



NIRB Application for Screening #125486

Quarry in Pangnirtung

Application Type: New

Project Type: Pits and Quarries

Application Date: 9/19/2019 10:05:56 AM

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

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

Project Proponent: Rita Sewornu
Government of Nunavut - CGS
P O Box 145
Cape Dorset NU X0A0C0
Canada
Phone Number:: 8678973619, Fax Number::

DETAILS

Non-technical project proposal description

English: The quarry site located on Lot 2 Block 3 Plan 3943 in Pangnirtung being proposed have been investigated by the Government of Nunavut in consultation with the Hamlet of Pangnirtung. It is established that this site can be used to extract aggregate to complement the existing quarry to meet the increasing construction demands of the community. The proposed site contains an abundance of aggregate (gravel, sand, silt, and riprap) that will fulfill the construction needs of the community now and in the future. This quarry will remain active until all its aggregate is depleted. The Municipality will use the proceeds from Quarry permit fees to remediate the area. Appropriate aggregate extraction equipment, such as dump trucks to haul aggregate, loaders to extract aggregate and a screener, will be used on site for all future projects requiring aggregate. The site is located about 1 kilometer to the north of the Pangnirtung community. This site is in reasonable proximity to Pangnirtung, which results in easier access for the residents of the community to retrieve gravel. Close proximity to the community also minimizes costs to the contractors and the Hamlet due to the fact that equipment has quicker access to the proposed sites. The Government did explore other quarry sites, but felt this site will adequately complement the existing quarry and thus the best option due to the reasonable proximity to Pangnirtung, its aggregate reserves, and the quality of the aggregates.

French: En consultation avec le hameau de Pangnirtung, le gouvernement du Nunavut a examiné le site de carrière proposé, soit le lot 2 du pâté de maisons 3, plan 3943. Il a été décidé qu'il servira à l'extraction de granulat, au même titre que la carrière existante, pour mieux répondre aux besoins en construction grandissants de la localité. Puisque le site est riche en granulat (gravier, sable, silt et enrochement), il saura combler la demande actuelle et future. La carrière sera exploitée jusqu'à l'épuisement du granulat, et la municipalité utilisera les revenus des permis d'exploitation pour restaurer le site. La machinerie appropriée, notamment des camions à benne, des chargeurs et un tamiseur, demeurera sur place pour tous les projets d'extraction à venir. Le site se situe à une distance raisonnable de Pangnirtung, soit environ un kilomètre au nord; il sera donc facile pour les résidents de se procurer du gravier. Cette proximité réduira aussi les coûts pour les entrepreneurs et le hameau, puisque la machinerie pourra y être transportée rapidement. Bien entendu, le gouvernement a étudié d'autres possibilités, mais il croit que ce site complètera bien la carrière préexistante et constitue ainsi le meilleur choix, d'autant plus qu'il est près de Pangnirtung et qu'il abrite de grandes quantités de granulat de qualité.

[illegible]

Personnel

Personnel on site: 2

Days on site: 120

Total Person days: 240

Operations Phase: from 2019-10-25 to 2029-10-25

Activities

| Location | Activity Type | Land Status | Site history | Site archaeological or paleontological value | Proximity to the nearest communities and any protected areas |
|----------|-------------------|---------------|--|--|--|
| Quarry_1 | Quarry/Borrow pit | Commissioners | Not known - site currently zoned as Industrial | No known historical site on the lot | Site about 1 km from the community and apart from being located within the 100 ft water strip, it is not near any protected area |

Community Involvement & Regional Benefits

| Community | Name | Organization | Date Contacted |
|-------------|-------------|-----------------------|----------------|
| Pangnirtung | Eric Lawlor | Hamlet of Pangnirtung | 2019-08-06 |

Authorizations

Indicate the areas in which the project is located:

South Baffin

Authorizations

| Regulatory Authority | Authorization Description | Current Status | Date Issued / Applied | Expiry Date |
|--|---|-----------------|-----------------------|-------------|
| Nunavut Water Board | This site is located near the ocean however, it is not anticipated that the quarry activities will require water uses or deposit of waste into the waters | Not Yet Applied | | |
| Government of Nunavut, Community Government & Services | Once NIRB approves the quarry, CGS will enter into a Quarry Administration agreement with the Hamlet. This agreement will give the Hamlet control of the quarry and will allowed them to issue permits | Active | | |
| Hamlets and Municipalities | Hamlet of Pangnirtung currently approves land application and CGS issue quarry permit. When the quarry is screened and a Quarry Administration Agreement is signed, the Hamlet will approve and issue quarry permit . | Not Yet Applied | | |

Project transportation types

| Transportation Type | Proposed Use | Length of Use |
|---------------------|--------------|---------------|
| Land | | |

Project accomodation types

Community

Material Use

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

| Equipment Type | Quantity | Size - Dimensions | Proposed Use |
|--------------------|----------|-------------------|---|
| Wheel Loaders | 1 | 20.3 ft | To load overburden and aggregates |
| Off-Highway Trucks | 1 | 49.5ft x 32 ft | Hauling |
| Excavator | 1 | 10.8ft x 14.7ft | Extraction of aggregates |
| Crusher | 1 | 26 x 45 | process large rocks into smaller stones |
| Screening Machine | 1 | 5ft x 7ft | Screening of aggregate |

Detail Fuel and Hazardous Material Use

| Detail fuel material use: | Fuel Type | Number of containers | Container Capacity | Total Amount | Units | Proposed Use |
|------------------------------|-----------|----------------------|--------------------|--------------|-------|--------------|
| Information is not available | | | | | | |

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 | Non-Combustible wastes | 5 tons | Bins will be placed on site to collect waste. The quarry site is located about a block away from the community dump | None |

Environmental Impacts:

These site will be used to extract aggregate (Sand, Gravel, riprap and silt) to be used for construction projects in the community of Pangnirtung. Stockpiling of aggregate may occur in the event that a project requires aggregate but will not be permanent. A road already exists to the site so construction of a road is not required. Minor slumping may occur to the landscape due to the extraction of aggregate but will be levelled off once the quarry is depleted. Once the sites are depleted of essential aggregate, the quarry will be levelled off to avoid any steep ditches using sand, silt and any other undesirable aggregate. No water will be used in this project and no waste will be dumped into any water source. The runoff from this site will be all natural material (dust, sand etc.) in which runoff of this material already occurs in nature. No plans for snow accumulation exist due to the fact that any changes in snow drifting in this area from extraction of aggregate will be minimal (if any). No fuel will be stored at this location so no official plan exists. In the unlikely event that a transportation vehicle's (dump truck/loader) fuel tank is punctured, the Municipality will call the NU 24-hour spill report line at (867) 920-8130 and immediately extract and remove the aggregate at the point of the spill. The contaminated soil will be relocated to the community land farm. The Municipality's contact information is as follows: ATTN: Eric Lawlor Municipality of Pangnirtung P.O. Box 253 Pangnirtung, NUX0C 0R0PH: (867) 473-8953

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

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 quarry site is not designated as protected neither is it close to parks or protected area. The ground is pretty level and stable. Generally, the dominant surface unit consists of colluvium made of sand and gravel layers up to 4 m thick on top of pre-existing washed till deposits below the marine limit. A thin peat layer (5 to 25 cm) overlies the colluvial deposit. Affected by periglacial processes such as gelifluction lobes and frost boils. Ice wedges occasionally present in the near surface permafrost.

Description of Existing Environment: Biological Environment

The tundra around Pangnirtung is home to vibrant dwarf rosy coloured fireweed and fluffy Arctic cotton. You may also see: purple bladder campion, pink clusters of wintergreen, Arctic purple saxifrage, yellow marsh saxifrage, Arctic daisies, mauve harebells, yellow Arctic poppies, star chickweed.

Description of Existing Environment: Socio-economic Environment

Site not located near archaeological and cultural historic sites. The quarry will contribute to the socio-economic development of Pangnirtung by providing the community with aggregates for constructional works.

Miscellaneous Project Information

It is estimated that the about 80,000 cubic metres of aggregate extracts will be extracted from the site over the course of the next few years. Through technical study this area of town has been zoned as industrial because there is no known indication of this either by local knowledge. If there is spillage, the Hamlet will reach out to the GN spill line. No spill equipment will be on site.

Identification of Impacts and Proposed Mitigation Measures

These site will be used to extract aggregate (Sand, Gravel, riprap and silt) to be used for construction projects in the community of Pangnirtung. Stockpiling of aggregate may occur in the event that a project requires aggregate but will not be permanent. A road already exists to the site so construction of a road is not required. Minor slumping may occur to the landscape due to the extraction of aggregate but will be levelled off once the quarry is depleted. Once the sites are depleted of essential aggregate, the quarry will be levelled off to avoid any steep ditches using sand, silt and any other undesirable aggregate. No water will be used in this project and no waste will be dumped into any water source. The runoff from this site will be all natural material (dust, sand etc.) in which runoff of this material already occurs in nature. No plans for snow accumulation exist due to the fact that any changes in snow drifting in this area from extraction of aggregate will be minimal (if any). No fuel will be stored at this location so no official plan exists. In the unlikely event that a transportation vehicle's (dump truck/loader) fuel tank is punctured, the Municipality will call the NU 24-hour spill report line at (867) 920-8130 and immediately extract and remove the aggregate at the point of the spill. The

contaminated soil will be relocated to the community land farm. The Municipality's contact information is as follows: ATTN: Eric Lawlor Municipality of Pangnirtung P.O. Box 253 Pangnirtung, NUX0C 0R0PH: (867) 473-8953

Dust Control Measures

Dust control Measures - Regular washing of extraction, processing and transport equipment. Reducing haul trips and limiting speeds on unpaved roads. Wetting material prior to processing or loading. Covering stock piles, conveyor belts, and loads in trucks. Locating stock piles in locations that limit their exposure to wind. proper loading of trucks. Avoid scheduling loading, unloading and blasting activities on a windy days

• Re-vegetating disturbed areas as soon as possible to reduce erosion and minimize dust.

Erosion Control Measures

An un-disturbed, vegetation buffer zone and sediment fence barrier will be maintained between the quarry and the ocean where possible; Progressive site stabilization will be implemented as soon as practically possible, and maintained at all times during the quarry

Before commencing earthworks on any part of Lot 2 Block 3, materials sufficient to protect against storms will be available on site and the work scheduled to ensure that, wherever practicable, any permanent or temporary erosion protection is in place before exposing earthworks

Traditional and Recreational Activities

This lot is located at areas zoned for industrial use and close to the dump site so there is no recreational activities close to this site

Cumulative Effects

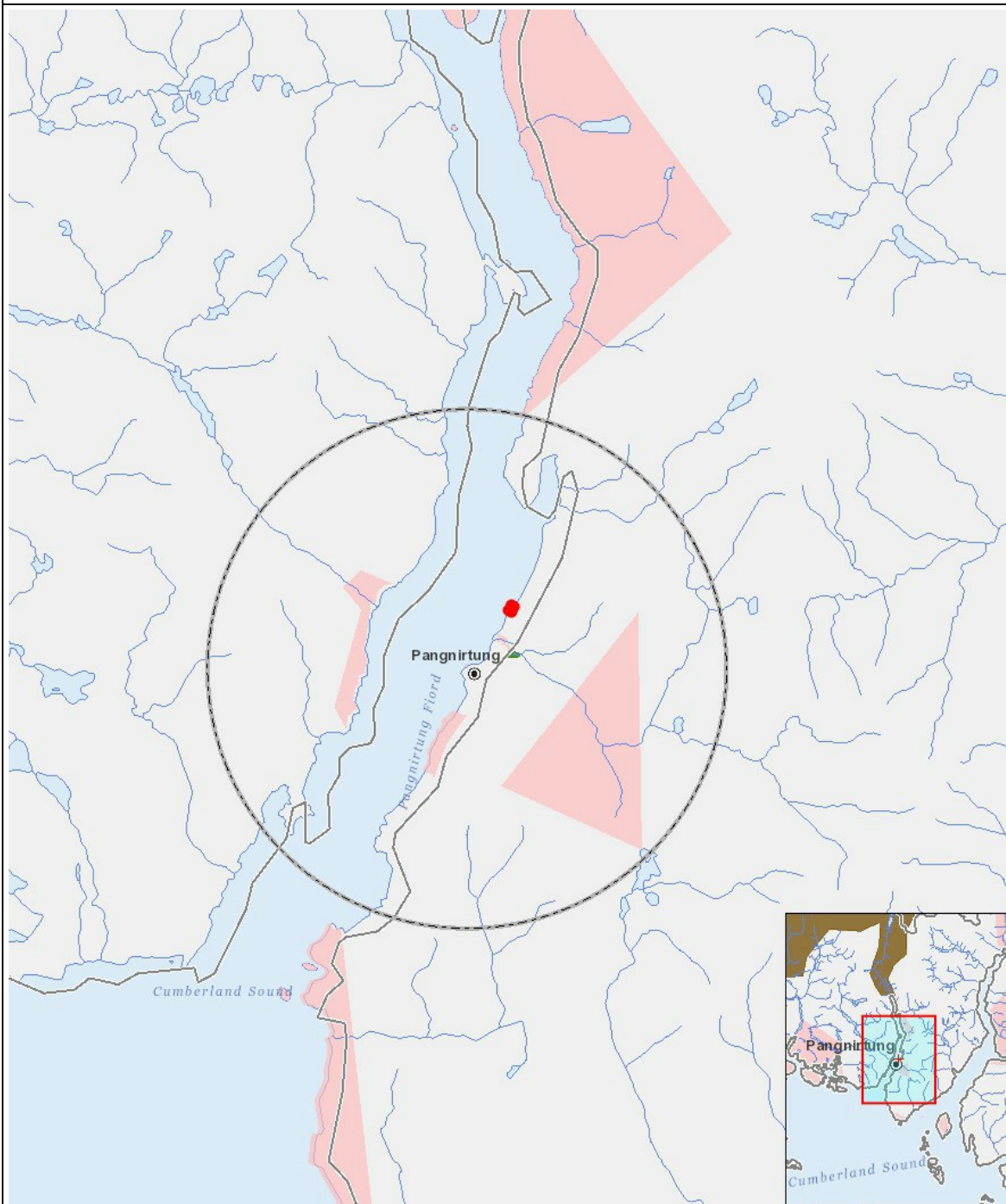
Impacts

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 | | - | P | U | - | U | M | U | M | M | U | M | M | | M | P | P | P | P | | P | P | P | P | P | M |
| Decommissioning | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | | - | - | - | - | - |

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

Project Location



List of Project Geometries

| | | |
|----|---------|----------|
| 1 | polygon | Quarry_1 |
| 2 | polygon | Quarry_1 |
| 3 | point | Quarry_1 |
| 4 | point | Quarry_1 |
| 5 | point | Quarry_1 |
| 6 | point | Quarry_1 |
| 7 | point | Quarry_1 |
| 8 | point | Q1_1 |
| 9 | point | Q1_2 |
| 10 | point | Q1_3 |
| 11 | point | Q1_4 |
| 12 | point | Q1_5 |

