

# **QUARRY MANAGEMENT PLAN**

**Rankin Inlet Sand Pit**

**Lot 968 plan 4742**



Prepared for:  
Nunavut Impact Review Board  
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## INTRODUCTION

The Rankin Inlet Sand Pit is a quarry located 7.3 kilometres north of Rankin Inlet on lot 968 plan 4742. Its purpose to provide sand to be used by both the local Hamlet and private contractors. Sand is necessary for road maintenance, construction projects, and landscaping for the community of Rankin Inlet. The Sand Pit has a total area of 439,000 square metres (m<sup>2</sup>) and an estimated volume of 300,000 cubic metres (m<sup>3</sup>) of construction grade sand.

The Sand Pit is currently active as a quarry site. The exact date of its initial use is not known, but the community has accessed the materials since the mid-1990's.

The purpose of this Quarry Management Plan (QMP) is to outline the management, execution, and closure of quarrying activities within the Sand Pit. The QMP outlines practices to be followed to ensure safe and environmentally responsible extraction and storage of sand and other fine aggregate.

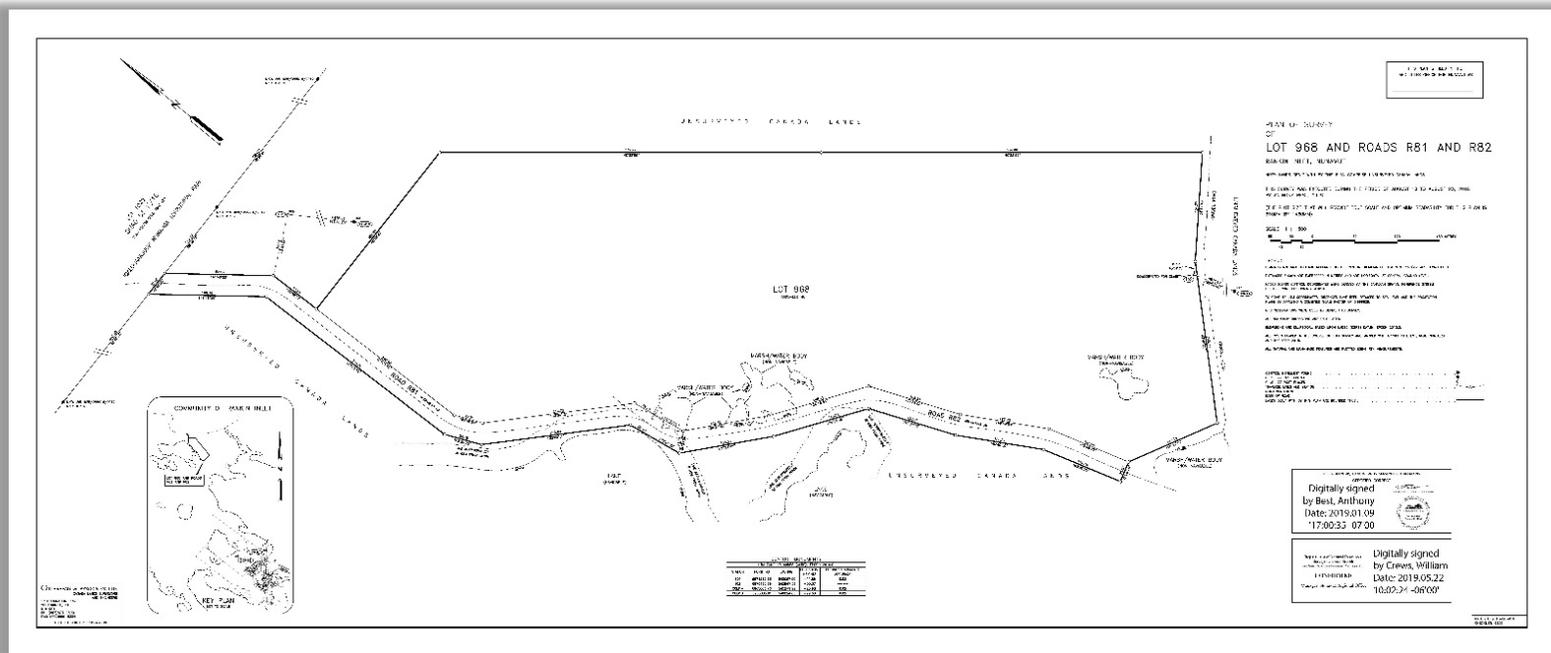


FIGURE 1: An image of the plan and field notes of survey registered at the Land Titles Office under number 4742

## DESIGN

Relying on the area already subject to excavation, a survey with field notes shown in “FIGURE 1” was drafted. The original survey boundary was designed larger than the extraction area to ensure a 30-year supply of sand for the Hamlet. There is a navigable lake to the west of the Sand Pit. This Lake is known locally as “First Landing Lake”. The marine biology of the lake is not known. The survey boundary minimum distance is 30 metres from the high-water mark of First Landing Lake, though extraction of sand will add another metre of boundary from the high-water mark. Boundary dimensions are show on Plan of survey Land Titles office number 4742, but for simplicity, can be rounded to 539 by 281 metres.

## **QUARRY DEVELOPMENT**

Since the Sand Pit has been used for quarrying purposes for at least 30 years, residents of Rankin Inlet are aware of the Sand Pit and prior use. Why this site was selected and under which circumstances is unknown and it is also not known if there was community consultation prior to the Sand Pit being used as a quarry.

No community consultation was undertaken for this Nunavut Impact Review Board (NIRB) application. However, Randy Mercer, Manager, Lands Administration with the Department of Community and Government Services (CGS) has obtain approval from the Hamlet council to proceed with this NIRB application. There are no plans to consult with the community regarding the Sand Pit in the future. If the residents have any concerns or issues regarding the Sand Pit, the Planning and Lands Administrator at the Hamlet office can be contacted by phone at (867) 645-2895 or by email at Lands@RankinInlet.ca.

Access to the Sand Pit will be via an existing road that connects Rankin Inlet to the Iqalugaarjuup Nunanga Territorial Park. This road is not primarily for access to the Sand Pit, but instead services recreational traffic and traffic to and from the Agnico Eagle Mines Limited (Aginco Eagle) Madeleine Gold Mine. Dust mitigation measures are outlined in the Dust Mitigation Plan attached to the NIRB application. There are no culverts in or around the Sand Pit but there are some located on the access road to the Sand Pit. These culverts are maintained by the Hamlet. All culvert locations are shown in FIGURE 2. There will be no modifications to any natural waterbody boundary during the operation of the Sand Pit.



FIGURE 2: Locations of culverts along the road to the Sand Pit

## QUARRY EXCUTION

Any unsuitable overburden material encountered will be stripped from the working area and stockpiled in separate, designated areas.

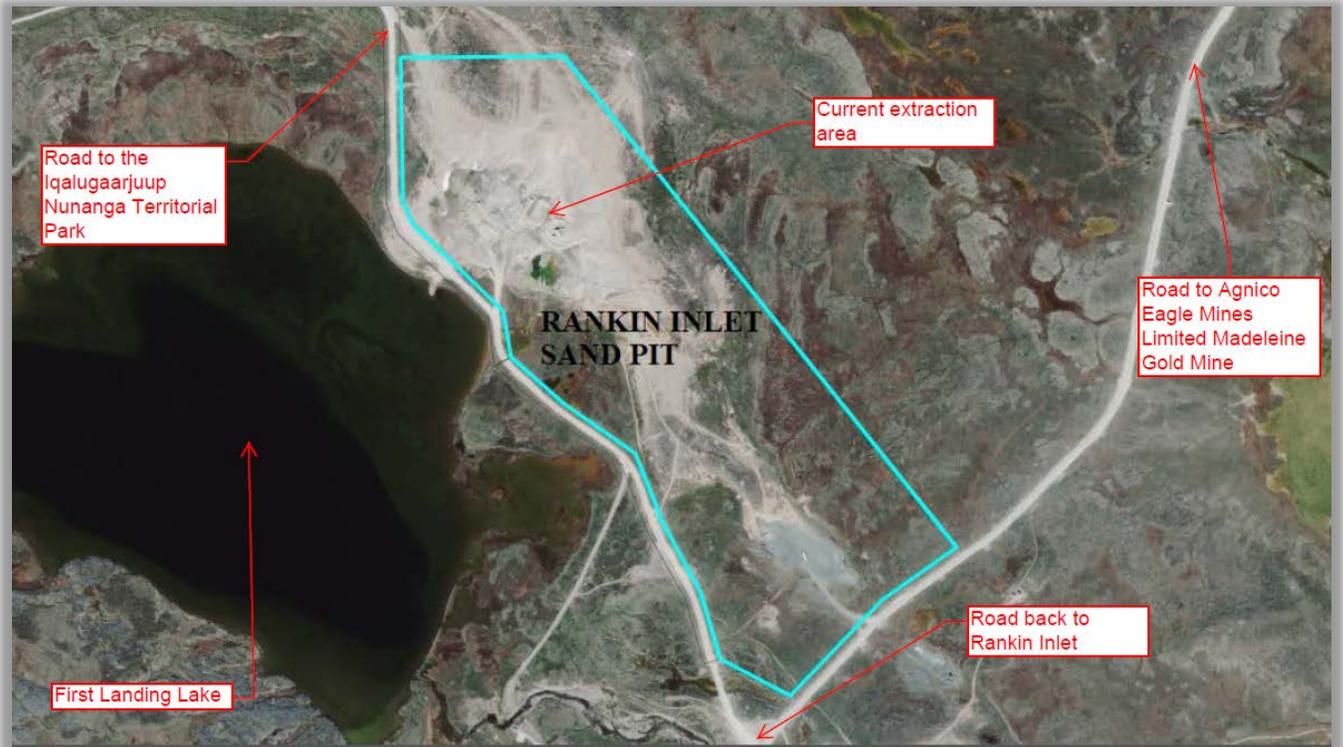


FIGURE 3: Image of the Sand pit and the surrounding area

The Sand Pit contains naturally occurring, high-elevation sand eskers approximately 15 metres in height from the base of the quarry. A Track Excavator will scrape sand off eskers and stockpile the material. The excavator maximum reach is 6.7 metres; therefore, extraction will begin at the esker midpoint. To avoid possibility of landslides, the Hamlet and persons with quarry permits will maintain a safe angled slope from the Sand Pit base. Annual extraction quantities are not known due to the sporadic nature of both the public and private sectors construction projects in Nunavut.

All mobile equipment will not refuel on site, but instead will use the local gas station in Rankin Inlet, which is located on lot 934 plan 4608.

The natural sand eskers contain minimal amounts of undesirable aggregate and boulders. Use of a Screener will be infrequent.

The Hamlet extracts sand using their own Track Excavators, Loaders, and Dump Trucks under an assumed Municipal permit, but private individuals and contractors are required to obtain a quarry permit from the Hamlet. Once a permit is obtained, the private individual(s) or

contractor(s) extract sand from the Sand Pit to the permitted amount using their own mobile equipment. Due to limited municipal personnel and resources, supervision of extraction by private individuals or contractors may not occur.

## **QUARRY PERMITS AND RECORD KEEPING**

Subject to few exceptions, all lands within the municipal boundary are municipal land as outlined in the Nunavut Land Claims Agreement (NLCA). The Sand Pit is located on municipal land. Therefore, any private individual or contractor requiring aggregate must first obtain a quarry permit from the Hamlet.

Permits contain following information:

1. Name and address of the Permittee(s)
2. Location of the extraction site, the type of material being extracted, and the extraction amount in cubic metres
3. Permit expiry date
4. Fees and payments made to the Hamlet for the quarry material
5. Permit terms and conditions

Each permit contains several terms and conditions. Couple examples of these conditions is that permittees must not excavate or store any petroleum fuel or chemical containers within 31 metres of any waterbody, and contractors must adhere to the quarry Spill Contingency and Dust Management Plans. Permit proceeds will be deposited in a municipal financial account and used to cover administrative costs as well as quarry remediation. The terms and conditions of the permit will be used to enforce Hamlet quarry plans when it is not able to supervise extraction.

## **REMEDICATION**

Once the quarry is depleted of useable material, quarry operations cease. Steep slopes will be levelled to a safe angle by the Hamlet. Any ditches will be filled and levelled with the quarry base. All mobile equipment will be removed. Unnatural waste, debris, scrap, and other garbage will be removed. Due to limited capacity and resources, replanting is not feasible.