

**SCREENING PART 2 FORM
PROJECT SPECIFIC INFORMATION REQUIREMENTS (PSIR)**

1. SUBMISSIONS

The Proponent must submit all information pertaining to the Project as a whole. The information requirements below are designed for the purpose of environmental assessment and are not limited to the scope of a single permit or license application.

IMPORTANT: Please be advised of the following:

1. NIRB does not accept references to an ftp site as a submission.
2. The Proponent must provide NIRB with 1 (one) electronic copy and 1 (one) hardcopy of the required information in English.
3. All maps should be legible, and should include grids, be of appropriate scale, indicate the scale, include latitude and longitude references, title, legend and a north arrow. To the extent possible, avoid hand-drawn demarcations; and,
4. Please complete all required information in each section below. If the required information is not applicable to the project proposal, please indicate this in the response with "n/a". If the request has been provided in a different section or report, please note the section or report where the response can be found.

2. GENERAL PROJECT INFORMATION REQUIREMENTS

Project Coordinates and Maps

See the attached map.

Project General Information

The Rankin Inlet Fuel Facility is being upgraded. As part of the upgrade, hydrocarbon contaminated soils must be removed from the site and remediated. Contaminated soils will be remediated in a lined landfarm. This is proven technology in Nunavut and is used routinely.

Three options exist: do nothing, ship the soil South to a secure facility, or treat on site. Do nothing is unacceptable and shipping 6000 cubic metres of soil is financially restrictive. Treat on site may work but will take many years and potentially disrupt the upgrade of the facility.

Construction of the landfarm is scheduled for summer 2009 and remediation should be complete in under 5 years.

The project will require a land use permit from the Government of Nunavut, a water licence from the Nunavut Water Board, a land lease from the Hamlet of Rankin Inlet and a development permit from the Hamlet of Rankin Inlet.

1. Discuss the need and purpose of the proposed project.
2. Discuss alternatives to the project and alternatives to project components, including the no-go alternative. Provide justification for the chosen option(s).
3. Provide a schedule for all project activities.
4. List the acts, regulations and guidelines that apply to project activities.
5. List the approvals, permits and licenses required to conduct the project.

DFO Operational Statement (OS) Conformity

None of the Department of Fisheries and Oceans (DFO) Operational Statement (OS) activities apply to the project proposal.

Transportation

The site will be accessed by an existing all weather road.

Camp Site

There is no camp associated with the project.

Equipment

The project will be tendered in 2009. It is expected to confirm the equipment at that time. Below is an estimate of the types and number of equipment that the contractor will require to construct and operate the facility.

Equipment type and number	Size – dimensions	Proposed use
Bulldozer - 1	Cat D6 or equivalent	Grading, compaction
Dump Truck -	10 yard or equivalent	Transport soil
Rubber tire loader 1	Cat 950 or equivalent	Manage soil
Smooth drum compactor	Bomag BW 213	compaction
Pick up trucks - several	½ ton	Personnel carriers.
Fuel Truck	5 ton	Fuel transfer
Water Truck - 1	5 ton	Soil compaction

Water

No water will be used by this project for any purpose.

Waste Water (Grey water, Sewage, Other)

This project does not generate a process wastewater, nor will it generate sewage. Water from rain and snow melt will collect in the landfarm and flow by gravity to an internal sump. As needed water will be pumped from the sump over the surface of the materials in the landfarm. Evaporation exceeds precipitation in this area so it is expected that there will be no effluent from the landfarm.

Fuel

No fuel will be stored on site. Refuelling the equipment used during construction by will be by transfer from fuel trucks by trained operators.

Chemicals and Hazardous Materials*

There are no chemicals or hazardous materials stored on or associated with this project other than the contaminated soil to be remediated.

Workforce and Human Resources/Socio-Economic Impacts

Construction and materials transfer to the landfarm will be through a contractor. This project provides opportunities for local contractors. Construction of the landfarm will take about 3 weeks; materials transfer about 1 month. The proponent for the project is the Government of Nunavut who has hiring policies for Inuit beneficiaries.

Public Involvement/ Traditional Knowledge

The Hamlet of Rankin Inlet was consulted and the site for the landfarm was selected in consultation with the Hamlet. This is a non-traditional project.

3. PROJECT SPECIFIC INFORMATION

The following table identifies the project types identified in Section 3 of the NIRB, Part 1 Form. Please complete all relevant sections.

It is the proponent's responsibility to review all sections in addition to the required sections to ensure a complete application form.

Project Type	Type of Project Proposal	Information Request
1	All-Weather Road/Access Trail	Section A-1 and Section A-2
2	Winter Road/Winter Trail	Section A-1 and Section A-3
3	Mineral Exploration	Section B-1 through Section B-4
4	Advanced Mineral Exploration	Section B-1 through Section B-8
5	Mine Development/Bulk Sampling	Section B-1 through Section B-12
6	Pits and Quarries	Section C
7	Offshore Infrastructure(port, break water, dock)	Section D
8	Seismic Survey	Section E
9	Site Cleanup/Remediation	Section F
10	Oil and Natural Gas Exploration/Activities	Section B-3 and Section G
11	Marine Based Activities	Section H
12	Municipal and Industrial Development	Section I

SECTION A: Roads/Trails

A-1 Project Information

This project will use an existing road to access the site. See attached drawing. This is a public road that leads to the Hamlet of Rankin Inlet's MSW site, subject to Hamlet by-laws and regulations and is operated and maintained by the Hamlet. The project will be undertaken during snow-free months.

SECTION F: Site Cleanup/Remediation

1. Describe the location, content, and condition of any existing landfills and dumps (indicate locations on a map).

See attached map

2. Identify salvageable equipment, infrastructure and/or supplies.

Once remediated, the soil will be salvageable.

3. Provide a list of all contaminants to be cleaned up, anticipated volumes and a map delineating contaminated areas. This includes buildings, equipment, scrap metal and debris, and barrels as well as soil, water (surface and groundwater) and sediment.

Hydrocarbon contaminated soil.

4. Describe the degree of pollution/contamination, and list the contaminants and toxicity.

The soil is contaminated above CCME/GN Industrial/Commercial criteria, but not to such an extent that the soils are saturated. The hydrocarbon contamination is primarily diesel fuel but some gasoline may be present.

5. Describe technologies used for clean-up and/or disposal of contaminated materials. Include a list of all the physical, chemical and biological cleanup/ remediation methods, operational procedures, and the dosage/frequency of reagents and bacterial medium.

A landfarm will be used. Volatilization and natural processes will first be used. It remediation is slow or incomplete; fertilizer (20-20-20 or equivalent) will be added at a rate not exceeding 600gm/m².

6. Identify and describe all materials to be disposed of off site, including the proposed off site facilities, method of transport and containment measures.

None

7. Discuss the viability of landfarming, given site specific climate and geographic conditions.

Landfarming is proven technology in climates similar to Rankin Inlet and has been used in the past in Rankin Inlet.

8. Describe the explosive types, hazard classes, volumes, uses, location of storage (indicate on a map), and method of storage (if applicable).

None

9. If blasting, describe the methods employed.

No blasting

10. Describe all methods of erosion control, dust suppression, and contouring and re-vegetation of lands.

Erosion control will be managed with proper grading and contouring of the site to manage water and by proper slope selection. Following final removal of materials, the site will be graded to positive drainage and allowed to revegetate naturally.

11. Describe **all** activities included in this project.

- Excavation (please complete Section B-5)
None
- Road use and/or construction (please complete Section A)
- Airstrip use and/or construction
None
- Camp use and/or construction

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|--|------|
| | None |
| ▪ Stockpiling of contaminated material | |
| Hydrocarbon contaminated materials will be treated in a engineered and lined landfarm. | |
| ▪ Pit and/or quarry (please complete Section C) | None |
| ▪ Work within navigable waters (please complete Section H) | None |
| ▪ Barrel crushing | None |
| ▪ Building Demolition | None |
| ▪ Other | None |

4. DESCRIPTION OF THE EXISTING ENVIRONMENT

Describe the existing environment, including physical, biological and socioeconomic aspects. Where it is appropriate, identify local and regional study areas.

Please note that the detail provided in the description of the existing environment should be appropriate for the type of project proposal and its scope.

The following lists are intended as a guide only.

Physical Environment

Please note that a description of the physical environment is intended to cover all components of a project, including roads/trails, marine routes, etc

- Proximity to designated environmental areas, including parks; heritage sites; sensitive areas, including sensitive marine habitat areas (recreational areas; sport and commercial fishing areas; breeding, spawning and nursery areas; known migration routes of living ;marine resources; and areas of natural beauty, cultural or historical history and; other) and protected wildlife areas; and other protected areas.

While the Iqalugaarjuup Nunanga (Meliadine River) Nunuavut Territorial Park is located to the north it will neither influence nor be influenced by this project.

- Eskers and other unique landscapes (e.g. sand hills, marshes, wetlands, floodplains).

None

- Evidence of ground, slope or rock instability, seismicity.
- Evidence of thermokarsts
- Evidence of ice lenses

None

None

None

- Surface and bedrock geology.

Shallow surficial gravel over bedrock and with rock outcropping.

Chemical characteristics of the site specific soil is unavailable, however, the physical landscape has as its base Precambrian intrusive, volcanic, and metamorphosed rocks upon which have been deposited glacial and glaciofluvial forms. Evidence of podzolization in the well-drained soil comprises a slightly bleached horizon and, in one profile examined, an iron pan. The degree of podzolization is believed to be representative of the "low arctic" position of the area. No significant difference is apparent between soils which are 4,000 years old and soils which are appreciably younger (James, 1970).

- Topography.

Relatively flat.

- Permafrost (e.g. stability, depth, thickness, continuity, taliks).

Likely below 1 metre where soils exist.

- Sediment and soil quality.

Not Applicable

- Hydrology/ limnology (e.g. watershed boundaries, lakes, streams, sediment geochemistry, surface water flow, groundwater flow, flood zones).

Not Applicable

- Tidal processes and bathymetry in the project area.

Not Applicable

- Water quality and quantity.

Not Applicable

- Air quality.

There may be some dust arising during construction which may be mitigated with water.

- Climate conditions and predicted future climate trends.

Rankin Inlet receives an average of 16.0 cm of rainfall and 118.1 cm of snowfall annually. Mean annual precipitation totals 27.8 cm. July mean high and low temperatures are 13.1 °C and 4.5 °C. January mean high and low temperatures are -27.9 °C and -35.2 °C. Winds are generally from the north and annually average 24 km/h.

- Noise levels.

Heavy equipment during construction, materials transfer and operations.

- Other physical Valued Ecosystem Components (VEC) as determined through community consultation and/or literature review.

None

Biological Environment

This is a small project of limited scale and scope covering less than 1 hectare. There should have no effect on the biological environment.

Socioeconomic Environment

- Proximity to communities.
Located within the Hamlet of Rankin Inlet.
- Archaeological and culturally significant sites (e.g. pingos, soap stone quarries) in the project and adjacent areas.
None
- Palaeontological component of surface and bedrock geology.
Not applicable
- Land and resource use in the area, including subsistence harvesting, tourism, trapping and guiding operations.
None
- Local and regional traffic patterns.
Located adjacent to the Hamlet MSW site.
- Human Health, broadly defined as a complete state of wellbeing (including physical, social, psychological, and spiritual aspects).
Not applicable
- Other Valued Socioeconomic Components (VSEC) as determined through community consultation and/or literature review.
None

5. IDENTIFICATION OF IMPACTS AND PROPOSED MITIGATION MEASURES

1. Please complete the attached Table 1 – Identification of Environmental Impacts, taking into consideration the components in Appendix A. Identify impacts in Table 1 as either positive (P), negative and mitigable (M), negative and non- mitigable (N), or unknown (U).

See the attached sheet.

2. Discuss the impacts identified in the above table.

The purpose of the project is to remediate contaminated soils. This will be a positive benefit to the environment and to human health.

Physical impacts of dust and noise will be associated with heavy equipment moving soil. They will last only during construction and for one day per month during operation during the snow-free season.

Once the project is complete and the site decommissioned, the liner will be disposed in the landfill site.

3. Discuss potential socioeconomic impacts, including human health.

The project will be undertaken by a contractor which will be determined through a tender process.

There will be no influence on human health to the contractors undertaking the project, except that which comes from having employment on a project that benefits the community.

4. Discuss potential for transboundary effects related to the project.
None

5. Identify any potentially adverse effects of the project proposal on species listed under the *Species at Risk Act (SARA)* and their critical habitats or residences, what measures will be taken to avoid or lessen those effects and how the effects will be monitored.
None

6. Discuss proposed measures to mitigate all identified negative impacts.
Dust may be limited with moist soils and if obnoxious, can be mitigated with water. Nothing can be done about the liner disposed in the MSW site although its only effect will be to consume space..

7. CUMULATIVE EFFECTS

7. Discuss how the effects of this project interact with the effects of relevant past, present and reasonably foreseeable projects in a regional context.

No cumulative effects are identified for this project.

8. SUPPORTING DOCUMENTS

Where relevant, provide the following supporting documents:

- Abandonment and Decommissioning Plan

When the soil is remediated and removed and the landfarm has no further use. the liner removed and disposed in the solid waste site. The remaining soils will be salvaged. The site will be graded to positive drainage and allowed to re-vegetate naturally.

- Existing site photos with descriptions
- Emergency Response Plan

There will be no chemicals or fuels stored on site.

- Comprehensive Spill Prevention/Plan (must consider hazardous waste and fuel handling, storage, disposal, spill prevention measures, staff training and emergency contacts)

Fuel spills will result only from leaks or transfer accidents. Equipment will be inspected daily to prevent leaks. Transfers will be made from approved trucks by trained operators. Any spills will be immediately contained and cleaned up. The selected contractor will provide a full spill prevention plan as part of their tender submission.

- Waste Management Plan/Program

There will be no wastes.

- Monitoring and Management Plans (e.g. water quality, air pollution, noise control and wildlife protection etc.)

Piezometers will be installed as shown on the attached drawing and as otherwise discussed in this document.

- If project activities are located within Caribou Protection Areas or Schedule 1 Species at Risk known locations, please provide a Wildlife Mitigation and Monitoring Plan

Not within a protected area.

In addition, for Project Type 9 (Site Cleanup/Remediation), please provide the following additional supporting documents:

- Remediation Plan including cleanup criteria and how the criteria were derived.

The soil will be remediated in a landfarm to CCME/GN Industrial/Commercial standards.

The remediation criteria were derived from the GN Department of Environment criteria for Industrial/Commercial soils.

- Human Health Risk Assessment of the contaminants at the site.

This is a small project of limited scope and duration.

Hydrocarbon contamination exceeds CCME/GN criteria in contaminated soils at the tank farm. These are the soils that will be removed to the landfarm. The landfarm does not contain a building where vapours would be trapped and/or concentrated. Workers transferring materials or operating the landfarm will be exposed to vapours for a short period and only in an open atmosphere where the wind will dilute them significantly.

This CCME risk assessment that lead to the development of the criteria, suggested a long term (70 years) exposure in a closed building.

Therefore, the potential health impact to workers is insignificant.

There will be not an effluent discharge from the landfarm, therefore, water will not be impacted. Therefore, there is no risk to human health.