



NIRB Application for Screening #125538

Rankin Inlet sand pit

Application Type: New

Project Type: Pits and Quarries

Application Date: 6/2/2020 7:33:20 PM

Period of operation: from 0001-01-01 to 0001-01-01

Proposed Authorization: from 0001-01-01 to 0001-01-01

Project Proponent: Randy Mercer
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Non-technical project proposal description

English: Rankin Inlet sand pit is a site currently being used by the Hamlet of Rankin Inlet and members of the public to extract sand and other fine materials to meet the construction demands of the community. The use of the aggregate will vary widely. The Hamlet will use it for municipal purposes such as road construction and maintenance. The public will use it for private purposes. The site will be used in the summer months (June-September) of each year until all the aggregate is extracted. The frequency of use will depend on the construction projects in Rankin Inlet and the need for sand and other fine materials for that year. The quarry is located 7.3 kilometers north of the community of Rankin Inlet and 222 metres south of the Iqalugaarjuup Nunanga Territorial Park. This site is already being used for quarrying purposes. The exact date of its first use is not known but it is estimated to have occurred in the early 1990's. The total volume of quarry material that was taken from the site is not known. All the aggregate within the quarry is loose sand; extraction will be done by CAT track excavators and wheel loaders. Dump trucks of varying make and models will be used to haul aggregate to and from the quarry site. No blasting of rock outcrops is planned. There is an estimated volume of 300,000 cubic metres of material left in the quarry. There is an existing road that connects the community to the territorial park that passes by the Rankin Inlet sand pit. This road will be used to access the site. It is used frequently by both the Hamlet, community residents, and contractors. The quarry is located on untitled municipal land which is administered by the department of Community and Government Services (CGS). Once approval for this the site is obtained, CGS will go into a quarry administration agreement (QAA) with the Hamlet which allow the Hamlet to issue quarry permits instead of CGS. The Hamlet will stockpile the aggregate and then members of the public will obtain quarry permits from the Hamlet. The fees from these quarry permits will be stored in a Hamlet financial account which will be used to maintain the road to the quarry site, cover administrative costs, and to remediate the quarry. After the quarry is depleted, the Hamlet will smooth out the edges of the site to ensure no steep inclines are present. Vegetation that was present prior to the use of the site will grow back over time. Due to its proximity to the community of Rankin Inlet, its estimated volume, and the existing road that reaches the site, makes the sand pit a desirable site for the extraction of quarry material.

French: not applicable

[illegible]

Inuinnaqtun: not applicable

Personnel

Personnel on site: 2

Days on site: 1800

Total Person days: 3600

Operations Phase: from 2020-03-31 to 2030-09-24

Activities

| Location | Activity Type | Land Status | Site history | Site archaeological or paleontological value | Proximity to the nearest communities and any protected areas |
|-----------------|-------------------|---------------|---|---|--|
| Quarry boundary | Quarry/Borrow pit | Commissioners | The current use of this site is for quarrying purposes. It is estimated that this site was used as a quarry since at least the 1990's. Prior to that date, this site has no land use. | This site has no archaeological or paleontological value. | The quarry is located 7.3 kilometres from the community of Rankin Inlet. The Iqalugaarjuup Nunanga Territorial Park is 222 metres north of the quarry boundary. No other known protected areas in or around the quarry boundary. |

Community Involvement & Regional Benefits

| Community | Name | Organization | Date Contacted |
|--------------|---|---|----------------|
| Rankin Inlet | Morag Macpherson, Senior Administrative Officer | The Municipal Corporation of the Hamlet of Rankin Inlet | 2020-05-27 |

Authorizations

Indicate the areas in which the project is located:

Kivalliq

Authorizations

| Regulatory Authority | Authorization Description | Current Status | Date Issued / Applied | Expiry Date |
|--|--|----------------|-----------------------|-------------|
| Government of Nunavut, Community Government & Services | The quarry boundary is located on Untitled Municipal Land, which is administered by CGS. CGS is the applicant and we approve of this NIRB application. | Active | | |
| Hamlets and Municipalities | Senior Administrative Officer with the Hamlet of Rankin Inlet gave consent to move forward with this application. | Active | | |

Project transportation types

| Transportation Type | Proposed Use | Length of Use |
|---------------------|--|---------------|
| Land | There is an existing road that was and is still being used to access the site. CAT loaders, excavators and dump trucks will use this road. | |

Project accomodation types

Community

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

| Equipment Type | Quantity | Size - Dimensions | Proposed Use |
|-----------------|----------|------------------------------|--------------------------|
| Loader | 1 | 5.7m x 2.7m x1.5m | excavate quarry material |
| dump truck | 1 | 8m x 2.5m x 3.4m | haul quarry material |
| Track Excavator | 1 | 10m(L) x 3.2m (H) x 3.2m (W) | excavate quarry material |

Detail Fuel and Hazardous Material Use

| Detail fuel material use: | Fuel Type | Number of containers | Container Capacity | Total Amount | Units | Proposed Use |
|---------------------------|-----------|----------------------|--------------------|--------------|--------|--|
| Diesel | fuel | 1 | 535 | 535 | Liters | fuel tank that attached to the CAT Wheel loader. Diesel will be taken from the community fuel station. |
| Diesel | fuel | 1 | 567 | 567 | Liters | fuel tank that attached to the Dump Truck. Diesel will be taken from the community fuel station. |
| Diesel | fuel | 1 | 600 | 600 | Liters | fuel tank that attached to the Track Excavator. Diesel will be taken from the community fuel station. |

Water Consumption

| Daily amount (m3) | Proposed water retrieval methods | Proposed water retrieval location |
|-------------------|----------------------------------|-----------------------------------|
| 0 | | |

Waste

Waste Management

| Project Activity | Type of Waste | Projected Amount Generated | Method of Disposal | Additional treatment procedures |
|-------------------|---------------|----------------------------|--|--|
| Quarry/Borrow pit | Greywater | various | After discontinuation of quarrying, any ditches will be filled in and leveled off to match the surrounding area to ensure no accumulation of water will occur. | If determined by the local Hamlet to be necessary, signs will be posted in the quarry site to warn of any hazards. |

Environmental Impacts:

The natural vegetation such as moss and other arctic plants on the surface will be disturbed due to the extraction process of the aggregate. After the quarry is depleted of usable aggregate, the edges of the quarry will be smoothed out to prevent steep inclines. The Vegetation will grow back over time.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

•This quarry site will be used to extract sand and other fine quarry material. A CAT track excavator will be used to dig and loosen the soil for extraction. A CAT loader will be used to stockpile, and a CAT dump truck will be used to haul the aggregate to and from the quarry. •The sand pit contains natural sand eskers approximately 15 metres in height. Extraction of sand will be taken from these eskers. •The closest navigable waterbody is located 1.2 kilometres south-east of the quarry. •There will be no blasting or washing in this activity but there will be stockpiling of aggregate.

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

•The site is already being used for quarrying purposes. It was estimated this quarrying started in the early 1990's. Prior to quarrying there was no land use. •The quarry is approximately 200 metres east of a large lake. This waterbody is known locally as "first landing lake". The depth of this lake is not known but it has an approximate diameter of 744 metres. North-east of First Land Lake is an existing bridge named Char River Bridge that crosses over a drainage channel that drains water from First Landing Lake to Hudson Bay. It is located approximately one kilometre south of the Sand Pit. This bridge is used to access the quarry site. •The sand pit contains natural sand eskers. These eskers have an elevation of 15 metres from the highest peak of the esker to the bottom of the quarry. An image of the sand pit can be found attached to this NIRB application in Jpeg named "Rankin Inlet sand pit". •There is an existing road that connects the community to the Iqalugaarjuup Nunanga Territorial Park that passes by the Rankin Inlet sand pit. This road will be used to access the site. It is used frequently by both the Hamlet, community residents, and contractors. •There is no evidence of ice lensing, Therokarsts, ground or rock instability and seismicity. •There are no heritage sites, sport and commercial fishing areas, migration routes, protected wildlife areas or sites of cultural or historical significance, or areas of natural beauty within or around the quarry boundary. •Surface and bedrock geology, permafrost, and, sediment and soil quality are not known.

Description of Existing Environment: Biological Environment

•A portion within the sand pit boundary is already being used for quarrying purposes. This portion has been stripped of natural vegetation such as moss. The other portion has been untouched and contains typical vegetation found in Nunavut such as moss and other arctic plants. •There are no wildlife or bird migration routes nor is there any species of concern in this area.

Description of Existing Environment: Socio-economic Environment

•The site is located 7.3 kilometres north of the community of Rankin Inlet and 222 metres south of the Iqalugaarjuup Nunanga Territorial Park. •There are no archaeological or culturally significant sites within or around the quarry. •There is no subsistence harvesting, tourism, trapping or guiding operations in the quarry. •As mentioned previously, there is an existing road that connects the community to the Iqalugaarjuup Nunanga Territorial Park that passes by the Rankin Inlet sand pit. This road will be used to access the site. It is used frequently by both the Hamlet, community residents, and contractors. •Since the quarry site is located 7.3 kilometres from the community of Rankin Inlet and 222 metres south of the Iqalugaarjuup Nunanga Territorial Park, the effect of the extraction process on the well-being of the residence will be minimal.

Miscellaneous Project Information

•The site is not located within the Caribou protection areas or schedule 1 Species at Risk known locations. •At this time, the Hamlet and Department of Community and Government Services were consulted regarding this site to be used as a quarry. There are no future consultation plans besides posts on social media that the public is discouraged from entering the Rankin Inlet Sand pit for safety reasons.

Identification of Impacts and Proposed Mitigation Measures

The local Hamlet will be the administrator of the Rankin Inlet sand pit. This quarry site will be used by the Hamlet and members of the public. The Hamlet will issue quarry permits to the public and these quarry permits will come with the following conditions: 1.No extraction of aggregate will occur within 31 metres of any waterbody. 2.The contractor will inform the Hamlet the date and time when they plan to extract the material to ensure the Hamlet, if deemed necessary, supervise the extraction of aggregate. 3.The extraction of aggregate and their surroundings, is done in an environmentally sound manner that is satisfactory to the Hamlet and/or NIRB. 4.Excavation is not to occur outside of the established quarry boundary. 5.Stockpiling of aggregate will be located at least 31 metres from any waterbody to avoid water siltation and obstruction. 6.Access to and from the quarry site will only be done through designated roads. 7.Once extraction of aggregate is complete then the contractor will remove all types of their equipment from the site and slops grade reduction with use of unsuitable stockpiles and uncrushed rocks. 8.The contractor will follow the fuel spill plan. There will be no petroleum stored on site, but the equipment used in the extraction of aggregate such as loaders and excavators do have diesel tanks attached to them. In the unlikely event that one of these tanks is punctured the person on site shall: 1.immediately attempt to seal and contain the leak. 2.contact the Hamlet's Senior Administrative officer (SAO) at (867) 645-2895 and the 24- hour spill report line at (867) 920-8130. 3.With direction of the SAO and/or from the 24-hour spill report line, all contaminated shall be removed and placed in hazardous waste bulk bags. 4.The contaminated soil shall be transported to the Rankin Inlet land farm site. There is no dust mitigation measures.

Cumulative Effects

•The road from the Community to the Iqalugaarjuup Nunanga Territorial Park which passes by the sand pit is well known by the residents of Rankin Inlet. It is used regularly by the Hamlet to access the sand pit, members of the public for recreational and leisure purposes and by the mining company Agnico Eagle Mines Limited to reach their Meliadine gold mine. Any possible cumulative effects from this sand pit will be minimal.

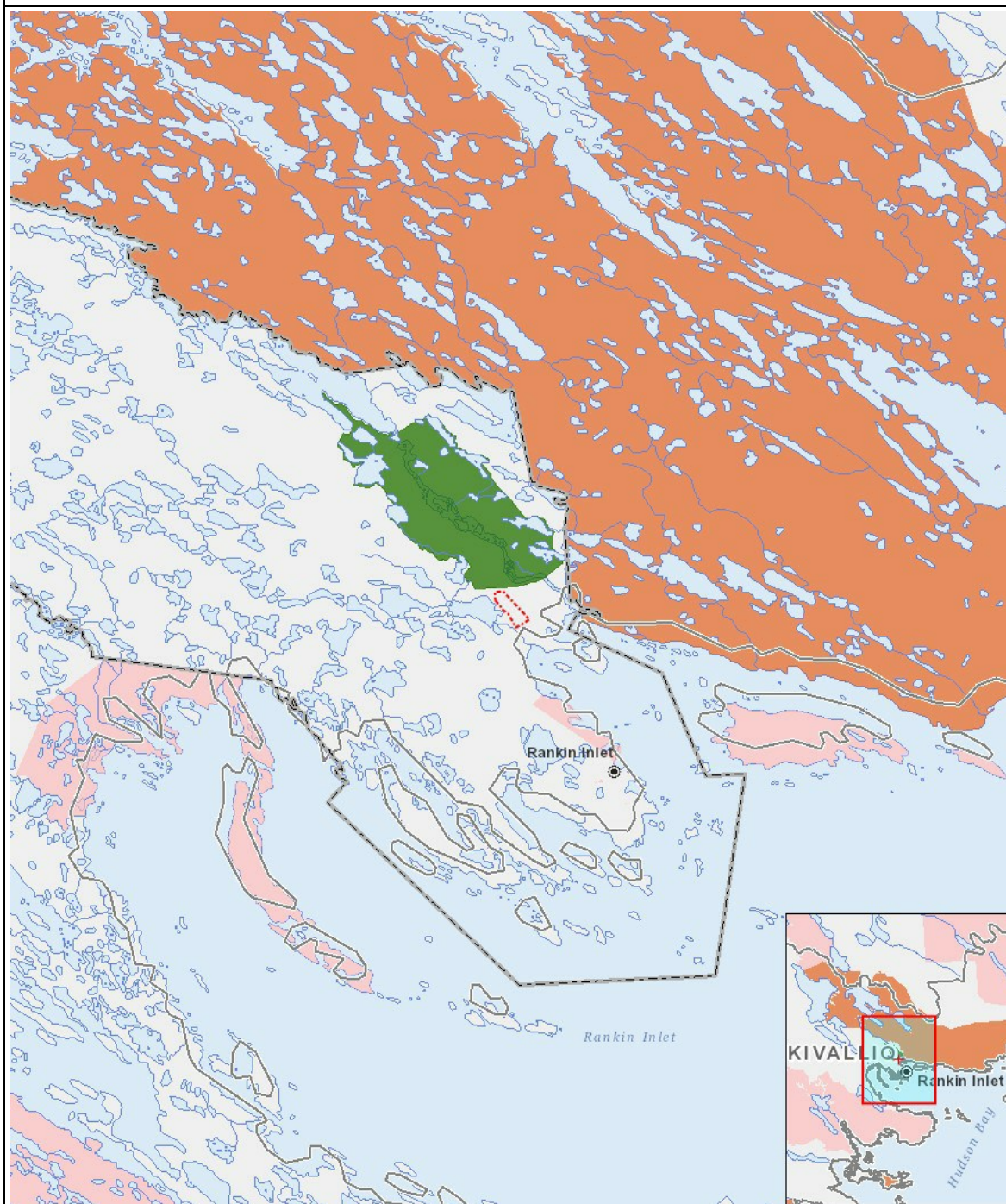
Impacts

Identification of Environmental Impacts

| | | PHYSICAL | Designated environmental areas | Ground stability | Permafrost | Hydrology / Limnology | Water quality | Climate conditions | Eskers and other unique or fragile landscapes | Surface and bedrock geology | Sediment and soil quality | Tidal processes and bathymetry | Air quality | Noise levels | BIOLOGICAL | Vegetation | Wildlife, including habitat and migration patterns | Birds, including habitat and migration patterns | Aquatic species, incl. habitat and migration/spawning | Wildlife protected areas | SOCIO-ECONOMIC | Archaeological and cultural historic sites | Employment | Community wellness | Community infrastructure | Human health |
|------------------------|--|----------|--------------------------------|------------------|------------|-----------------------|---------------|--------------------|---|-----------------------------|---------------------------|--------------------------------|-------------|--------------|------------|------------|--|---|---|--------------------------|----------------|--|------------|--------------------|--------------------------|--------------|
| Construction | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - |
| Operation | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quarry/Borrow pit | | - | U | U | - | - | - | - | - | U | U | - | - | M | | M | - | - | - | - | | - | P | P | P | - |
| Decommissioning | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - |

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

| | | |
|---|----------|-----------------|
| 1 | polyline | Quarry boundary |
|---|----------|-----------------|