following a major precipitation event, conduct water quality testing on a monthly basis, of any significant water seeps in contact with the roads, earthworks and any flows originating from quarries for criteria listed under Part E, Item 4.
15. The Licensee shall maintain a minimum of thirty-one (31) metres undisturbed buffer zone between the periphery of quarry sites and the ordinary High Water Mark of any water body unless otherwise approved by the Board in writing.
16. The Licensee shall not excavate and/or remove material from the quarry beyond a depth of one (1) metre above the ordinary High Water Mark or above the groundwater table, to prevent the potential contamination of groundwater.

17. A Geotechnical inspection of all engineered facilities related to the management of Water and Waste shall be carried out upon request of an Inspector. The Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations.
18. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facility and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. such Modifications are consistent with the NIRB Screening Decision;
 - d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - e. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part F, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART G: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall implement the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 as approved by the Board with the issuance of this Licence.
2. The Licensee shall prevent any chemicals, petroleum products or Wastes associated with the project from entering Water. All Sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent water body and inspected on a regular basis.
3. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other Waste and contain potential spills.

4. If during the term of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the approved Spill Contingency Plan;
 - b. Report the spill immediately to the NWT/NU 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.
5. The Licensee shall, in addition to Part G, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU 24-Hour Spill Line, if the release is near or into a water body.

PART H: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION OR TEMPORARY CLOSURE

1. The Board has approved the *Interim Abandonment & Restoration Plan* dated June 2021 that was submitted as additional information with the Application.
2. At least one (1) year prior to final abandonment, the Licensee shall submit to the Board for approval in writing, a Final Abandonment and Restoration Plan. The Plan shall include, in addition to the content of the Interim Plan, the following:
 - f. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the contamination;
 - g. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
 - h. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan;
 - i. An implementation schedule for the completion of restoration; and
 - j. A detailed monitoring program.
3. The Licensee shall implement the Final Abandonment and Restoration Plan as approved by the Board.
4. The Licensee shall complete the restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board in writing.
5. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
6. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, 2010. The use of reclaimed soils for the

purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

7. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.

PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain Monitoring Stations at the following locations:

Monitoring Program Station ID	Description	Status
EUR-1	Raw water supply prior to treatment at Station Creek	Active (Volume)
EUR-2	Runoff from the Solid Waste Disposal Facilities	Active (Quality)
EUR-3	Effluent discharge from the Sewage Lagoon to the ocean	Active (Quality, Volume)
	Quantity in cubic metres of sludge removed from the Sewage Lagoon	
EUR-4	Effluent Discharge from the Landfarm	Active (Quality)
EUR-5	Runoff from the quarry development at the exit point of ditches designed to collect and hold runoff water prior to release.	Active (Quality)
EUR-6	Effluent Discharge from the Temporary Contaminated Soil Storage	Active (Quality)
EUR-7	Raw water supply at West Remus Creek	Active (Volume)
EUR-8	Raw water supply at Blacktop Creek	Active (Volume)

2. The Licensee shall measure and record in cubic metres, the daily, monthly and annual quantities of water pumped from Station Creek during the annual recharge of the Eureka water reservoir at Monitoring Program Station EUR-1, from West Remus Creek during dust suppression at Monitoring Program Station EUR-7, and from Blacktop Creek during dust suppression at Monitoring Program Station EUR-8.

3. The Licensee shall measure and record in cubic metres the monthly quantities of water utilized for facility operations, for all purposes.
4. The Licensee shall measure and record in cubic metres the daily quantities of effluent pumped from the Sewage Treatment Facility during release to the environment.
5. The Licensee shall analyze samples prior to the release of Effluent from the Sewage Treatment Facility at EUR-3, for the purpose of demonstrating compliance with the parameters listed under Part D, Item 10.
6. The Licensee shall sample monthly at Monitoring Program Stations EUR-2, EUR-3, EUR-4 and EUR-6 during periods of observed flow and annual discharges. Samples shall be analyzed for the following parameters:

BOD ₅	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Chloride	Total Organic Carbon (TOC)
Total Cadmium	Total Zinc
Total Cobalt	Total Iron
Total Chromium	Total Manganese
Total Copper	Total Nickel
Total Aluminum	Total Lead
Total Mercury	Total Arsenic

7. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.
8. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
9. Licensee shall submit for review of the Board, within ninety (90) days of issuance of this Licence, a revised Quality Assurance / Quality Control (QA/QC) Plan that includes field and laboratory procedures for sampling and analysis. The Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 8. The Plan submission shall include a cover letter from an accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.
10. The Licensee shall annually review the QA/QC Plan submitted under Part I, Item 9 and modify it as required by changes in operations and technology. Revised Plan shall be

submitted to the NWB for review, with an approval letter from an accredited lab confirming adherence to standards set in Part I, Items 7 and 8.

11. Modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.
12. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.



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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

March 23, 2022

File No: 8BC-EUR2131

By Email

Jean-Philippe Cloutier-Dussault
Property Manager
Assets, Real Property and Security Directorate
Environment and Climate Change Canada

Asif Mohammed
Real Property Management Division
Environment & Climate Change Canada
867 Lakeshore Rd, GROUND
Office L128
Burlington, ON L7S 1A1

Email: Jean-Philippe.Cloutier-Dussault@ec.gc.ca

Email: asif.mohammed@canada.ca

Re: Type “B” Water Licence No: 8BC-EUR2131, Eureka High Arctic Weather Station Project - Request for Modification by Environment and Climate Change Canada

Dear Jean-Philippe Cloutier-Dussault and Asif Mohammed:

On February 22, 2022, the Nunavut Water Board (NWB or Board) received a request by Environment and Climate Change Canada (ECCC or Licensee) for a Modification entitled *Temporary Storage of Contaminated Soils, Fuel Storage Tank Systems Inspections and Repairs and Secondary Containment Area for Fuels and Hazardous Materials, Program of Works, and Blacktop Quarry* (Request) to Water Licence No: 8BC-EUR2131 (Licence) issued to ECCC for the Eureka High Arctic Weather Station Project (Project). The Request included the *For-Construction Drawings of the Temporary Contaminated Soils Stockpile* dated June 23, 2020 (IFC) and the *Revised Quarry Operations Plan* dated January 2022 (Plan).

In the Request, the Licensee outlined that it sought Licence Modifications for the following activities:

1. An addition of the second Temporary Contaminated Soil Storage with the capacity of 10,000 m³.
2. Inspection, maintenance and repairs of the fuel storage tanks at the Project;
3. Construction and operation of two additional secondary containment areas for temporary storage of fuel, oils and lubricants;
4. Procurement of aggregate from the Blacktop Quarry and two adjacent areas.

The NWB information relevant to the proposed modifications is available from the Board's ftp site using the following link:

<ftp://ftp.nwb-oen.ca/registry/8%20MISCELLANEOUS/8B/8BC%20-%20Camp/8BC-EUR2131%20ECCC/3%20TECH/F%20MODIFICATION>

On February 22, 2022, the Request was distributed for public review. On March 16, 2022, Crown-Indigenous Relations and Northern Affairs (CIRNA) indicated it had no comments on the Request.

NWB's Review and Decision

The NWB, having fully reviewed the Licensee's Request in the context of interveners' comments, potential impact of the proposed activities on the freshwater environment, and consistency of the proposed activity in relation to the scope of the Licence, determined that the Modifications proposed are consistent with the scope of activities considered under the Licence issued to the Project. Therefore, by way of this correspondence and in accordance with Motion No: 2021-B1-024, the Board authorizes ECCC to undertake the Modifications in accordance with ECCC's Request.

The Board accepts the *Revised Quarry Operations Plan* dated January 2022. The Licensee is advised that the Plan can be implemented upon the issuance of this letter by the Board.

In addition, the Board accepts the *For-Construction Drawings of the Temporary Contaminated Soils Stockpile* dated June 23, 2020. The Licensee is advised that the Board's review of this document is a verification that the proposed activity is consistent with the existing terms and conditions of the Licence and may proceed in accordance with the IFC provided. It should be noted that the Board's acceptance is not intended or offered as any representation regarding the suitability of the plans nor third-party verification of the design, construction, planning or engineering discussed in the document.

Further, in keeping with Part F, Item 3 of the Licence's terms and conditions, the submission of post-construction information, including as-built plans and drawings (if any), shall remain applicable to this authorization.

The Licensee is reminded to adhere to the Licence conditions set out in Part I.

If you have any questions, please contact the undersigned at assol.kubeisinova@nwb-oen.ca or (867) 360 6338 (ext. 31).

Best regards,

Assol Kubeisinova,
Nunavut Water Board
Technical Advisor

Cc: Distro – Qikiqtani



RE: NWB Amendment Water Licence No: 8BC-EUR2131

The NWB notes that the Nunavut Planning Commission's (NPC) conformity determination, issued on February 22, 2021, states that the project proposal conforms to the North Baffin Regional Land Use Plan subject to the attached requirements and the conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, January 22, 2021, and February 9, 2021, remain applicable, and, as determined by the Nunavut Impact Review Board (NIRB)¹, a review of the Project is not required in accordance with s. 92(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

P.O. Box 119, Gjoa Haven, NU X0B 1J0, Tel: (867) 360-6338, Fax: (867) 360-6369

Sincerely,

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

Enclosure: Amendment Water Licence No: 8BC-EUR2131
 Comments – CIRNA

Cc: Distribution List – Qikiqtani

AMENDMENT WATER LICENCE No: 8BC-EUR2131

Licensee:	Environment and Climate Change Canada
Licence No:	8BC-EUR2131 Type “B”
Licence Issued:	July 22, 2021
Licence Expiry:	July 21, 2031
Amendment Water Licence No:	8BC-EUR2131 Type “B”
Amendment Water Licence Effective Date:	June 13, 2022

Pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRA)*, with respect to an application for amendment, dated February 18, 2022, by Environment and Climate Change Canada (ECCC or Applicant), the Board hereby grants the following Amendment Water Licence.

The Licence issued July 22, 2021 with an expiry date of July 21, 2031, shall be amended to include the terms and conditions reflecting water and sewage treatment facilities construction and operation with respect to the use of Water and deposit of Waste during activities related to camp activities (Other Undertaking¹) at the Eureka High Arctic Weather Station (HAWS).

PROCEDURAL HISTORY

The water licence amendment application (Application) being considered by the Nunavut Water Board (NWB or Board) was filed by Environment and Climate Change Canada (the Applicant, Licensee or ECCC) on February 18, 2022 to seek amendments to its Type “B” Water Licence No: 8BC-EUR2131 resulting in the issuance of Water Licence No: 8BC-EUR2131 Amendment No. 1 (Licence) for the Eureka High Arctic Weather Station (HAWS or Eureka) Project.

The Project is located 425 km north-northwest of Grise Fiord within the Qikiqtani Region of Nunavut. Facilities and activities at Eureka include operation of a water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, and incineration.

ECCC sought to construct and operate a new water storage reservoir, a wastewater treatment plant, and a greywater exfiltration trench. The Applicant also indicated that it plans to convert the existing sewage lagoon into a wastewater retention pond.

¹ Schedule I, Nunavut Waters Regulations, SOR/2013-69

Requirements of the NWNSRTA and the Nunavut Agreement

On February 22, 2021, the Nunavut Planning Commission (NPC) issued correspondence indicating that the project proposal conforms to the North Baffin Regional Land Use Plan, and the conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, January 22, 2021, and February 9, 2021, remain applicable. As determined by the Nunavut Impact Review Board (NIRB) on May 13, 2021, a review of the project is not required in accordance with s. 92(1)(a) of *NuPPAA*.

Public Review and Comments

On April 27, 2022, Crown-Indigenous Relations and Northern Affairs (CIRNA) provided² its comments with a number of recommendations. These are discussed in corresponding sections below. On May 12, 2022, the Applicant responded to the comments to the intervener's satisfaction as confirmed on May 19, 2022.

ISSUES CONSIDERED

Conditions Applying to Water Use

The Licensee provided engineering drawings for the planned new raw water storage reservoir. The work is scheduled to be completed in August 2024. The Board accepted the provided engineering drawings with the issuance of this Licence.

Conditions Applying to Waste Disposal

ECCC intends to install and operate a wastewater treatment plant to be commissioned in 2023. In its Application, ECCC stated: "The new wastewater treatment plant will be sealifted to site and consists of four (4), 6m long high-cube shipping containers with peak hour flow capacity of 28m³/day." Subsequently, the existing sewage lagoon will be converted to a wastewater retention pond.

In addition, the Applicant requested the Board's approval to construct a greywater exfiltration trench. The trench is to treat 5 m³ daily of greywater from the construction camp. ECCC stated: "(t)he trench is a subsurface system consisting of a perforated pipe, surrounded by aggregate, which provides temporary storage and then passive treatment of received water by exfiltration... The grey water would flow to a holding tank and periodically be pumped into the trench..."

² David Zhong (CIRNA) to Richard Dwyer (NWB), Subject: Crown-Indigenous Relations and Northern Affairs Canada's review comments on amendment application by Environment and Climate Change Canada for its Water Licence 8BC-EUR2131 for Eureka High Arctic Weather Station on Ellesmere Island, Nunavut, dated April 27, 2022.

In its comment submission, CIRNA expressed concern over the waste disposal methods as proposed by the Applicant. The agency recommended that ECCC:

- Confirm whether the exfiltration trench is of sufficient capacity to properly treat greywater;
- Provide a consideration of the alternatives to trench greywater treatment;
- Explain sludge management procedures for the wastewater treatment plant;
- Confirm whether waste disposal facilities for the Project are located at a minimum of thirty-one metres from the ordinary high-water mark;
- Clarify if sludge or contaminated soil are produced on-site; and
- Outline the schedule for construction of the planned facilities.

The Applicant responded to CIRNA's comments by stating the following:

- The capacity of the exfiltration trench is 16.2 m³, which is enough for three-day volume of greywater;
- The current sewage lagoon does not provide sufficient treatment of wastewater. The greywater exfiltration trench will provide a temporary measure to avoid lagoon overload until the wastewater treatment plant is operational;
- *"Sludge generated by the packaged wastewater treatment plant will go through a separate process for Aerobic Digestion. The sludge will be aerated for approximately 30 days to help stabilize the sludge, thereby reducing pathogenic micro-organisms and the organic concentration within the sludge. At this point, polymer will be added and the sludge will be wasted approximately weekly to dewatering bags. This dewatered sludge is estimated to be between 15 and 25 percent solids and will be disposed of in the landfill. The volume of sludge will vary depending on the population and amount of time used for drying, but it is anticipated that the dewatered sludge volume will be between 1 and 2 m³ per year. Solids generated by the exfiltration trench will be collected in the settling side of the septic tank, upstream of the grey water field. These solids will be thickened through decanting and freeze thaw dewatering. The final solids will be removed from site for disposal in an approved facility or added to incineration toilets for disposal".*
- All waste disposal facilities except for the sewage lagoon are removed to a distance of at least thirty-one metres from the high-water mark. The sewage lagoon was constructed in 1974 and is located within the thirty-one metres distance;
- There are hydrocarbon-contaminated soils on-site that are undergoing treatment. Sludge will be generated, and
- The timeline for construction was provided by the Licensee.

Due to the Licensee's plans to construct and operate a wastewater treatment plant (WWTP), the NWB imposed effluent limits for the WWTP output in Part D, Item 19 as per the information supplied by ECCC.

The Board noted that the Licensee does not consider contaminated soil as waste due to it being treated on-site. The Board would like to point out that, according to the definition of Waste as provided in Water Licence No: 8BC-EUR2131, the contaminated soil in question is, indeed, a waste. In addition, ECCC stated in its response to CIRNA that “(a)s part of the wastewater treatment upgrades, the sewage lagoon will be converted to a retention pond for treated wastewater and will no longer be considered a component of the wastewater treatment process.” The NWB notes that, even upon conversion of the sewage lagoon into a treated wastewater retention pond, the pond will remain a waste disposal facility.

The Licensee committed to updating the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* dated June 2021 to include the changes to the site infrastructure.

Conditions Applying for Camps, Access Infrastructures and Operations

The Board included a standard requirement for the Licensee to provide issued for-construction drawings and design information ahead of construction.

Conditions Applying to Monitoring

The Board included new Monitoring Program Stations to reflect the construction and operation of new Waste Disposal Facilities.

In addition, the Board would like to remind ECCC of Part I, Item 9 of the original licence requiring the submission of a revised Quality Assurance / Quality Control (QA/QC) Plan. On November 18, 2021, ECCC committed to provide the QA/QC Plan prior to the 2022 sampling season.³

³ Jean-Philippe Cloutier-Dussault (ECCC) to Richard Dwyer (NWB), Eureka High Arctic Weather Station QAQC Program for water licence 8BC-EUR2131, dated November 18, 2021.

AMENDMENT WATER LICENCE NO: 8BC-EUR2131

The Licence shall be amended to indicate the following:

Licence No: 8BC-EUR2131

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

ENVIRONMENT AND CLIMATE CHANGE CANADA

(Licensee)

160 CHEMIN TOUR-DE-L'ISLE, MONTREAL, QC H3C 4G8

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of Waste for a period subject to restrictions and conditions contained within this Licence Renewal-Amendment:

Licence Number/Type: **8BC-EUR2131 / TYPE "B"**

Water Management Area: **NANSEN AND EUREKA SOUNDS WATERSHED (59)**

Location: **EUREKA HIGH ARCTIC WEATHER STATION (HAWS)
QIKIQTANI REGION, NUNAVUT**

Classification: **8. OTHER UNDERTAKING**

Purpose: **DIRECT USE OF WATER AND DEPOSIT OF WASTE**

Quantity of Water use not to Exceed: **TEN THOUSAND (10,000) CUBIC METRES PER ANNUM
AT A MAXIMUM RATE OF TWO HUNDRED AND
NINETY-NINE (299) CUBIC METRES PER DAY**

Date of Licence Issuance: **JULY 22, 2021**

Expiry of Licence: **JULY 21, 2031**

This Renewal Licence, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

**Lootie Toomasie
Nunavut Water Board, Chair**

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

2. Definitions

Insert

“Greywater Exfiltration Trench” means the system composed of a perforated pipe and aggregate with the purpose of Greywater treatment as described in the application dated February 18, 2022.

Amend “Waste Disposal Facilities” to Read:

“Waste Disposal Facilities” means the Sewage Treatment Facility (Wastewater Retention Pond upon completion of the Wastewater Treatment Plant), Greywater Exfiltration Trench, Wastewater Treatment Plant, Landfill, Temporary Contaminated Soil Storage, and Landfarm facilities;

Insert

“Wastewater Retention Pond” means the Sewage Treatment Facility converted into a treated wastewater reservoir upon commissioning of the Wastewater Treatment Plant as described in the application dated February 18, 2022.

Insert

“Wastewater Treatment Plant” means the engineered system that is designed for the containment and treatment of Sewage generated by the Eureka High Arctic Weather Station as described in the application dated February 18, 2022.

Amend “Water Supply Facility” to Read:

“Water Supply Facility” means the area and associated intake infrastructure at Station Creek, West Remus Creek, and Blacktop Creek, raw water storage reservoirs, storage tanks, and piping as described in the applications dated June 18, 2021 and February 18, 2022.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

Amend Item 9 to Read:

The Licensee shall direct Sewage to the Sewage Treatment Facility and Greywater to the Greywater Exfiltration Trench until such time as the Wastewater Treatment Plant is commissioned or as otherwise approved by the Board in writing.

Amend Item 14 to Read:

The Licensee shall provide at least ten (10) days written notification to an Inspector, prior to initiating any Effluent discharge from the Sewage Treatment Facility, Greywater

Exfiltration Trench, Wastewater Retention Pond, Temporary Contaminated Soil Storage, and Landfarm Facility.

Insert Item 19:

Effluent discharged from the from the Final Discharge Point at monitoring station EUR-3 upon completion of the Wastewater Treatment Plant shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Biochemical Oxygen Demand BOD ₅	25 mg/L
Total Suspended Solids	25 mg/L
Fecal Coliforms	200 CFU/100 mL
pH	between 6.0 and 9.0
Oil and grease	No visible sheen
Total Phosphorus	10 mg/L
Unionized Ammonia	1.25 mg/L as N

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

Amend Item 2 to Read:

The Licensee shall, at least thirty (30) days prior to commissioning the Greywater Exfiltration Trench, submit to the Board for review the updated *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* dated June 2021 previously approved by the Board.

Insert Item 19:

The Licensee shall, at least sixty (60) days prior to commissioning the Wastewater Treatment Plant, submit to the Board for approval the updated Plan stated under Part E, Item 2.

Insert Item 20:

The Licensee shall, at least sixty (60) days prior to construction or in a timeframe otherwise approved by the Board in writing, submit to the Board for review final design and for-construction drawings, stamped and signed by a Professional Engineer, for all infrastructure and/or facilities designed to contain, withhold, divert or retain Water and/or Waste, as authorized under the Licence.

Insert Item 21:

The Licensee shall, submit to the Board for review, within ninety (90) days of completion

of infrastructure authorized under this Licence, to contain, withhold, divert or retain Water or Wastes; a construction summary report prepared by an Engineer that includes, among other relevant information, as-built drawings, documentation of field decisions that deviated from original plans, and any data used to support these decisions.

PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM

Amend Item 1 to Read:

The Licensee shall maintain Monitoring Stations at the following locations:

Monitoring Program Station ID	Description	Status
EUR-1	Raw water supply prior to treatment at Station Creek	Active (Volume)
EUR-2	Runoff from the Solid Waste Disposal Facilities	Active (Quality)
EUR-3	Effluent discharge from the Sewage Treatment Facility to the ocean. Effluent discharge from the Wastewater Treatment Plant or Wastewater Retention Pond upon completion of Wastewater Treatment Plant.	Active (Quality, Volume)
	Quantity in cubic metres of sludge removed from the Sewage Treatment Facility	
EUR-4	Effluent Discharge from the Landfarm	Active (Quality)
EUR-5	Runoff from the quarry development at the exit point of ditches designed to collect and hold runoff water prior to release.	Active (Quality)
EUR-6	Effluent Discharge from the Temporary Contaminated Soil Storage	Active (Quality)
EUR-7	Raw water supply at West Remus Creek	Active (Volume)
EUR-8	Raw water supply at Blacktop Creek	Active (Volume)

EUR-9	Effluent discharge from the Greywater Exfiltration Trench	Active (Quality, Volume)
	Quantity in cubic metres of sludge removed from the Greywater Exfiltration Trench	

Amend Item 4 to Read:

The Licensee shall measure and record in cubic metres the daily quantities of Effluent pumped from the Sewage Treatment Facility (Wastewater Retention Pond upon completion of Wastewater Treatment Plant), Greywater Exfiltration Trench, and Wastewater Treatment Plant during release to the environment.

Amend Item 5 to Read:

The Licensee shall analyze samples prior to the release of Effluent from the Sewage Treatment Facility (Waste Wastewater Treatment Plant or Wastewater Retention Pond upon completion of Wastewater Treatment Plant) at EUR-3, and Greywater Exfiltration Trench at EUR-9, for the purpose of demonstrating compliance with the parameters listed under Part D, Item 10.

Amend Item 6 to Read:

The Licensee shall sample monthly at Monitoring Program Stations EUR-2, EUR-3, EUR-4, EUR-6, and EUR-9 during periods of observed flow and annual discharges. Samples shall be analyzed for the following parameters:

BOD ₅	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Chloride	Total Organic Carbon (TOC)
Total Cadmium	Total Zinc
Total Cobalt	Total Iron
Total Chromium	Total Manganese
Total Copper	Total Nickel
Total Aluminum	Total Lead
Total Mercury	Total Arsenic

Quarry Permits



TERRITORIAL QUARRYING REGULATIONS

QUARRYING PERMIT NO. 2020QP0002

Permit issued under Section 12(1) of Territorial Quarrying Regulations.

Environment & Climate Change Canada

of 160 Chemin Tour de L'Isle, Montreal, QC H3C 4G8, is hereby authorized to take 950 cubic meters of sand from the lands described as follows: From one (1) Borrow area West of Eureka HAWS, Baffin, NU, NTS 49G.

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit expires thirty-six months from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.
2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.
3. This permit shall not be assigned.
4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.
5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.
6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.
7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.
8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).
9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at Iqaluit, Nunavut, indicating the quantity of material quarried and the quantity of material removed from the site.
10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.
11. Land Use Permit LUP # N2017N002 and its operating conditions will apply.

Issued at Iqaluit, this 27th day of February, 2020.



Land Agent



**TERRITORIAL QUARRYING REGULATIONS
QUARRYING PERMIT NO. 2022QP0003**

Permit issued under Section 12(1) of Territorial Quarrying Regulations.

Environment & Climate Change Canada

Of 2121 Route Transcanadienne, Dorval, QC, is hereby authorized to take 60,000 cubic meters of sand and gravel from the lands described as follows: From one (1) Borrow Area identified as Quarry, Blacktop Creek, Eureka, Baffin, NU, NTS 49G

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit 2 expires years from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.
2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.
3. This permit shall not be assigned.
4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.
5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.
6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.
7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.
8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).
9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at **Iqaluit, Nunavut**, indicating the quantity of material quarried and the quantity of material removed from the site.
10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.
11. Land Use Permit **LUP # N2017N0017** and its operating conditions will apply.

Issued at Iqaluit, this 6th day of April, 2022.



Land Agent



**TERRITORIAL QUARRYING REGULATIONS
QUARRYING PERMIT NO. 2022QP0002**

Permit issued under Section 12(1) of Territorial Quarrying Regulations.

Environment & Climate Change Canada

Of 2121 Route Transcanadienne, Dorval, QC, is hereby authorized to take 213, 217 cubic meters of sand and gravel from the lands described as follows: From one (1) Borrow Area identified as Quarry, West Remus Creek, Eureka, Baffin, NU, NTS 49G

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit expires 2 years from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.
2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.
3. This permit shall not be assigned.
4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.
5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.
6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.
7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.
8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).
9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at **Iqaluit, Nunavut**, indicating the quantity of material quarried and the quantity of material removed from the site.
10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.
11. Land Use Permit **LUP # N2017N0017** and its operating conditions will apply.

Issued at Iqaluit, this 6th day of April, 2022.



Land Agent

DFO Letter of Advice



Ontario and Prairie Region
Fish and Fish Habitat Protection Program
867 Lakeshore Road
Burlington, Ontario
L7S 1A1

Région de l'Ontario et des Prairies
Programme de protection du poisson et de son habitat
867 chemin Lakeshore
Burlington, Ontario
L7S 1A1

March 24, 2021

Your file

Votre référence

Our file

Notre référence

21-HCAA-00295

Jean-Phillipe Cloutier-Dussault
Environment and Climate Change Canada
160, chemin du Tour-de-l'Isle
Montreal, Quebec H3C 4G8

**Subject: Temporary Culverts, Remus Creek, Baffin Region (21-HCAA-00295) –
Implementation of Measures to Avoid and Mitigate the Potential for
Prohibited Effects to Fish and Fish Habitat**

Dear Jean-Phillipe Cloutier-Dussault:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on January 22, 2021. We understand that you propose to:

- Install up to three (3) temporary culverts of maximum size 0.6x12m on each of two watercourse crossings on Remus Creek and West Remus Creek to allow construction access to the High Arctic Weather Station until October 2025 (total maximum footprint = 140m²);
- Minimally grade the channel, as necessary for culvert installation.
- Isolate work area from flowing water to prevent sedimentation of the watercourse.

Our review considered the following information:

- Request for Review form and supporting information submitted by Robin Reese, AECOM, via email on January 22, 2021.
- Additional information submitted by Robin Reese, AECOM, via email on March 18, 2021.

Your proposal has been reviewed to determine whether it is likely to result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and,
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*.

The aforementioned impacts are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

- Conduct in-water undertakings and activities during periods of low flow;
- Limit the duration of in-water works, undertakings and activities so that it does not diminish the ability of fish to carry out one or more of their life processes (spawning, rearing, feeding, migrating);
- Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state;
- Replace/restore any other disturbed habitat features and remediate any areas impacted by the work, undertaking or activity;
- Develop and implement a Sediment Control Plan to minimize sedimentation of the waterbody during all phases of the work, undertaking or activity;
 - Conduct all in-water works, undertakings or activities in isolation of open or flowing water to reduce the introduction of sediment into the watercourse;
 - Schedule work to avoid wet, windy and rainy periods (and heed weather advisories);
 - Operate machinery on land in stable dry areas;
 - Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action;
 - Dispose and stabilize all dredged material above the high water mark of nearby waterbodies to prevent entry in the water;
- Develop and implement a response plan to avoid a spill of deleterious substances.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not require an authorization the *Fisheries Act*, the *Aquatic Invasive Species Regulations* or the *Species at Risk Act*.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, avoid prohibited effects on listed aquatic species at risk, any part of their critical habitat or the residences of their individuals, and prevent the introduction of non-indigenous species.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to FisheriesProtection@dfo-mpo.gc.ca or 1-855-852-8320.

Please notify this office at least 10 days before starting your project. A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Deborah Silver at our Burlington office at 365-323-0247 or deborah.silver@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Deborah Silver
Biologist, Triage and Planning
Fish and Fish Habitat Protection Program

CC:

Robin Reese, AECOM, robin.reese@aecom.com

Laura MacKay, Public Services & Procurement Canada, Laura.MacKay@pwgsc-tpsgc.gc.ca

From: [Baker, Nadia](#)
To: [FPP.CA / PPP.CA \(DFO/MPO\)](#); [Silver, Deborah \(Deborah.Silver@dfo-mpo.gc.ca\)](#)
Cc: [Laura MacKay](#); [Huguet, Tyler](#)
Subject: RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update
Date: January 4, 2022 9:29:43 AM
Attachments: [image001.jpg](#)

Hello Deborah,

That's great! Thanks for your review and confirmation that no updated Letter of Advice is required.

Best regards and Happy New Year!

Nadia

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio.
Environmental Assessment and Permitting Specialist
D +1-604-444-6434
M +1-604-347-8242

From: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Sent: Friday, December 24, 2021 8:25 AM
To: Baker, Nadia <Nadia.Baker@aecom.com>
Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Huguet, Tyler <tyler.huguet@aecom.com>
Subject: [EXTERNAL] RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hello Nadia,

Thank you for the updated information. I have reviewed the file and the existing Letter of Advice provided March 24, 2021 will still apply; no updated letter is required. I will add these new details to the project file.

Sincerely,

Deborah Silver
Biologist | Biologiste

Fisheries and Oceans Canada | Pêches et Océans Canada
Fish and Fish Habitat Protection Program | Programme de protection du poisson et de son habitat

Fisheries and Oceans Canada has changed the way new project proposals (referrals), reports of potential Fisheries Act violations (occurrences) and information requests are managed. Please be

advised that general information regarding the management of impacts to fish and fish habitat (e.g. Measures to Protect Fish and Fish Habitat) that enable you to determine Fisheries Act requirements are available at DFO's "Projects Near Water" website at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html. For all occurrence reports, or project proposals where you have determined that you cannot avoid impacts to fish and fish habitat, please submit to fisheriesprotection@dfo-mpo.gc.ca. For general inquiries, call 1-855-852-8320.

From: Baker, Nadia <Nadia.Baker@aecom.com>
Sent: Wednesday, December 22, 2021 1:42 PM
To: Silver, Deborah <Deborah.Silver@dfo-mpo.gc.ca>
Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Huguët, Tyler <tyler.huguet@aecom.com>; FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Subject: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hello Deborah,

Re: 21-HCAA-00295 Request for Review - Eureka HAWS Two Temporary Crossings Update

We are planning to construct the crossings at Remus Creek in Summer 2022. See attached Letter of Advice for reference. Based on some further field information, the conceptual design has been revised from the original 2021 application to the following:

- The footprint of the 1-2 water crossing(s) has the potential to be increased to up to 336m² (combined).
- The number of culverts used has the potential to be increased to more than 3 culverts.

The crossing will still be temporary and non-engineered. Work will be done in low flow and the work area will be isolated from flowing water to prevent sedimentation of the watercourse. The channel will be minimally graded as necessary for culvert installation.

Please confirm if these minor revisions will require any additional approvals or if we can proceed with the existing Letter of Advice.

Best regards,
Nadia

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio.
Environmental Assessment and Permitting Specialist
D +1-604-444-6434
M +1-604-347-8242

From: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Sent: March 24, 2021 1:38 PM

To: Reese, Robin <robin.reese@aecom.com>

Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Cloutier-Dussault, Jean-Philippe (EC) <jean-philippe.cloutier-dussault@canada.ca>

Subject: [EXTERNAL] RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings

Dear Robin,

Fisheries and Oceans Canada (DFO) has completed their review of the proposed temporary culverts on Remus Creek and West Remus Creek (DFO file number 21-HCAA-00295). Please find attached the Letter of Advice (LOA) for the proposed works. This email and attachment are considered to be the original letter as no hard copy will be sent by mail unless requested.

Thank you,

Deborah Silver

Biologist | Biologiste

Fisheries and Oceans Canada | Pêches et Océans Canada

Fish and Fish Habitat Protection Program | Programme de protection du poisson et de son habitat

Fisheries and Oceans Canada has changed the way new project proposals (referrals), reports of potential Fisheries Act violations (occurrences) and information requests are managed. Please be advised that general information regarding the management of impacts to fish and fish habitat (e.g. Measures to Protect Fish and Fish Habitat) that enable you to determine Fisheries Act requirements are available at DFO's "Projects Near Water" website at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html. For all occurrence reports, or project proposals where you have determined that you cannot avoid impacts to fish and fish habitat, please submit to fisheriesprotection@dfo-mpo.gc.ca. For general inquiries, call 1-855-852-8320.

From: Reese, Robin <robin.reese@aecom.com>

Sent: Friday, January 22, 2021 11:36 AM

To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>

Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Cloutier-Dussault, Jean-Philippe (EC) <jean-philippe.cloutier-dussault@canada.ca>

Subject: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings

Good morning!

Please find attached our request for review.

Please advise if we should also be mailing in a hard copy. Unsure at this time due to the COVID-19

pandemic.

Any questions, please let us know!

Regards,

Robin Reese, M.E.Des., P.Biol., RPBio

Technical Leader Permitting - Western Canada, Environment

C +1-587-436-6058

robin.reese@aecom.com

AECOM

48 Quarry Park Blvd, Suite 300

Calgary, AB T2C 5P2, Canada

aecom.com

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From: [Baker, Nadia](#)
To: [Alix Rive](#)
Cc: [Huguet, Tyler](#); [Wright, Greg](#)
Subject: FW: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update
Date: April 14, 2022 10:13:12 AM
Attachments: [image001.jpg](#)

Hi Alix,

Good news! Quick response back from DFO (see below). No updated Letter of Advice is required.

Thanks,
Nadia

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio. (she/her)
Environmental Assessment and Permitting Specialist
D +1-604-444-6434
M +1-604-347-8242

Out of Office: April 15 - 18

From: Silver, Deborah <Deborah.Silver@dfo-mpo.gc.ca>
Sent: Thursday, April 14, 2022 9:08 AM
To: Baker, Nadia <Nadia.Baker@aecom.com>
Subject: [EXTERNAL] RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hi Nadia,

Thank you for the update. I will add these details to the project file. As mentioned in December, no updated Letter of Advice will be necessary.

Please let us know if there are any further changes.

Sincerely,

Deborah Silver
Biologist | Biologiste

Fisheries and Oceans Canada | Pêches et Océans Canada
Fish and Fish Habitat Protection Program | Programme de protection du poisson et de son habitat

Fisheries and Oceans Canada has changed the way new project proposals (referrals), reports of potential Fisheries Act violations (occurrences) and information requests are managed. Please be advised that general information regarding the management of impacts to fish and fish habitat (e.g. Measures to Protect Fish and Fish Habitat) that enable you to determine Fisheries Act requirements are available at DFO's "Projects Near Water" website at www.dfo-mpo.gc.ca/pnw-ppe/index-

eng.html. For all occurrence reports, or project proposals where you have determined that you cannot avoid impacts to fish and fish habitat, please submit to fisheriesprotection@dfo-mpo.gc.ca. For general inquiries, call 1-855-852-8320.

From: Baker, Nadia <Nadia.Baker@aecom.com>
Sent: Wednesday, April 13, 2022 2:00 PM
To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>; Silver, Deborah <Deborah.Silver@dfo-mpo.gc.ca>
Cc: Alix Rive <Alix.Rive@tpsgc-pwgsc.gc.ca>; Huguet, Tyler <tyler.huguet@aecom.com>
Subject: RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hello Deborah,

Re: 21-HCAA-00295 Request for Review - Eureka HAWS Two Temporary Crossings Update

Based on additional hydrologic and hydraulic analysis, the crossings will now be built using six 15 m long, 1200 mm diameter culverts. The estimated footprint remains the same (up to 336 m²) as described in our December 21, 2021 correspondence.

Please let me know if you have any questions.

Best regards,
Nadia

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio.
Environmental Assessment and Permitting Specialist
D +1-604-444-6434
M +1-604-347-8242

From: Baker, Nadia
Sent: Tuesday, January 4, 2022 9:30 AM
To: 'FPP.CA / PPP.CA (DFO/MPO)' <fisheriesprotection@dfo-mpo.gc.ca>; Silver, Deborah (<Deborah.Silver@dfo-mpo.gc.ca> <Deborah.Silver@dfo-mpo.gc.ca>
Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Huguet, Tyler <tyler.huguet@aecom.com>
Subject: RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hello Deborah,

That's great! Thanks for your review and confirmation that no updated Letter of Advice is required.

Best regards and Happy New Year!

Nadia

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio.
Environmental Assessment and Permitting Specialist
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M +1-604-347-8242

From: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Sent: Friday, December 24, 2021 8:25 AM
To: Baker, Nadia <Nadia.Baker@aecom.com>
Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Huguët, Tyler <tyler.huguët@aecom.com>
Subject: [EXTERNAL] RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hello Nadia,

Thank you for the updated information. I have reviewed the file and the existing Letter of Advice provided March 24, 2021 will still apply; no updated letter is required. I will add these new details to the project file.

Sincerely,

Deborah Silver
Biologist | Biologiste

Fisheries and Oceans Canada | Pêches et Océans Canada
Fish and Fish Habitat Protection Program | Programme de protection du poisson et de son habitat

Fisheries and Oceans Canada has changed the way new project proposals (referrals), reports of potential Fisheries Act violations (occurrences) and information requests are managed. Please be advised that general information regarding the management of impacts to fish and fish habitat (e.g. Measures to Protect Fish and Fish Habitat) that enable you to determine Fisheries Act requirements are available at DFO's "Projects Near Water" website at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html. For all occurrence reports, or project proposals where you have determined that you cannot avoid impacts to fish and fish habitat, please submit to fisheriesprotection@dfo-mpo.gc.ca. For general inquiries, call 1-855-852-8320.

From: Baker, Nadia <Nadia.Baker@aecom.com>
Sent: Wednesday, December 22, 2021 1:42 PM
To: Silver, Deborah <Deborah.Silver@dfo-mpo.gc.ca>
Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Huguet, Tyler <tyler.huguet@aecom.com>; FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Subject: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings Update

Hello Deborah,

Re: 21-HCAA-00295 Request for Review - Eureka HAWS Two Temporary Crossings Update

We are planning to construct the crossings at Remus Creek in Summer 2022. See attached Letter of Advice for reference. Based on some further field information, the conceptual design has been revised from the original 2021 application to the following:

- The footprint of the 1-2 water crossing(s) has the potential to be increased to up to 336m² (combined).
- The number of culverts used has the potential to be increased to more than 3 culverts.

The crossing will still be temporary and non-engineered. Work will be done in low flow and the work area will be isolated from flowing water to prevent sedimentation of the watercourse. The channel will be minimally graded as necessary for culvert installation.

Please confirm if these minor revisions will require any additional approvals or if we can proceed with the existing Letter of Advice.

Best regards,
Nadia

Nadia Baker, B.Sc.H., P.Biol., R.P.Bio.
Environmental Assessment and Permitting Specialist
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From: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>
Sent: March 24, 2021 1:38 PM
To: Reese, Robin <robin.reese@aecom.com>
Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Cloutier-Dussault, Jean-Philippe (EC) <jean-philippe.cloutier-dussault@canada.ca>
Subject: [EXTERNAL] RE: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings

Dear Robin,

Fisheries and Oceans Canada (DFO) has completed their review of the proposed

temporary culverts on Remus Creek and West Remus Creek (DFO file number 21-HCAA-00295). Please find attached the Letter of Advice (LOA) for the proposed works. This email and attachment are considered to be the original letter as no hard copy will be sent by mail unless requested.

Thank you,

Deborah Silver
Biologist | Biologiste

Fisheries and Oceans Canada | Pêches et Océans Canada
Fish and Fish Habitat Protection Program | Programme de protection du poisson et de son habitat

Fisheries and Oceans Canada has changed the way new project proposals (referrals), reports of potential Fisheries Act violations (occurrences) and information requests are managed. Please be advised that general information regarding the management of impacts to fish and fish habitat (e.g. Measures to Protect Fish and Fish Habitat) that enable you to determine Fisheries Act requirements are available at DFO's "Projects Near Water" website at www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html. For all occurrence reports, or project proposals where you have determined that you cannot avoid impacts to fish and fish habitat, please submit to fisheriesprotection@dfo-mpo.gc.ca. For general inquiries, call 1-855-852-8320.

From: Reese, Robin <robin.reese@aecom.com>

Sent: Friday, January 22, 2021 11:36 AM

To: FPP.CA / PPP.CA (DFO/MPO) <fisheriesprotection@dfo-mpo.gc.ca>

Cc: Laura MacKay <Laura.MacKay@pwgsc-tpsgc.gc.ca>; Cloutier-Dussault, Jean-Philippe (EC) <jean-philippe.cloutier-dussault@canada.ca>

Subject: 21-HCAA-00295 RE: Request for Review - Eureka HAWS Two Temporary Crossings

Good morning!

Please find attached our request for review.

Please advise if we should also be mailing in a hard copy. Unsure at this time due to the COVID-19 pandemic.

Any questions, please let us know!

Regards,

Robin Reese, M.E.Des., P.Biol., RPBio
Technical Leader Permitting - Western Canada, Environment
C +1-587-436-6058
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NIRB Screening Reports



SCREENING DECISION REPORT NIRB FILE No.: 12XN020

NPC File No.: 148746
Related to NPC File No.: 148232
INAC File No.: N2017N0017
NWB File No. 8BC-EUR1621

June 1, 2018

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Environment and Climate Change Canada's "Amended Land Use Permit application for Eureka Weather Station" is not required pursuant to paragraph 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 accepts this Screening Decision Report.

OUTLINE OF SCREENING DECISION REPORT

- 1) REGULATORY FRAMEWORK
- 2) PROJECT REFERRAL
- 3) PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS
- 4) ASSESSMENT OF THE PROJECT PROPOSAL IN ACCORDANCE WITH PART 3 OF *NuPPAA*
- 5) VIEWS OF THE BOARD
- 6) RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS
- 7) MONITORING AND REPORTING REQUIREMENTS
- 8) OTHER NIRB CONCERNS AND RECOMMENDATIONS
- 9) REGULATORY REQUIREMENTS
- 10) CONCLUSION

REGULATORY FRAMEWORK

The primary objectives of the NIRB are set out in Section 12.2.5 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)* and are confirmed by section 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 section 88 of the *NuPPAA*:

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 subsection 89(1) of *NuPPAA*:

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 subsection 89(2) of the *NuPPAA* provides that the considerations set out in paragraph 89(1)(a) prevail over those set out in paragraph 89(1)(b) of the *NuPPAA*.

As set out under subsection 92(1) of the *NuPPAA*, upon conclusion of the screening process, the Board must provide its written report the Minister:

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 March 7, 2018 the NIRB received a referral to screen Environment and Climate Change Canada's (ECCC) "Amended Land Use Permit application for Eureka Weather Station" project proposal from the Nunavut Planning Commission (NPC or Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan. The NPC noted that the previous conformity determination issued on April 19, 2012 and April 14, 2016 for the activities associated with the current proposal continues to apply and has determined that the project proposal is a significant modification to the project because of construction of the new road, water stream crossings, work camp relocation and new quarry site.

Pursuant to Article 12, Sections 12.4.1 and 12.4.4 of the *Nunavut Agreement* and section 87 of the *NuPPAA*, the NIRB commenced screening this project proposal. Due to the proposal containing activities that were sufficiently related to previously assessed activities under NIRB file number **12XN020**, the NIRB viewed this project proposal as an amendment to the previously screened project and assigned this proposal with this previous file number. A summary of the previously screened project activities can be found in [Appendix A](#).

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Project Scope

The proposed "Amended Land Use Permit application for Eureka Weather Station" project is located within the Qikiqtani region, approximately 407 km northwest from Grise Fiord. The Proponent intends to amend the scope of activities, as the previously approved Black Top Creek Quarry site was determined not a viable source of granular material for the proposed Eureka Recapitalization Runway Project. ECCC proposes to develop a new quarry site located at West Remus Creek and an associated access road from the Eureka Weather Station to the new quarry site with the construction program of the road proposed to take place from June 2018 to October 2018. The scope of activities previously approved for this ongoing infrastructure improvement (NIRB File No. 12XN020) has been included within [Appendix A](#).

As required under subsection 86(1) of the *NuPPAA*, the Board accepts the scope of the "Amended Land Use Permit application for Eureka Weather Station" project as set out by ECCC in the proposal. The scope of the project proposal includes the following undertakings, works, or activities:

- Upgrade an existing all-terrain vehicle (ATV) path/trail to a six (6) metre wide permanent road from West Remus Creek to the current Eureka runway for a total length of approximately 12 kilometres (km);
- Development of a new borrow area located at West Remus Creek for use of up to 75,000 cubic metres (m³) aggregate to construct road;
- Placement of culverts along to road to drain melt runoff including two (2) Arch culverts in Blacktop Creek to create a culvert bridge;

- Movement of crusher from Blacktop Creek to West Remus Creek; and
- Storage and use of fuel for improvement activities with facility to be located at Remus Creek.

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.

2. Inclusion or Exclusion to Scoping List

In response to comments submitted regarding the proposed project (see Public Comments and Concerns section below), on May 15, 2018 the Proponent noted that its plans had changed; the proposed temporary camp at West Remus Creek would not be constructed, workers would be based out of the existing camp at Blacktop Creek instead, and workers would use the existing Eureka Weather Station water and sewage facilities.

Following consideration of comments received from the Proponent, the NIRB determined that an exclusion of these specific works or activities from the scope of the project was appropriate. As such any activities associated with the development of a new temporary camp at West Remus Creek has been excluded from the scope of this screening and, should similar activities be proposed in future, they should be considered as a significant amendment to the project and required to undergo a separate assessment by the NIRB.

Following identification of the scope of the project as set out above, the Proponent's work plan was updated during the screening process subsequent to the initial application, resulting in the following works/activities being excluded from the scope of the project:

- Movement of the temporary 24 person camp from Blacktop Creek to West Remus Creek, with removal of camp at completion of road construction works;
- Use of water from Station Creek and Remus Creek for domestic purposes;
- Use of top load waste incinerator for incineration of combustible wastes at the temporary camp; and
- Disposal of sewage and grey water in sewage lagoon from temporary camp activities.

The Proponent has indicated that their intention is to use the previously approved existing camp at Blacktop Creek and existing water and sewage facilities at the Eureka Weather Station instead of the development of the temporary camp as previously requested at Remus Creek. As such any activities associated with the development of a new temporary camp at West Remus Creek has been excluded from the scope of this screening and, should similar activities be proposed in future, they should be considered as a significant amendment to the project and required to undergo a separate assessment by the NIRB.

3. Key Stages of the Screening Process

The following key stages were completed:

Date	Stage
March 7, 2018	Receipt of project proposal and positive conformity determination (Northern Baffin Land Use Plan) from the NPC
March 7, 2018	Information request
March 26, 2018	Proponent responded to information request(s)
March 26, 2018	Scoping pursuant to subsection 86(1) of the <i>NuPPAA</i>
April 3, 2018	Public engagement and comment request
April 24, 2018	Receipt of public comments
May 1, 2018	Proponent provided with an opportunity to address comments/concerns raised by public
May 2, 2018	Ministerial extension requested from the Minister of Indigenous and Northern Affairs Canada, Government of Canada
May 15, 2018	Proponent responded to comments/concerns raised by public

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on April 3, 2018 to community organizations in Grise Fiord, 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 April 24, 2018 regarding:

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

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

Government of Nunavut (GN)

Camp Services

- The 24 person tent camp that is proposed to be established at the site for the project and will house 50 contract workers would require review under the Public Health Act as the camp would be providing food, water and waste systems to service the camp.

Wildlife Mitigation

- Concerns the project potentially would result in wildlife disturbance.
- Minimal information on the area with respect to the composition of plant and animal communities and population abundances, and recommended the Proponent undertake

localized surveying to determine the composition of local plant and animal species and their habitats that may be affected by project construction and operations.

- Recommended the Proponent take precautions to ensure no undue stress to wildlife is caused from the project activities by providing suggested mitigation measures for wildlife in general, caribou and raptors.
- Concerns noted that the proposed project area may overlap with or affect Polar Bear denning activities or sites. Further, concerns were noted that the project activities could result in Polar Bear encounters and disturbance of denning sites. Recommended mitigation measures in the event Polar Bears and/or dens are encountered during the project activities.
- Concern that earth moving (e.g. blasting, grading, piling gravel, and other debris) activities may influence snow drifting, drift direction, drift thickness, etc. which may affect whether Polar Bears would find suitable denning habitat or not; and recommended that before any activities are conducted, the Government of Nunavut - Department of Environment (GN-DoE) be consulted.

Species at Risk

- Limited information on the presence of *Porsild's Bryum* which is listed as a threatened species under the *Species at Risk Act* and recommended the Proponent conduct a survey of the project location. If any *Porsild's Bryum* colonies are identified, the Proponent would be required to contact the GN-DoE prior to commencing construction activities.

Archaeological Resources

- Concern that the new infrastructure components as proposed would be in conflict with a number of archaeological sites in the area as identified in the Archaeological Impact Assessment.
- Recommended the Proponent applies for a Class 2 permit in order to mitigate any potential impact to archaeological sites located within the project footprint.

Indigenous and Northern Affairs Canada (INAC)

- No comments or additional terms and conditions to offer at this time.

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

No concerns or comments were received with respect to Inuit Qaujimaningit or traditional and community knowledge in relation to the proposed project.

6. Proponent's Response to Public Comments and Concerns

The following is a summary of the Proponent's response to concerns as received on May 15, 2018:

- In response to concerns regarding the camp at West Remus Creek, the Proponent noted it no longer plans to establish a temporary camp but to use existing approved camp facilities.

- In response to concerns regarding wildlife disturbance, the Proponent noted that an Environmental Impact Assessment was completed for the proposed project and included mitigation measures for wildlife.
- In response to concerns regarding the lack of baseline information on vegetation and animals in the proposed project area, the Proponent has agreed to develop a Wildlife Management Plan (WMP) which will include conducting a reconnaissance survey for Polar Bears, caribou, raptors, migratory birds, and Species at Risk prior to commencing construction work.
- In response to concerns regarding Polar Bears and Polar Bear denning, the Proponent noted that site records indicate Polar Bears are very rare in the area.
- In response to concerns regarding the potential presence of *Porsild's Bryum*, the Proponent notes that the conditions in the proposed project area make it unlikely that *Porsild's Bryum* is present, and that after discussion the Government of Nunavut has agreed. Environment and Climate Change Canada has committed to conducting a reconnaissance survey to identify any that might be present.
- In response to concerns regarding archeological resources, the Proponent has committed to hiring the archeologist who conducted the Archeological Impact Assessment of the project area to identify sites to the contractor prior to construction work. The archeologist has applied for a Class 2 permit.

7. Time of Report Extension

As a result of the time required to allow parties sufficient time to comment on the project as well as let the Proponent provide a response to the comments, the NIRB was not able to provide its screening decision report to the responsible Minister within 45 days as required by Article 12, Section 12.4.5 of the *Nunavut Agreement* and subsection 92(3) of the *NuPPAA*. Therefore, on May 2, 2018 the NIRB wrote to the Minister of Crown – Indigenous Relations and 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 section 90 of the *NuPPAA*. The Board took particular care to take into account Inuit Qaujimaningit, traditional and community knowledge in carrying out its assessment and determination of the significance of impacts.

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

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

The proposed road and quarry project involves widening an existing 9 kilometre (km) long all-terrain vehicle (ATV) trail from the Eureka airstrip to the proposed new quarry site at Remus Creek in order to provide aggregate for the upgrading of the airstrip. The proposed quarry site has a surface area of approximately 36 hectares (0.36 square kilometres [km²]) and is located in an area of minimal to no vegetation and poor wildlife habitat, and the road is located on previously disturbed terrain, thus the anticipated impacts on wildlife habitat are considered to be minimal. Remus Creek and Blacktop Creek are considered seasonal melt-water streams and are unlikely to be fish-bearing.

2. *The ecosystemic sensitivity of that area.*

The proposed project would occur in an area with no particular identified ecosystemic sensitivity. However, the area has been identified by the Proponent and/or from NPC's online mapping data as having value and priority to the local community for:

- i. Terrestrial wildlife including muskox;
- ii. Migratory birds and non-migratory birds;
- iii. Polar Bears; and
- iv. *Porsild's Bryum* moss.

Based on the Proponent's data collected from the Eureka Weather Station, the presence of Polar Bears in the area is rare, while the conditions for the growth of *Porsild's Bryum* is highly unlikely in the proposed quarry location. Muskox are frequently observed in the area.

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

The Proponent has indicated that there are a number of known areas of historical, cultural and archaeological significance in the vicinity of the project area. Should the project be approved to proceed, the Proponent has committed to avoiding identified archaeological resources in the vicinity of the project area and would be required to contact the Government of Nunavut-Department of Culture and Heritage if any additional sites of historical, cultural or archaeological significance are encountered.

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

The proposed project would occur at a location approximately 400 kilometres from Grise Fiord, the nearest community; as such, no human populations are likely to be affected by project impacts. However, it was noted during the commenting period that there is potential for impact to the Polar Bears and caribou, which could result in adverse impacts to traditional pursuits such as caribou and Polar Bear hunting. No other specific animal populations have been identified as likely to be affected by potential project impacts.

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

As the “Amended Land Use Permit application for Eureka Weather Station” project would involve quarrying and construction activities, including a permanent haul road and water crossing, there is potential for impacts due to dust, sedimentation, and habitat disturbance for the duration of the quarry and aggregate hauling activities. However, based on past evidence of similar scope of activities, the potential adverse impacts may be of low magnitude, reversible and mitigable with due care.

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

The proposed project would take place within a 100 kilometre radius to a number of other projects that are currently active, in addition to other projects proposed and below. However, it is noted that this project is not likely to result in residual or cumulative impacts. Terms and conditions recommended for each of these projects are expected to reduce any residual impacts, and as such would limit or eliminate the potential for cumulative effects to occur.

Table 1: Project List

NIRB Number	Project Title	Project Type
<i>Active Projects</i>		
08YN010	Ice Dynamics and Cryospheric Changes in Northern Canada	Research
17UN035	Bathurst High Arctic Remediation	Restoration/Remediation
17UN052	Qausuittuq National Park Caribou Habitat Restoration Phase 1	Restoration/Remediation
<i>Past Projects</i>		
16DN017	Operation Nevus 2016	Defense
16YN043	Past climate reconstruction using annually-layered carbonate	Research
16DN061	NOREX 17	Defense
17YN019	Permafrost-active layer dynamics and feedbacks with climate forcing in ice-rich sediments	Research
17YN039	Multidisciplinary Investigation of Salt Diapirs	Research
17CN051	Arctic Kingdom – Redbull	Filming and Camp

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

No other specific factors have been identified as relevant to the assessment of this project proposal.

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

Administrative Conditions:

To encourage compliance with applicable regulatory requirements and assist the Board and responsible authorities with compliance and effects monitoring for project activities, the Board has previously recommended terms and conditions 1 through 4, and which continue to apply to the current project proposal. The Board is also recommending term and condition 48 to ensure complete reference to applicable regulatory requirements.

The Board would also note that, as justified in its previous decision (NIRB File No. 12XN020 dated May 30, 2012 and September 22, 2015), terms and conditions 5 through 47 remain applicable to the project as outlined below, and no additional terms and conditions are required for the project.

Ecosystem, wildlife habitat and Inuit harvesting activities:

Issue 1: Potential adverse impacts to wildlife, migratory birds and non-migratory birds and associated wildlife habitat from construction of the road, quarry activities, and aggregate hauling as well as the increase in noise from the construction activities.

Board views: As discussed above in the assessment of factors relevant to this project proposal, the potential for impact(s) is applicable to previously disturbed area for the construction of the road and a geographically small area (36 hectares) for the quarry site. The quarry location has poor vegetation cover and is unlikely to be used for nesting nor for feeding by muskox or other wildlife in the area. Further, the Proponent noted within the submitted Environmental Impact Assessment that there is the possibility for disturbance of bird nests during operations. However, due to the short and intermittent nature of the proposed activities, as well as the operational procedures that would be adhered to by the Proponent, potential adverse impacts to wildlife and birds would be expected to be minimal and temporary only.

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

Recommended Mitigation Measures: The Proponent has committed to updating its wildlife management plan to include concerns expressed during the comment period. The Board has previously recommended terms and conditions to mitigate potential adverse impacts to wildlife and wildlife habitats, specifically: 8, 13, 19 through 24, and 35 which continue to apply to the current project proposal.

Issue 2: Potential adverse impacts to surface water quality and quantity, fish and fish habitat, vegetation, land and soil quality from quarrying and road construction activities, storage and use of fuel and chemicals, waste storage and disposal, and aggregate hauling.

Board views: There is the potential for the project to adversely impact surface water quality, fish and fish habitat, vegetation, land and soil quality from fuel spills during establishment and/or operation of the road, quarrying activities, and movement of machinery, fuel, and supplies, particularly in sections of the project that are adjacent to or across waterbodies. The potential for impacts is applicable to small geographic areas within the project footprint and the probability of impacts occurring is considered to be low, with potential adverse effects anticipated to be low in magnitude and reversible in nature. The two (2) streams closest to the project activities (Blacktop Creek and Remus Creek) are seasonal meltwater streams with no observed fish population, and the project has been deemed by Fisheries and Oceans Canada (DFO) to not affect fish or fish habitat and thus not require permitting from DFO.

The Proponent has provided a comprehensive Fuel Spill Emergency Plan which includes storage measures, spill response measures, equipment requirements, and overall handling procedures for the management of fuel and chemicals (see Proponent Commitments section). Additionally, the Proponent has provided Quarry Operations Plan which includes details relating to minimizing potential effects on water from sedimentation (see Proponent Commitments section). In addition to the Proponent's proposed mitigation measures, it is expected that standard operational considerations would mitigate any potential adverse impacts to the surface water quality and quantity, and fish and fish habitat in the direct project area and areas adjacent to the proposed project (see Proponent Commitments section).

The Proponent has an existing water licence from the Nunavut Water Board for the water usage activities and fuel storage. In addition, the Proponent would also be required to follow the *Fisheries Act*, the *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act*, and the *Canadian Environmental Protection Act* (see Regulatory Requirements section).

Recommended Mitigation Measures: The Board previously issued terms and conditions to reduce adverse impacts from fuel/chemical spill hazards, waste management and disposal, and sedimentation resulting from quarrying and construction activities by issuing terms and conditions 5 through 6, 11, 12, 14 through 18, 33, 34, 36, 39, and 41 through 46, which continue to apply to the project.

Issue 3: Potential adverse impacts to air quality from the road development and use, quarry development and operations, use of heavy equipment, and associated noise and dust.

Board views: There is potential for adverse impacts to air quality from site preparation, use of heavy equipment and machinery, quarrying activities associated with the project, noise, and dust generation, which would be limited to within the project footprint with a low probability of extending beyond the geographic area. The potential adverse impacts to air quality are considered to be of low magnitude, short-term, and reversible.

Recommended Mitigation Measures: It is recommended that the potential adverse impacts may be mitigated by measures such as ensuring that the Proponent minimize dust with the addition of dust suppressants and minimize emission from vehicles. The Board previously recommended the following terms and conditions to mitigate the potential adverse impacts to air quality: 30, 35, 36, and 47, which continue to apply to the project.

Socio-economic effects on northerners:

Issue 4: Potential adverse impacts to archaeological sites from quarry and construction activities.

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

Recommended Mitigation Measures: Term and condition 40 was previously recommended to ensure that available Inuit Qaujimaningit can inform project activities, and reduce the potential for negative impacts occurring to any additional historical sites, which continue to apply for this project proposal.

Significant public concern:

Issue 5: No significant public concern was expressed during the public commenting period for this file.

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

Recommended Mitigation Measures: Term and condition 40 was previously recommended to ensure that the affected community and organizations are informed about the project proposal, and to provide community members with information to ensure a successful local hiring opportunity, which continue to apply for this project proposal. In addition, the Board is recommending new term and condition 49 to ensure quarry boundaries are clearly visible to land users.

Technological innovations for which the effects are unknown:

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

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

RECOMMENDED PROJECT-SPECIFIC TERMS AND CONDITIONS

The following terms and conditions were previously issued by the NIRB in the May 30, 2012 and September 22, 2015 Screening Decision Report(s) for File No. 12XN020, **and continue to apply to the “Amended Land Use Permit application for Eureka Weather Station” project:**

General

1. Environment Canada (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 and materials provided as a part of the current application package:
 - a. NIRB Part 1 Form, April 5, 2012;
 - b. NPC Application for Conformity, April 16, 2012;
 - c. AANDC Land Use Permit Application, April 4, 2012;
 - d. Operations and Maintenance for Drinking Water, Sewage, Solid waste Disposal and Waste Treatment Facilities, January 2011; and
 - e. Operating procedures for Eureka Land Reserve, March 1, 2011.
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.

Waste Disposal/Incineration

7. 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.
8. The Proponent shall keep all garbage and debris in bags placed in a covered metal container or equivalent until disposed of at an approved facility. All such wastes shall be kept inaccessible to wildlife at all times.
9. The Proponent shall ensure that the incineration of combustible camp wastes comply with the *Canadian Wide Standards for Dioxins and Furans*, and the *Canadian Wide Standards for Mercury*.
10. The Proponent shall ensure that no waste oil/grease is incinerated on site.

11. The Proponent shall remove and treat hydrocarbon contaminated soils/snow on site or transport them to an approved disposal site for treatment.

Fuel and Chemical Storage

12. The Proponent shall ensure that storage of fuel and hazardous materials and re-fuelling of project equipment is conducted at 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.
13. The Proponent shall store all fuel and chemicals in such a manner that they are inaccessible to wildlife.
14. The Proponent shall use adequate secondary containment or a surface liner (e.g. self-supporting insta-berms and fold-a-tanks) when storing barrelled fuel and chemicals at all locations. 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 fuel caches, vehicle-maintenance areas and drill sites. Spill kits and secondary containment structures should accommodate 110% of the capacity of the largest fuel storage container within the cache.
15. The Proponent shall inspect and document the condition of all large fuel tanks on a weekly basis. All fuel and chemical storage containers must be clearly marked with the Proponent's name and examined for leaks immediately upon delivery.
16. The Proponent shall flag all fuel caches on site so they remain visible in the winter months.
17. The Proponent shall use drip pans or other equivalent device when refueling equipment on-site. The Proponent shall ensure that appropriate spill kit (e.g., shovels, absorbents, etc.) must be readily available during any transfer of fuel.
18. 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

19. The Proponent shall ensure that there is no damage to wildlife habitat in conducting this operation.
20. 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.
21. 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

22. The Proponent shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Proponent shall take precaution to avoid further interaction and or disturbance (e.g., a 100 metre buffer around the nests). If active nests of any birds are

discovered (i.e., with eggs or young), the Proponent shall avoid these areas until nesting is complete and the young have left the nest.

Aircraft Flight Restrictions

23. The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.
24. The Proponent shall ensure that aircraft maintain a vertical distance of 1,000 metres and a horizontal distance of 1,500 metres from any observed groups (colonies) of migratory birds. Aircraft should avoid critical and sensitive wildlife areas at all times by choosing alternate flight corridors.
25. The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.
26. The Proponent shall advise all pilots of relevant flight restrictions and enforce their application over the project area, including flight paths to/from the project area.

Landfarms

27. The Proponent shall only treat petroleum and hydrocarbon contaminated soils using the landfarm facility. Materials contaminated with other substances such as glycol and heavy metals are not to be stored at the landfarm and shall only be disposed of at an authorized facility.
28. The Proponent shall ensure required standards, set out in the Nunavut Water Board's Water Licence for this project are met prior to any discharge of collected water in the retention cell.
29. The Proponent shall ensure that the equipment used in the landfarm operation for aeration, have been cleaned off within the landfarm facilities prior to exiting to prevent contaminated soil transfer.
30. The Proponent shall take appropriate dust suppression measures when conducting soil turning and removal.
31. All operation personnel shall be adequately trained prior to commencement of any operation in the landfarm facility. Operational personnel should also be trained in the operational guidelines and commitments made by the Proponent for this project.
32. The Proponent shall ensure that all on site 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.

Access Road

33. 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.
34. The Proponent shall implement suitable erosion and sediment suppression measures on disturbed areas in order to prevent sediment from entering any water body.

35. All road vehicles must be fitted with standard and well-maintained noise suppression devices and engine idling is to be minimized.
36. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

Temporary Camps

37. The Proponent shall ensure that all camps are located on gravel, sand or other durable land.
38. The Proponent shall not erect camps or store material on the surface ice of lakes or streams.

Restoration of Disturbed Areas

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

Other

40. The Proponent should, to the extent possible, hire local people and consult with local residents regarding their activities in the region.

***(updated)* Aggregate Removal and Operations within Existing and New Quarries**

41. The Proponent shall not remove any material from below the ordinary high water mark of any lake or stream.
42. The Proponent shall not deposit or permit the deposit of sediment into any water body.
43. The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.
44. The Proponent shall ensure that silt fences/curtains are installed down gradient of any quarry activities.
45. The Proponent shall maintain an undisturbed buffer zone between the periphery of quarry sites and the high water mark of any water body that is of an adequate distance to ensure erosion control.
46. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.
47. The Proponent shall use water or other non-toxic and biodegradable additives for dust suppression as necessary to maintain ambient air quality without causing water to pool or runoff.

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

48. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 148746), and the NIRB (Online Application Form, March 26, 2018; Response to Comments, May 15, 2018).

Establishment of New Quarries

49. The Proponent shall clearly stake and flag pit and quarry boundaries so they remain visible to other land users.

MONITORING AND REPORTING REQUIREMENTS

The Board has previously recommended the following on May 30, 2012 and September 22, 2015:

Annual Report

1. (updated) The Proponent shall submit an annual report with copies provided to the Nunavut Impact Review Board by November 1 of each year between 2015 and 2022. The annual report must contain the following information:
 - a. A summary of activities undertaken for the year, including a list of activities and when they were undertaken, as well as the approximate quantities of aggregate extracted each year.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

In addition to the project-specific terms and conditions, the Board has previously recommended the following on May 30, 2012 and September 22, 2015:

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.

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.

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

Incineration of Wastes

3. The Proponent review Environment 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.

Species at Risk

4. (*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

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

(updated) Indigenous and Northern Affairs Canada

6. Indigenous and Northern Affairs Canada (INAC) impose mitigation measures, conditions and monitoring requirements pursuant to the Federal Land Use Permit, which require the Proponent to respect the sensitivities and importance of the area. These mitigation measures, conditions and monitoring requirements should be in regard to the location and area; type, location, capacity and operation of facilities; use, storage, handling and disposal of chemical or toxic material; wildlife and fisheries habitat; and petroleum fuel storage.
7. INAC consider the importance of conducting regular Land Use Inspections, pursuant to the authority of the Federal Land Use Permit, while the project is in operation. The Land Use Inspections should be focused on ensuring the Proponent is in compliance with the conditions imposed through the Federal Land Use Permit.

The Board is currently also recommending the following:

Migratory Birds

8. 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.
9. For further information on how to protect migratory birds, their nests and eggs when planning or carrying out project activities, consult Environment and Climate Change Canada's Incidental Take web page and the fact sheet "Planning Ahead to Reduce the Risk of Detrimental Effects to Migratory Birds, and their Nests and Eggs" available at <http://www.ec.gc.ca/paom-itmb/>.

Transport of Dangerous Goods and Waste Management

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.

REGULATORY REQUIREMENTS

The Board previously recommended in the May 30, 2012 and September 22, 2015 Screening Decision Report(s) for the "Eureka Weather Station Facility" project the following legislation, which continues to apply to the current proposal:

Acts and Regulations

1. The *Fisheries Act* (<http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html>).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://www.canlii.org/ca/sta/n-28.8/whole.html>).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>).
4. The *Species at Risk Act* (<http://laws-lois.justice.gc.ca/eng/acts/S-15.3/index.html>). Attached in **Appendix B** is a list of Species at Risk in Nunavut.
5. The *Wildlife Act* (<http://www.canlii.org/en/nu/laws/stat/snu-2003-c-26/latest/snu-2003-c-26.html>) which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
6. The *Nunavut Act* (<http://laws-lois.justice.gc.ca/eng/acts/N-28.6/>). The Proponent must comply with the proposed terms and conditions listed in the attached **Appendix C**.
7. (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/>).
8. The *Aeronautics Act* (<http://laws-lois.justice.gc.ca/eng/acts/A-2/>).

Other Applicable Guidelines

9. The *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils*, Science Applications International Corporation (SAIC Canada), March, 2006. Information in this document addresses design, operation, monitoring, sampling, analytical methods, decommissioning and closure, record keeping and reporting requirements for landfarming projects. It is recommended that the consultant refer to this document as it relates to the future operations of the landfarming project.

10. (updated) The *Northern Land Use Guidelines Pits and Quarries* (<http://www.aadnc-aandc.gc.ca/eng/1100100023585>) provide guidelines for progressive reclamation applicable to establishment of pits and quarries.

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

Acts and Regulations

11. The Proponent shall undertake quarrying in accordance with the *Nunavut Mining Safety Ordinance* and the *Territorial Quarrying Regulations* (<http://www.canlii.org/en/ca/laws/regu/crc-c-1527/latest/crc-c-1527.html>) or equivalent.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "Amended Land Use Permit application for Eureka Weather Station". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated: June 1, 2018 at Whale Cove, NU.



Elizabeth Copland, 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 PROPOSALS

The original project proposal NIRB (File No. 12XN020), was received by the NIRB from the Nunavut Planning Commission and Aboriginal Affairs and Northern Development Canada on April 19, 2012 and 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 May 30, 2012 the NIRB issued a *Nunavut Agreement* 12.4.4(a) screening decision to the then Minister of Aboriginal Affairs and Northern Development (now Minister of Crown-Indigenous Relations and Northern Affairs) which indicated that the proposed project could proceed subject to the NIRB's recommended project-specific terms and conditions.

Environment Canada's (now Environment and Climate Change Canada or Proponent) original "Eureka Weather Station Facility" project was located in the Qikiqtani (North Baffin) region, approximately 407 kilometres (km) northwest of Grise Fiord on Crown Land Reserve #1021. The Eureka Weather Station Facility was originally established in 1947 with additional building added in subsequent years and a Research Support Opportunity established in 1987. The primary purpose of the facilities was to collect meteorological information. The secondary purpose was to provide logistical support and a staging location for science based research, exploration and military operations as well as serve the small tourist trade that visits the area. At the time of the 2012 application, the Eureka station was to be used by both the Department of National Defence and the Natural Resources Canada (NRCan) Polar Continental Shelf program. Operations were to continue year round at the various facilities that are now in place.

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

- Operations and maintenance of all of the existing Eureka infrastructure, specifically:
 - Airstrip and all access roads,
 - Tankfarm and fuel supply system,
 - Water and sewage lagoons,
 - Heating and electricity,
 - Biotreatment cell (landfarm),
 - Disposal/burning of non-hazardous landfill,
 - Hazardous materials collected and barged off site to be disposed of appropriately, and
 - Accommodations, laboratories, and general storage and warehousing.
- Ongoing use of the Eureka as a base camp and logistical support/staging areas for other entities/organizations such as the Department of National Defence and NRCan's Polar Continental Shelf Program.

Additional authorization and extension requests associated with the "Eureka Weather Station Facility" project have also been reviewed by the NIRB following screening of the original project proposal (File No. 12XN020). In each instance where the NIRB received applications up to and including December 18, 2014, the NIRB confirmed that the applications were exempt from the requirement for further screening pursuant to Section 12.4.3 of the *Nunavut Agreement* and that the activities therein remained subject to the terms and conditions recommended in the

original May 30, 2012 Screening Decision Report. On September 22, 2015, after receiving an application for additional activities, the NIRB issued additional terms and conditions associated with the “Eureka Weather Station Facility” project as per 12.4.4(a) of the *Nunavut Agreement*.

The following is a summary of the previously screened project activities as received by the NIRB:

- 1) The scope associated with the previous December 18, 2014 extension request included continued operations of the facility for previously approved activities.
- 2) The scope associated with the previous June 29, 2015 amendment application included:
 - Upgrading infrastructure at the Eureka site between August 2015 and September 2017;
 - Construction of a new airside apron and rehabilitation of existing airstrip, airside apron and access road at the Eureka Weather Station Facility; and
 - Removal of up to 160,900 cubic metres of aggregate from the existing Blacktop Creek Quarry.

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: September 2017

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

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

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

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

Appendix C

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



INTRODUCTION

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

TERMS AND CONDITIONS

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

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

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

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

¹ P.C. 2001-1111 14 June, 2001

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

Legal Framework

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

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

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

Palaeontology and Archaeology

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

² s. 51(1)

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

Definitions

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

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

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

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

“fossil” includes:

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

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

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

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

Introduction

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

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

³ P.C. 2001-1111 14 June, 2001

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

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

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

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

Types of Development

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

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

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

Types of Studies Undertaken to Preserve Heritage Resources

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

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

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

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

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

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

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

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

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

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

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



SCREENING DECISION REPORT NIRB FILE No.: 21QN005

NPC File No.: 149457

April 21, 2021

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Environment and Climate Change Canada's (ECCC) "West Remus Creek Quarry Expansion" 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 February 9, 2021 the NIRB received a referral to screen ECCC's "West Remus Creek Quarry Expansion" 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 **21QN005**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
February 9, 2021	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
February 15, 2021	Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i>
February 23, 2021	Request to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the <i>NuPPAA</i>
March 1, 2021	Proponent responded to information request(s) and provided additional information
March 1, 2021	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
March 18, 2021	Public engagement and comment request
April 8, 2021	Receipt of public comments
April 21, 2021	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/125587.

Project:	West Remus Creek Quarry Expansion				
Region:	Qikiqtani (North Baffin)				
Location:	Eureka High Arctic Weather Station				
Closest Community:	Grise Fiord	Distance (approximate)	400 kilometres (km)	Direction	North
Summary of Project Description:	The Proponent intends to conduct an expansion of the quarry at West Remus Creek is needed as the additional aggregate required is not available within the current permitted boundaries.				
Project Proposed Timeline:	July 2021 to October 2025				

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

- Conducting geotechnical surveys to determine the area of an expansion of the quarry;
- Conducting an archeological assessment of the expansion area;
- Expansion of West Remus Creek Quarry;
 - Three (3) areas proposed for expansion: the primary expansion area is east of the quarry and north of Remus Creek, the two others are east of the quarry and south of Remus Creek;
 - Use of various heavy equipment to expand quarry site;
- Potential construction of two temporary culvert stream crossings in the case that acceptable aggregate grade is not available in the primary expansion area;
- Use and storage of fuel (approximately 478,000 L) for project activities;
- Food and paper waste to be incinerated on site within existing facility; and
- Hazardous and non-combustible wastes to be properly disposed of off-site at an appropriate facility.

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 March 18, 2021 to community organizations in Grise Fiord, 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 April 8, 2021 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 April 8, 2021 the NIRB received comments from the following interested parties:

- **Crown – Indigenous Relations and Northern Affairs Canada**

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

- Recommends that the Proponent prioritize the employment and training of local Inuit when implementing project activities. Such efforts will allow for positive effects to be realized by community members and the local Inuit population.
- Recommends that the Proponent maintain open communication with the Hamlet of Grise Fiord and the Iviq Hunters and Trappers Organization, as well as other community members and organizations which may have an interest in the project's activities. Issues that should be considered as part of any consultation activities include:
 - Incorporation of Inuit knowledge or Inuit Qaujimajatuqangit into project activities;
 - Mitigation measures designed to prevent any disturbance to wildlife and the environment;
 - The experience of community members who participate in traditional and non-traditional activities in close proximity to the project area;
 - Training and employment opportunities for community members; and
 - Regular updates on the status of project activities.

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.

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 within the Eureka High Arctic Weather Station footprint. ▪ The proposed project would take place within habitats of far-ranging wildlife species such as migratory and non-migratory birds, Arctic fox, Arctic hare and Species at Risk such as Polar Bears.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> ▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project.
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 is unlikely to result in impacts to local human and 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"> ▪ A zone of influence of up to 30 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.
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 NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future.

Factor	Comment
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> The project is necessary to provide significant aggregate for the continued maintenance and operation of the HAWS facility.

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	Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare and Species at Risk such as Polar Bears from quarry activities
Potential effects:	Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare and Species at Risk such as Polar Bears from noise and visual disturbance generated from the transportation of personnel and equipment via heavy equipment to the quarry sites as well as quarry activities
Nature of Impacts:	The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible
Mitigating Factors:	The Proponent commits to hiring a local field assistant to monitor for disturbance to terrestrial wildlife
Proposed Terms and Conditions:	Wildlife General – 20 through 25 Migratory Birds and Raptors Disturbance – 26 through 29 Road and Ground Disturbance – 30 Aggregate Removal within Existing and New Quarries – 31 through 35
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	Fish and fish habitat and surface water quality
Potential effects:	Potential adverse impacts to fish, water, and the aquatic environment due to quarry operations and the storage, transportation and use of fuel and chemicals.
Nature of Impacts:	The potential for impacts is considered to be limited and mostly reversible if regulations and best practices for quarry operations and storage and use of fuel and chemicals are followed.
Mitigating Factors:	The Proponent has developed a Regulatory Compliance and Environmental Management Plan which contains the Spill Plan for the project. Further, the Proponent has committed to make available adequate spill response equipment materials, have personnel present at all times during fuel transfer, and to maintain fuel storage and transfer within secondary containment. The Board is also recommending terms and conditions and it is expected that these terms and conditions would mitigate any potential adverse impacts to water quality, fish and fish habitat in the direct project area and areas adjacent to the proposed project.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Fuel and Chemical Storage – 8 through 17 Wildlife General – 20 through 25
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. The <i>Fisheries Act</i> (http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html). 2. The <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> (http://laws-lois.justice.gc.ca/eng/acts/n-28.8/). 3. The <i>Transportation of Dangerous Goods Act</i> (http://laws-lois.justice.gc.ca/eng/acts/t-19.01/) and the <i>Transportation of Dangerous Goods Regulations</i> (http://www.tc.gc.ca/eng/tdg/clear-tofc-211.htm). 4. The <i>Canadian Environmental Protection Act</i> (http://lawslois.justice.gc.ca/eng/acts/C-15.31/).

Valued Component	Land, terrestrial vegetation, and ground stability
Potential effects:	Potential adverse impacts to the ground stability, vegetation quality, and terrain due to moving of equipment and personnel and quarry activities.
Nature of Impacts:	The potential for impacts is considered to be limited if regulations and best practices for quarry operations are followed. The potential for disturbance due to other activities is considered to be minimal due to the localized and temporary nature of the activities.
Mitigating Factors:	The Proponent also has committed to developing a <i>Spill Contingency Plan</i> that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the

	project would be disposed of properly. Noncombustible and hazardous waste would be taken for proper disposal.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Fuel and Chemical Storage – 8 through 17 Road and Ground Disturbance – 30 Aggregate Removal within Existing and New Quarries – 31 through 35 Land Use and Restoration of Disturbed Areas – 36 through 39
Related Acts and/or Regulations:	N/A

Valued Component	Air Quality
Potential effects:	There is potential for adverse effects to air quality in the immediate vicinity of the quarry due to an increase in fugitive dust and emissions from equipment on site and incineration activities
Nature of Impacts:	The potential for impacts to air quality is considered to be moderate due to the limited period of site activity and mitigable through application of dust suppressants and mitigation measures.
Mitigating Factors:	It is recommended that the potential adverse impacts from the quarrying activities may be mitigated by ensuring the Proponent undertakes appropriate dust suppression as well as comply with appropriate mitigation measures.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Air Quality – 18 and 19 Road and Ground Disturbance – 30 Aggregate Removal within Existing and New Quarries – 31 through 35
Related Acts and/or Regulations:	N/A

Valued Component	Public and traditional land use activities
Potential effects:	No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
Nature of Impacts:	Potential for impacts is considered to be minimal due to the location of the project.
Mitigating Factors:	Proponent has committed to executing its work in a way that minimizes the negative effects to wildlife.
Proposed Terms and Conditions:	Other – 40 through 42
Related Acts and/or Regulations:	N/A

Socio-economic effects on northerners:

Valued Component	Historical, archeological, and heritage sites
Potential effects:	No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites.
Nature of Impacts:	The potential for impacts are considered minimal as the area has no historical, archeological, and heritage sites that have been previously identified. The nature of the proposed project operations are unlikely to impact any unknown archeological sites.
Mitigating Factors:	As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites.
Proposed Terms and Conditions:	Other – 40 and 41
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 .

Significant public concern:

Valued Component	Public concern
Potential effects:	No significant public concern was expressed during the public commenting period for this file, however, the Board recommends 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 utilizes available Inuit Qaujimaningit.
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:	Given the distance from the closest community, direct impacts on Inuit are considered highly unlikely and are addressed through the proposed terms and conditions.
Proposed Terms and Conditions:	Other – 40 through 42
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: 1-5.

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. Environment and Climate Change Canada (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149457) and the NIRB (Online Application Form, March 1, 2021). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Waste Management

6. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
7. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

8. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
9. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations.
10. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.
11. Fuel and hazardous material storage areas and fuel lines should be clearly marked with signs or flagging to avoid accidental breaks and punctures, and to ensure areas remain visible during the winter months.
12. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
13. The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks.
14. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
15. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
16. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
17. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Air Quality

18. The Proponent shall take appropriate dust suppression measures in conducting all activities for this Project including using approved dust suppression additives and techniques as necessary to maintain ambient air quality.
19. The Proponent shall eliminate unnecessary idling to reduce greenhouse gas emissions as much as possible.

Wildlife – General

20. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.
21. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
22. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
23. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.
24. The Proponent shall enforce safe speed limits for vehicles travelling along the road to ensure drivers have sufficient time to react in a safe manner if wildlife are encountered on or adjacent to the road or trail.
25. The Proponent shall ensure that drivers maintain spacing appropriate for driving and road conditions, and speed limits, to ensure drivers have time to safely react to any wildlife on the road.

Migratory Birds and Raptors Disturbance

26. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
27. 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.
28. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.
29. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

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.

Road and Ground Disturbance

30. 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.

Aggregate Removal within Existing and New Quarries

31. The Proponent shall not remove any material from below the ordinary highwater mark of any lake or stream and shall maintain an undisturbed buffer zone as required by the appropriate authorizing agencies between quarry site and any highwater mark of any water body to ensure erosion control.
32. The Proponent shall install silt fences/curtains down stream of any quarry activities.
33. The Proponent shall ensure there is no obstruction of natural drainage, flooding or channel diversion from quarry/pit access, stockpiles, or other structures or facilities.
34. The Proponent shall locate screening and crushing equipment on stable ground, at a location with ready access to stockpiles.
35. The Proponent shall clearly stake and flag pit and quarry boundaries, so they remain visible to other land users.

Land Use and Restoration of Disturbed Areas

36. The Proponent shall use existing trails where possible during project activities on the land.
37. The Proponent shall ensure that the land use area is kept clean and tidy at all times.
38. The Proponent shall remove all garbage, fuel and equipment at the end of each field season and/or upon completion of work and/or upon abandonment.
39. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state using Best Available Technology Economically Achievable (BATEA) upon completion of work and/or abandonment.

Other

40. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimajatuqangit and information that can inform project activities.
41. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
42. The Proponent should, to the extent possible, hire local people and access local services where possible.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

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

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission and/or Parks Canada as appropriate, 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 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.

Bear and Carnivore Safety

4. 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: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.
5. 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.
6. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Grise Fiord, phone: (867) 980-4614).

Species at Risk

7. 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

8. 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.
9. 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.

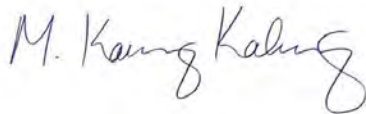
Incineration of Wastes

10. 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.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "West Remus Creek Quarry Expansion". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 21, 2021 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 PALAEOONTOLOGICAL 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.

⁴ P.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.



SCREENING DECISION REPORT NIRB FILE No.: 21UN002

NPC File No.: 149440

April 21, 2021

Following the Nunavut Impact Review Board's (NIRB or Board) assessment of all materials provided, the NIRB is recommending that a review of Environment and Climate Change Canada's (ECCC) "Building Demolition and Temporary Camp at Eureka High Arctic Weather Station" 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 January 22, 2021 the NIRB received a referral to screen ECCC's "Building Demolition and Temporary Camp at Eureka High Arctic Weather Station" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan. The Commission noted that the current project proposal is a significant modification to the previous conformity determinations issued on December 17, 2010, April 19, 2012, April 16, 2016 and March 7, 2018 because of it including the installation of new temporary camps and bulk petroleum fuel storage facilities.

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 **21UN002**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
January 22, 2021	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
January 25, 2021	Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i>
February 3, 2021	Request to Proponent for additional information in order to carry out screening pursuant to s. s. 144(1) of the <i>NuPPAA</i>
February 17, 2021	Proponent responded to information request(s) and provided additional information
February 17, 2021	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>

Date	Stage
February 26, 2021	Public engagement and comment request
March 19, 2021	Receipt of public comments
March 22, 2021	Proponent provided with an opportunity to address comments/concerns raised by public
April 6, 2021	Proponent responded to comments/concerns raised by public
April 6, 2021	Ministerial extension requested from the Minister of Northern Affairs
April 21, 2021	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/125581.

Project:	Building Demolition and Temporary Camp at Eureka High Arctic Weather Station				
Region:	Qikiqtani (North Baffin)				
Location:	Eureka High Arctic Weather Station				
Closest Community:	Grise Fiord	Distance (approximate)	400 kilometres (km)	Direction	North
Summary of Project Description:	The Proponent intends to conduct various activities at the Eureka High Arctic Weather Station. Activities include the demolition of some infrastructure, and construction of temporary camps.				
Project Proposed Timeline:	July 2021 to October 2024				

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

- Demolition of various structures and infrastructure at the Eureka High Arctic Weather Station (HAWS);
- Use of heavy equipment for project activities;
- Building of a temporary camp for approximately twenty staff. The temporary camp will include:
 - Power generators;
 - Fuel storage facilities;
 - Garbage disposal facilities;
 - Heating and cooling units; and
 - Necessary appliances and furniture.
- Construction of non-hazardous waste disposal facility for disposal of wastes from building decommissioning and other operations;
 - Disposal of hazardous materials offsite, nonhazardous materials onsite and the burning of untreated and unpainted wood.

- Use and storage of fuel (approximately 442,000 L) for project activities; and
- Food and paper waste to be incinerated on site within existing facility.

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. While the project is planned to be conducted concurrent with other activities proposed to be carried out by the Proponent at the HAWS site¹, this project is not considered to be integrally linked with other proposed activities.

4. Public Comments and Concerns

Notice regarding the NIRB's screening of this project proposal was distributed on February 26, 2021 to community organizations in Grise Fiord, 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 19, 2021 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 19, 2021 the NIRB received comments from the following interested parties:

- **Crown – Indigenous Relations and Northern Affairs Canada**

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

- Notes that it is unclear why the second proposed project is not included in the current application, due to their related and complementary nature. CIRNAC recommends that the Proponent provide rationale for the second proposed project, related to the construction of a new non-hazardous disposal facility, and this Project being applied for separately;
- Recommends that if the new non-hazardous waste facility is required for project activities, that the Proponent submit the design and construction plans to the NIRB to collect comments from interested parties prior to the start of project activities;

¹ NIRB File Nos. 21QN005 and 21XN012



- Recommends that the Proponent clarify what the 12 tonnes of Hazardous waste will be used for, how long it is expected to remain on site, and how the Proponent intends to process the waste;
- Recommends that the plans listed be submitted to the NIRB to collect comments from interested parties prior to the start of project activities;
- Recommends that the Proponent clarify if there is asbestos in the buildings targeted to be demolished, and if so, whether the Building Deconstruction/Decontamination Plan will encompass specific measures for mitigating potential impact that may result from demolition of any buildings that may contain asbestos;
- Recommends that the Proponent indicate the expected volume of water to be drawn for the proposed activities;
- Recommends that the Proponent request permit information from the Government of Nunavut's Department of Culture and Heritage;
- Recommends that the Proponent prioritize the employment and training of local Inuit beneficiaries throughout its implementation of project activities.
- Recommends that the Proponent maintain open communication with the Hamlet of Grise Fiord, the Iviq Hunters and Trappers Organization, community members, and local organizations that have an interest in project activities. Issues that should be considered in consultation activities include:
 - Incorporation of Inuit knowledge or Inuit Qaujimajatuqangit into project activities;
 - Training and employment opportunities for community members; and
 - Regular updates on the status of the project activities.

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

On March 22, 2021, 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 6, 2021:

- In response to comments regarding rationale for the second proposed project to be separate from this proposed project, the Proponent noted that the second proposed project was not included in the current application as the project was not far enough in its planning development in comparison to this project.
- In response to clarify what the 12 tonnes of hazardous waste will be used for, the Proponent indicated that the 12 tonnes of waste identified is timber from onsite power poles and existing buildings proposed to be demolished. The Proponent also noted that should the timber be found to be hazardous, it would be shipped offsite for disposal.

- In response to a request that all plans be submitted to the NIRB to collect comments from interested parties, the Proponent noted that all plans will be part of the construction tender process and a requirement for the successful contractor to provide to ensure compliance with regulations and execution of mitigation measures.
- In response to concerns regarding asbestos within the buildings and if the plans will encompass specific mitigation measures for this, the Proponent confirmed that there is asbestos in the buildings. The guidelines and code of practice will be followed to mitigate potential impact for those buildings which contain asbestos. Once removed, asbestos will be appropriately containerized and disposed at an approved location.
- In response to a request that the Proponent indicate the expected volume of water to be extracted, the Proponent noted that this Project will not exceed the water usage limits that have already been authorized.
- In response to concerns regarding requesting permit information from the Government of Nunavut, the Proponent stated that on March 11, 2021 a permit request for archeological work was submitted to the Government of Nunavut's Department of Culture and Heritage.
- In response to comments regarding prioritizing the employment and training of local Inuit throughout the project, the Proponent noted that local Inuit will be hired to provide ongoing wildlife monitoring and support during the archeological impact assessment, as well as throughout the project. Furthermore, these groups, as well as other interested organizations, communities, and Inuit businesses will also be further notified prior to any procurement/employment opportunities are made public. Also notes that all contractors bidding on the Project will be asked to provide an Inuit Benefits Plan with their proposal. The plan should demonstrate how they will project employment, training and sub-contracting opportunities for Inuit community members and businesses throughout the course of the project.
- In response to recommendations that the Proponent maintain open communication, the Proponent noted that they will provide annual updates on the status of the Project activities to the community of Grise Fiord, the Iviq Hunters and Trappers Organization and any other communities or groups that have expressed interest. Also noting again that local Inuit will be hired to provide ongoing wildlife monitoring and support during the archeological impact assessment, as well as throughout the project.

6. Time of Report Extension

As a result of the time required to allow the Proponent to respond to comments and concerns received by parties, 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 6, 2021 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 consists of a temporary camp and facilities as well as demolition of infrastructure at the Eureka High Arctic Weather Station. ▪ The proposed project would take place within habitats of far-ranging wildlife species such as migratory and non-migratory birds, arctic fox, arctic hare and Species at Risk such as Polar Bears.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> ▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project.
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 is unlikely to result in impacts to local human and 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"> ▪ A zone of influence of up to 30 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.
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 NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> ▪ No other relevant factors were identified.

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	Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from project activities
Potential effects:	Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from noise and visual disturbance generated from the temporary camp activities, incinerating activities, as well as the demolition of infrastructure.
Nature of Impacts:	The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible
Mitigating Factors:	Proponent proposes to ensure camp is established with minimal impact to wildlife. The proposed activities are taking place at the existing HAWS facility, and thus additional impacts are expected to be minimal.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Wildlife General – 18 through 21 Migratory Birds and Raptor Disturbance – 22 through 25
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	Land, terrestrial vegetation, and ground stability
Potential effects:	Potential adverse impacts to the ground stability, vegetation quality, and terrain due to demolition operations, moving of equipment and personnel and temporary camp activities.

Nature of Impacts:	The potential for impacts is considered to be limited if regulations and best practices for demolition operations are followed. The potential for disturbance due to other activities is considered to be minimal due to the localized and temporary nature of the activities.
Mitigating Factors:	The Proponent also has committed to developing a <i>Spill Contingency Plan</i> that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the project would be disposed of properly. Noncombustible and hazardous waste would be taken for proper disposal.
Proposed Terms and Conditions:	Waste Management – 6 and 7 Fuel and Chemical Storage – 8 through 17 Road and Ground Disturbance – 26 Land Use and Restoration of Disturbed Areas – 27 through 31 Camps – 32 and 33
Related Acts and/or Regulations:	N/A

Valued Component	Public and traditional land use activities
Potential effects:	No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
Nature of Impacts:	Potential for impacts is considered to be minimal due to the location of the project.
Mitigating Factors:	Proponent will follow the Wildlife and Wildlife Habitat Management Plan to minimize impacts to wildlife and has committed to executing its work in a way that minimizes the negative effects to wildlife.
Proposed Terms and Conditions:	Other – 34 through 36
Related Acts and/or Regulations:	N/A

Socio-economic effects on northerners:

Valued Component	Historical, archeological, and heritage sites
Potential effects:	No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites.
Nature of Impacts:	The potential for impacts are considered minimal as the area has no historical, archeological, and heritage sites that have been previously

	identified. The nature of the proposed project operations are unlikely to impact any unknown archeological sites.
Mitigating Factors:	As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites.
Proposed Terms and Conditions:	Other – 34 and 35
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 .

Significant public concern:

Valued Component	Public concern
Potential effects:	No significant public concern was expressed during the public commenting period for this file, however, the Board recommends 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 utilizes available Inuit Qaujimaningit.
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:	Given the distance from the closest community, direct impacts on Inuit are considered highly unlikely and are addressed through the proposed terms and conditions.
Proposed Terms and Conditions:	Other – 34 through 36
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: 1-5.

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. Environment and Climate Change Canada (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149440) and the NIRB (Online Application Form, February 17, 2021). This information should be accessible to enforcement officers upon request.
3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Waste Management

6. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
7. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

8. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
9. The Proponent shall use adequate secondary containment or a surface liner (e.g., self-supporting insta-berms and fold-a-tanks) when storing barreled fuel and chemicals at all locations.
10. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.

11. Fuel and hazardous material storage areas and fuel lines should be clearly marked with signs or flagging to avoid accidental breaks and punctures, and to ensure areas remain visible during the winter months.
12. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
13. The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks.
14. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
15. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
16. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
17. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Wildlife – General

18. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.
19. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
20. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
21. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.

Migratory Birds and Raptors Disturbance

22. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.

23. 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 zone² appropriate for the species and the surrounding habitat.
24. The Proponent shall avoid the seaward site of seabird colonies and areas used by flocks of migrating waterfowl, a minimum distance away on the recommendation of the appropriate authorizing agencies.
25. The Proponent shall not pursue seabirds or waterbirds swimming on the water surface and shall avoid concentrations of these birds if encountered on the water.

Road and Ground Disturbance

26. 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.

Land Use and Restoration of Disturbed Areas

27. The Proponent shall use existing trails where possible during project activities on the land.
28. The Proponent shall ensure that the land use area is kept clean and tidy at all times.
29. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
30. The Proponent shall remove all garbage, fuel and equipment at the end of each field season and/or upon completion of work and/or upon abandonment.
31. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state using Best Available Technology Economically Achievable (BATEA) upon completion of work and/or abandonment.

Camps

32. The Proponent shall ensure that all camps are located durable surfaces, such as gravel or sand that is consolidated and can withstand repeated, heavy use. Measures shall be put in place to prevent erosion, trail formation and damage to the ground.
33. The Proponent shall not erect camps or store materials on the surface ice of lakes or streams, except that which is for immediate use.

Other

34. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
35. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.

² 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.

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

OTHER NIRB CONCERNS AND RECOMMENDATIONS

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

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission and/or Parks Canada as appropriate, 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.

Bear and Carnivore Safety

4. 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: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.
5. 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.

6. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Grise Fiord, phone: (867) 980-4164).

Species at Risk

7. 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

8. 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.
9. 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.

Incineration of Wastes

10. 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.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "Building Demolition and Temporary Camp at Eureka High Arctic Weather Station". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated April 21, 2021 at Baker Lake, NU.

M. Kaur Kaluraq

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 Risk³	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility⁴
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

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

4 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 Risk³	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility⁴
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 PALAEOONTOLOGICAL 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*⁵ to issue such permits.

⁵ P.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*⁶, 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*⁷, 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

⁶ s. 51(1)

⁷ 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.

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 February 22, 2021 the NIRB received a referral to screen ECCC's "Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades for the Eureka High Arctic Weather Station" project proposal from the Nunavut Planning Commission (Commission), with an accompanying positive conformity determination with the North Baffin Regional Land Use Plan. The Commission noted that the current project proposal is a significant modification to the previous conformity determinations issued on December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, January 22, 2021 and most recently on February 9, 2021 because it involves new activities including: the construction of a new landfarm, a solid waste facility, a new raw water storage reservoir, and a new wastewater treatment plant.

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 **21XN012**.

PROJECT OVERVIEW & THE NIRB ASSESSMENT PROCESS

1. Screening Process Timelines

The following key stages were completed for the screening process:

Date	Stage
February 22, 2021	Receipt of project proposal and positive conformity determination (North Baffin Regional Land Use Plan) from the Commission.
February 22, 2021	Request to complete public registry online and provide information pursuant to s. 144(1) of the <i>NuPPAA</i>
March 4, 2021	Receipt of online application from Proponent
March 4, 2021	Scoping pursuant to s. 86(1) of the <i>NuPPAA</i>
March 18, 2021	Public engagement and comment request

Date	Stage
April 8, 2021	Receipt of public comments
April 14, 2021	Proponent provided with an opportunity to address comments/concerns raised by public
April 26, 2021	Proponent responded to comments/concerns raised by public
April 28, 2021	Ministerial extension requested from the Minister of Northern Affairs
May 13, 2021	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/125586.

Project:	Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades at the Eureka High Arctic Weather Station				
Region:	Qikiqtani (North Baffin)				
Location:	Eureka High Arctic Weather Station				
Closest Community:	Grise Fiord	Distance (approximate)	400 kilometres (km)	Direction	North
Summary of Project Description:	The Proponent intends to construct a new landfarm, a Non-Hazardous Solid Waste Facility and intends to upgrade the Water and Sewage Treatment Infrastructures.				
Project Proposed Timeline:	August 2021 to 2042				

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

- Conducting an archeological assessment for all potentially affected areas that haven't been previously assessed;
 - If any archeological areas of significance are identified, they will be protected through mitigation measures approved by the Department of Culture and Heritage.
- Use of heavy equipment for project activities;
- Construction of a new landfarm to store and treat an estimated amount of 4,500-6,000m³ of contaminated soils;
- Construction of a Non-Hazardous Solid Waste Facility to store waste from the demolition of various structures and infrastructure;
- Development of a new raw water storage reservoir and associated infrastructure, as well as incorporation of the existing raw water storage reservoir;
 - A new packaged wastewater treatment plant will also be constructed.
- Withdrawal of water from Black Top Creek and West Remus Creek to support station construction, dust suppression, and temporary camp use;
- Use and storage of fuel (approximately 741,000 L) for project activities;

- Food and paper waste to be incinerated on site within existing facility; and
- Hazardous and non-combustible wastes to be properly disposed of off-site at an appropriate facility.

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 March 18, 2021 to community organizations in Grise Fiord, 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 April 8, 2021 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 April 8, 2021 the NIRB received comments from the following interested parties:

- **Crown-Indigenous Relations and Northern Affairs Canada**

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

- Recommends that the Proponent follow measures to aid in mitigation of potential environmental impacts from the non-hazardous waste facility and landfarm activities;
- Clarify information regarding contaminated soils and treatment and disposal methods of the expected combustible waste;
- Recommends that the Proponent employ and train local Inuit, as well as maintain open communication with all interested parties throughout the life of the project;
- Notes that the Environmental Protection Plan should be sent to interested parties to comment on prior to commencement of activities can potentially lower risk involved in potential project activities.

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

On April 8, 2021, 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 26, 2021:

- In response to recommended mitigation measures for non-hazardous waste facility and landfarm activities, the Proponent noted appreciation and the suggested measures will be considered for integration into the Project's planning phase;
- In response to comments regarding treatment and disposal methods of combustible waste, the Proponent noted that 5,000 lbs of combustible wastes ash will be deposited in the existing solid waste facility and also noted that the wastes and disposal method are still within design stages, however it is anticipated that waste will be de-watered and disposed in either the existing solid waste facility or off-site, at an approved location;
- In response to concerns regarding the Environmental Protection Plan being sent to interested parties for review, the Proponent noted the plan will be part of the construction tender process and a requirement for the successful contractor to provide, to ensure compliance with regulations and execution of mitigation measures;
- In response to concerns regarding the Proponent prioritizing the employment and training of local Inuit, the Proponent noted that local Inuit individuals will be hired throughout the duration of the project. Furthermore, these groups, as well as other interested organizations, communities and Inuit businesses, will also be further notified prior to any procurement/employment opportunities being made public.

6. Time of Report Extension

As a result of the time required to accommodate opportunity for the Proponent to respond to concerns raised during the public commenting period, 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 27, 2021 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 within the Eureka High Arctic Weather Station footprint. ▪ The proposed project would take place within habitats of far-ranging wildlife species such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears.
The ecosystemic sensitivity of that area.	<ul style="list-style-type: none"> ▪ No specific areas of ecosystemic sensitivity have been identified by the Proponent within the physical footprint of the proposed project.
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 is unlikely to result in impacts to local human and 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"> ▪ A zone of influence of up to 20 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.
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 NIRB has not identified any past, present, and reasonably foreseeable projects at this time; however, the mitigation measures recommended by the NIRB have been designed to reduce cumulative effects should projects occur in the area in the future.
Any other factor that the Board considers relevant to the assessment of the significance of impacts.	<ul style="list-style-type: none"> ▪ The proposed project would update the waste management facilities at HAWS thus reducing potential impacts on the environment from the facility's activities.

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	Terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from project activities
Potential effects:	Potential adverse effects to terrestrial wildlife such as migratory and non-migratory birds, Arctic fox, Arctic hare, and Species at Risk such as Polar Bears from noise and visual disturbance generated from the construction activities, incinerating activities, as well as the development of a new raw water storage reservoir, landfarm, and landfill.
Nature of Impacts:	The potential for impacts is considered to be limited due to infrequent and temporary activities and any resulting impacts would be expected to be reversible
Mitigating Factors:	Proponent proposes to ensure construction activities occur with minimal impact to wildlife. The proposed activities are taking place at the existing HAWS facility, and thus additional impacts are expected to be minimal.
Proposed Terms and Conditions:	Waste Management – 9 and 10 Wildlife General – 24 through 28 Migratory Birds and Raptor Disturbance – 29 and 30
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	Land, terrestrial vegetation, and ground stability
Potential effects:	Potential adverse impacts to the ground stability, vegetation quality, and terrain due to the removal of contaminated soils, creation of a landfarm and landfill, moving of equipment and personnel, and construction activities.
Nature of Impacts:	The potential for impacts is considered to be limited if regulations and best practices for construction operations and landfill and landfarm operations are followed. The potential for disturbance due to other activities is considered to be minimal due to the localized and temporary nature of the activities.
Mitigating Factors:	The Proponent also has committed to developing a <i>Spill Contingency Plan</i> that would be implemented as required. Further, combustible disturbance to the land would be minimal and waste generated by the project would be disposed of properly. Noncombustible and hazardous waste would be taken for proper disposal.
Proposed Terms and Conditions:	Waste Management – 9 and 10 Fuel and Chemical Storage – 11 through 20 Landfarm Operations – 21 and 22 Landfill Operations - 23 Road and Ground Disturbance – 31 Land Use and Restoration of Disturbed Areas – 32 through 36
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunavut, Revised December 2014 (http://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf). 2. Environmental Guideline for Contaminated Site Remediation, Department of the Environment, Government of Nunavut; Revised March 2009 (https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Site%20Remediation.pdf). 3. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html).

Valued Component	Environment (land, water and air)
Potential effects:	Potential negative effects from the establishment of a landfarm and landfill.
Nature of Impacts:	Landfarm and landfill operations could increase risks of contamination in the environment from waste and contaminated soils.

Mitigating Factors:	Adhering to the NIRB's terms and conditions as well as regulations and the respective authorizations for the operation of landfarm and landfill activities would allow for the safe operation of these facilities.
Proposed Terms and Conditions:	Landfarm Operations – 21 and 22 Landfill Operations - 23
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunavut, Revised December 2014 (http://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf). 2. Environmental Guideline for Contaminated Site Remediation, Department of the Environment, Government of Nunavut; Revised March 2009 (https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Site%20Remediation.pdf). 3. Environmental Guidelines for the 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-%28revised%20Oct%202010%29_0.pdf). 4. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html).

Valued Component	Environment (land, water and air)
Potential effects:	Potential positive effects from the remediation activities including the identification and removal of hazardous wastes, uncontrolled wastes, and contaminated soil remediation.
Nature of Impacts:	Treating and removing contaminated soils, removing and disposing of structures and disposing of hazardous waste and site debris will reduce some of the environmental risks at the Eureka High Arctic Weather Station which could contribute to more serious contamination and environmental degradation without intervention.
Mitigating Factors:	Adhering to the NIRB's terms and conditions as well as the respective authorizations, it is expected that the project would provide an increase to the ecosystemic and environmental integrity of the area.
Proposed Terms and Conditions:	Landfarm Operations – 21 and 22 Landfill Operations - 23 Land Use and Restoration of Disturbed Areas – 32 through 36

Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. Environmental Guidelines for the Management of Contaminated Sites, Department of the Environment, Government of Nunavut, Revised December 2014 (http://www.gov.nu.ca/sites/default/files/contaminated_sites_remediation_2014.pdf). 2. Environmental Guideline for Contaminated Site Remediation, Department of the Environment, Government of Nunavut; Revised March 2009 (https://www.gov.nu.ca/sites/default/files/Guideline%20Contaminated%20Site%20Remediation.pdf). 3. Environmental Guidelines for the 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-%28revised%20Oct%202010%29_0.pdf). 4. Solid Waste Management for Northern and Remote Communities (Environment and Climate Change Canada, 2017) (https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/municipal-solid/environment/northern-remote-communities.html).
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Valued Component	Water and Fish Habitat
Potential effects:	Potential impacts to water quantity and quality and fish habitat due to the withdrawal of water from West Remus and Black Top Creeks
Nature of Impacts:	The potential for impacts is applicable to a small geographic area and considered to be low probability, and low in magnitude, infrequent, and reversible. Standard operating procedures would mitigate most risks.
Mitigating Factors:	The Proponent will be required to abide by the terms of the amended water license issued by the Nunavut Water Board and any requirements of the Department of Fisheries and Oceans.
Proposed Terms and Conditions:	Other – 37 and 28
Related Acts and/or Regulations:	<ol style="list-style-type: none"> 1. The <i>Fisheries Act</i> (http://laws-lois.justice.gc.ca/eng/acts/F-14/index.html). 2. The <i>Nunavut Waters and Nunavut Surface Rights Tribunal Act</i> (http://laws-lois.justice.gc.ca/eng/acts/n-28.8/).

Valued Component	Public and traditional land use activities
Potential effects:	No specific concerns or impacts to public and traditional land use activities in the area have been identified, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not interfere with Inuit wildlife harvesting or traditional land use

	activities.
Nature of Impacts:	Potential for impacts is considered to be minimal due to the location of the project.
Mitigating Factors:	Proponent will follow the Wildlife and Wildlife Habitat Management Plan to minimize impacts to wildlife and has committed to executing its work in a way that minimizes the negative effects to wildlife.
Proposed Terms and Conditions:	Other – 37 through 39
Related Acts and/or Regulations:	N/A

Socio-economic effects on northerners:

Valued Component	Historical, archeological, and heritage sites
Potential effects:	No historical sites in the proposed project area were identified by the Proponent, however, the Board is recommending terms and conditions to ensure project activities are informed by available Inuit Qaujimaningit and that project activities do not negatively effect historical or heritage sites.
Nature of Impacts:	The Proponent has committed to conducting an archeological assessment for all areas that haven't been previously assessed.
Mitigating Factors:	As noted, the Board is recommending terms and conditions to ensure that project activities do not negatively effect historical or heritage sites.
Proposed Terms and Conditions:	Other – 37 and 38
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 impact
Potential effects:	Potential positive impacts from the hiring of local community members for various projects and activities.
Nature of Impacts:	Potential for impacts is considered to be positive if the Proponent adheres to its commitment to hiring locally to the extent possible.
Mitigating Factors:	The Board is recommending terms and conditions to ensure that the Proponent continues to inform the communities of the ongoing site activities and to ensure community members are aware of and best able to successfully connect with hiring opportunities.
Proposed Terms and Conditions:	Other – 37 and 39
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, however, the Board recommends 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 utilizes available Inuit Qaujimaningit.
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:	Given the distance from the closest community, direct impacts on Inuit are considered highly unlikely and are addressed through the proposed terms and conditions.
Proposed Terms and Conditions:	Other – 37 through 39
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: 1-5.

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. Environment and Climate Change Canada (the Proponent) shall maintain a copy of the Project Terms and Conditions at the site of operation at all times and make it accessible to enforcement officers upon request.
2. The Proponent shall operate in accordance with all commitments stated in correspondence provided to the Nunavut Planning Commission (NPC File No.: 149476) and the NIRB

(Online Application Form, March 4, 2021). This information should be accessible to enforcement officers upon request.

3. The Proponent shall operate the site in accordance with all applicable Acts, Regulations and Guidelines.
4. The Proponent shall ensure that it meets the standards and/or limits as set out in the authorizing agencies' permits or licences as required for this project.
5. The Proponent shall ensure that all personnel, staff and contractors are adequately trained prior to commencement of all project activities, and shall be made aware of all operational plans, management plans, guidelines and Proponent commitments relating to the project.

Water courses/Water bodies (including fresh and marine waters)

6. The Proponent shall not extract water from any fish-bearing water body 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 appropriate authorizing agency.
7. The Proponent shall ensure that no disturbance of the stream bed, lake bed or the banks of any definable watercourse be permitted, except where deemed necessary for maintaining project-specific operational commitments or approved by a responsible authority in cases of spill management.
8. The Proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes (including wastewater) or sediment into any water body. The Proponent should have in place an Emergency Spill Response Plan that is approved by the appropriate authorizing agency(ies).

Waste Management

9. The Proponent shall manage all hazardous and non-hazardous waste including food, domestic wastes, debris and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) in such a manner to avoid release into the environment and access to wildlife at all times until disposed of appropriately or at an approved facility.
10. The Proponent shall incinerate all combustible wastes as needed and dispose of as required by the appropriate authorizing agencies. All non-combustible wastes from the project site shall be removed to an approved facility for disposal.

Fuel and Chemical Storage

11. The Proponent shall locate all fuel and other hazardous materials a minimum distance away from the high-water mark of any water body and environmentally sensitive areas as required by the appropriate authorizing agencies. The materials shall be stored in such a manner as to prevent their release into the environment.
12. 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.

13. The Proponent shall ensure that re-fuelling of all equipment occurs a minimum distance away from the high-water mark of any water body as required by the appropriate authorizing agencies.
14. Fuel and hazardous material storage areas and fuel lines should be clearly marked with signs or flagging to avoid accidental breaks and punctures, and to ensure areas remain visible during the winter months.
15. All fuel and chemical storage containers must be clearly marked with the Proponent's name for ease of identification.
16. The Proponent shall routinely inspect and document the conditions of fuel and hazardous material storage containers and containment areas as required by the appropriate authorizing agencies. Fuel containment areas shall be kept clear of debris, water and snow to facilitate inspections for leaks.
17. The Proponent shall have a Spill Contingency Plan in place at all fuel storage or transfer locations and shall ensure that appropriate spill response equipment and clean-up materials (e.g., shovels, pumps, barrels, drip pans, and absorbents) are readily available.
18. The Proponent shall follow the authorizing agencies' direction for management and removal of hazardous materials and wastes (e.g., contaminated soils, sediment and waste oil).
19. The Proponent shall ensure that wildlife deterrent systems are utilized at the time of a spill incident in order to avoid wildlife (terrestrial or marine) and migratory birds from being contaminated.
20. The Proponent shall ensure that all spills of fuel or other deleterious materials of 100 litres or more must be reported immediately to the 24-hour Spill Line at (867) 920-8130.

Landfarm Operations

21. The Proponent shall treat only petroleum and hydrocarbon contaminated soils at the landfarm facility. Materials contaminated with other substances such as glycol and heavy metals are not to be stored at the landfarm and must be disposed of at an authorized facility.
22. The Proponent shall ensure that the equipment used for aeration in the landfarm operation have been cleaned off within the landfarm facilities prior to exiting.

Landfill Operations

23. 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.

Wildlife – General

24. The Proponent shall not substantially alter or damage or destroy any wildlife habitat in conducting this operation unless otherwise authorized by the appropriate authorizing agencies.

25. The Proponent shall not chase, weary, harass or molest wildlife. This includes persistently circling, chasing, hovering over, pursuing or in any other way harass wildlife, or disturbing large groups of animals.
26. The Proponent shall not hunt or fish, unless proper Nunavut authorizations have been acquired.
27. The Proponent shall ensure that all wildlife have the right-of-way on any roads or trails. Vehicles are required to slow down or stop and wait to permit the free and unrestricted movement of wildlife across roads or trails at any location.
28. The Proponent shall enforce safe speed limits for vehicles travelling along the road to ensure drivers have sufficient time to react in a safe manner if wildlife are encountered on or adjacent to the road or trail.

Migratory Birds and Raptors Disturbance

29. The Proponent shall carry out all phases of the project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
30. 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.

Road and Ground Disturbance

31. 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.

Land Use and Restoration of Disturbed Areas

32. The Proponent shall use existing trails where possible during project activities on the land.
33. The Proponent shall ensure that the land use area is kept clean and tidy at all times.
34. The Proponent shall avoid disturbance on slopes prone to natural erosion, and alternative locations shall be utilized.
35. The Proponent shall remove all garbage, fuel and equipment at the end of each field season and/or upon completion of work and/or upon abandonment.
36. The Proponent shall ensure that all disturbed areas are restored to a stable or pre-disturbed state using Best Available Technology Economically Achievable (BATEA) upon completion of work and/or abandonment.

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.

Other

37. The Proponent should consult with local residents regarding their activities in the area and solicit available Inuit Qaujimaningit and information that can inform project activities.
38. The Proponent shall ensure that project activities do not interfere with Inuit wildlife harvesting or traditional land use activities.
39. The Proponent should, to the extent possible, hire local people and access local services where possible.

OTHER NIRB CONCERNS AND RECOMMENDATIONS

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

Change in Project Scope

1. Responsible authorities or Proponent shall notify the Nunavut Planning Commission and/or Parks Canada as appropriate, 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 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.

Bear and Carnivore Safety

4. 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: https://www.enr.gov.nt.ca/sites/enr/files/resources/safety_in_grizzly_and_black_bear_country_english.pdf.
5. 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.

6. Any problem wildlife or any interaction with carnivores should be reported immediately to the local Government of Nunavut, Department of Environment Conservation Office (Conservation Officer of Grise Fiord, phone: (867) 980-4164).

Species at Risk

7. 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.

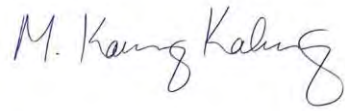
Migratory Birds

8. 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.
9. 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.

CONCLUSION

The foregoing constitutes the Board's screening decision with respect to the Environment and Climate Change Canada's "Landfarm, Solid Waste Non-Hazardous Facility, Water and Sewage Treatment Infrastructure Upgrades for the Eureka High Arctic Weather Station". The NIRB remains available for consultation with the Minister regarding this report as necessary.

Dated May 13, 2021 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 Risk ²	COSEWIC Designation	Schedule of SARA	Government Organization with Primary Management Responsibility ³
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 PALAEOONTOLOGICAL 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.

⁴ P.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

⁵ s. 51(1)

⁶ P.C. 2001-1111 14 June, 2001

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



March 7, 2018

Jaida Ohokannoak

Manager, Technical Administration
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Jean-Philippe Cloutier-Dussault

Property Manager
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Dear Ms. Ohokannoak, Mr. Kharatyan, Ms. McCaie and Mr. Cloutier-Dussault :

RE: NPC File # 148746-Amended Land Use Permit application for Eureka Weather Station

The following works and activities have been proposed in the above-noted project proposal:

1. All-weather road and Quarry : The purpose of these activities is to improve infrastructure at the Eureka weather station. This station provides logistical support and a staging location for the support of Government and Non- Government entities for the bases of science based research, exploration and military operations.
2. Modification: The application is to upgrade an existing ATV trail to a road that would include culverts and stream crossings. It is planned to extend the path to a 6 meter wide permanent road. This also involves moving a crusher, Contractor's camp, and opening a new quarry location for aggregate.
3. Related past NPC file #: 148232; NIRB file #: 12XN020
3. Qikiqtani Region, Eureka [approximately 400 km North of Resolute Bay]

A complete description of the project proposal reviewed by the NPC can be accessed online using the link below.

The Nunavut Planning Commission (NPC) has completed its review of the above noted project proposal. The NPC previously reviewed the activities associated with this proposal and issued a conformity determination on

April 19, 2012, and more recently on April 14, 2016 (NPC file # 148232) which still applies. In addition, the Nunavut Impact Review Board previously screened the activities (NIRB FILE NO.: 12XN020).

The NPC has determined that the above-noted project proposal is a significant modification to the project because of the construction of the new road, water stream crossings, work camp relocation and new quarry site. It conforms to the North Baffin Regional Land Use Plan (NBRLUP). The proponent has undertaken to comply with the applicable conformity requirements of Appendix C, H, and I of the NBRLUP.

The above-noted project proposal requires screening by the NIRB under section 12.4.3 of the Nunavut Agreement as amended because it is for a component or activity that was not part of the original proposal and its inclusion is a significant modification of the project. By way of this letter, the NPC is forwarding the project proposal with this determination to the NIRB for screening. Project materials, including the applicable conformity requirements, are available at the following address:

<http://lupit.nunavut.ca/portal/project-dashboard.php?appid=148746&sessionid=>

The regulatory authorities to which this letter is addressed are responsible under the Nunavut Planning and Project Assessment Act (NUPPAA) to implement any of the applicable requirements by incorporating the requirements directly, or otherwise ensuring that they must be met, in the terms and conditions of any authorizations issued.

This conformity determination applies only to the above noted project proposal as submitted. Proponents may not carry out projects and regulatory authorities may not issue licenses, permits and other authorizations in respect of projects if a review by the NPC is required. Regulatory authorities may consult with the NPC to obtain recommendations on their duties to implement the existing land use plans prior to issuing licenses, permits and other authorizations under subsection 69(6) of the NUPPAA.

My office would be pleased to discuss how best to implement the applicable requirements and to review any draft authorizations that regulatory authorities wish to provide for that purpose. If you have any questions, please do not hesitate to contact me at (867) 979-3444.

Sincerely,

A handwritten signature in black ink, appearing to read "Goump Djalogue". The signature is fluid and cursive, with the first name "Goump" and last name "Djalogue" clearly distinguishable.

Goump Djalogue
Senior Planner,
Nunavut Planning Commission