

PRELIMINARY SCREENING REPORT FORM

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| <p>PRELIMINARY SCREENER: Sabrina Sturman</p> <p>REFERENCE / FILE NUMBER: S17X-006</p> <p>APPLICANT: Government of Northwest Territories, Department of Municipal and Community Affairs</p> <p>DATE: January 18, 2018</p> | <p>EIRB REFERENCE NUMBER:</p> <p>TITLE: Regulatory Specialist</p> <p>ORGANIZATION: Sahtu Land and Water Board</p> |
|--|--|

- Type of Development:** (X) Miscellaneous
- Type of Development:** ✓ New Development
(CHECK ALL THAT APPLY) ○ Amend, EIRB Ref. #
 ○ Renew, EIRB Ref. #
 ✓ Requires permit, licence or authorization
 ○ Does not require permit, licence or authorization

Project Summary: GNWT-MACA submitted an application for a Type A Land Use Permit to the Sahtu Land and Water Board (SLWB) on December 15, 2017. The purpose of this land use application is to drill groundwater monitoring wells in the vicinity of active decommissioned and/or closed landfills and sewage lagoons in the Communities of Fort Good Hope (13 wells), Tulita (8 wells) and Colville Lake (13 wells) and the Town of Norman Wells (5 wells). The work is being completed in order to monitor groundwater for environmental contaminants. As stated by the applicant in section #6 of the application, the project will include borehole drilling, design and installation of monitoring wells, vehicle gate installation, monitoring well development and surveying, and groundwater sampling at each well. Following well installation, a post-installation report and sampling results report will be provided to the GNWT (by the consultant, Dillon Consulting) and a long-term sampling plan and sampling procedures manual will be developed specific to each site.

- Scope:** The scope of the proposed undertaking will include:
- Installation of monitoring wells, including use of earth-drilling machinery, in the communities specified in the application
 - Gate installation;
 - Clearing of brush and overburden;
 - Use of equipment; and
 - Monitoring

Land Use Eligibility – Section 18 Mackenzie Valley Land Use Regulations

Principal Activities (related to scoping)
(CHECK ALL THAT APPLY)

- | | | |
|---|---|---|
| <input type="radio"/> Construction | <input type="radio"/> Exploration | <input type="radio"/> Decommissioning |
| <input checked="" type="radio"/> Installation | <input type="radio"/> Industrial | <input type="radio"/> Abandonment |
| <input type="radio"/> Maintenance | <input type="radio"/> Recreation | <input type="radio"/> Aerial |
| <input type="radio"/> Expansion | <input type="radio"/> Municipal | <input type="radio"/> Harvesting |
| <input checked="" type="radio"/> Operation | <input type="radio"/> Quarry | <input type="radio"/> Camp |
| <input type="radio"/> Repair | <input type="radio"/> Linear / Corridor | <input type="radio"/> Scientific / Research |
| <input type="radio"/> Water Intake | <input type="radio"/> Sewage | <input type="radio"/> Solid Waste |

- ✓ Other: Geotechnical drilling

Principal Development Components (related to scoping)

(CHECK ALL THAT APPLY)

- Access Road
 - construction
 - abandonment/removal
 - modification e.g., widening, straightening
- ✓ Automobile, Aircraft or Vessel Movement
- Blasting
- Building
- Burning
- Burying
- Channeling
- Cut and Fill
- ✓ Cutting of Trees or Removal of Vegetation
- Dams and Impoundments
 - construction
 - abandonment/removal
 - modification
- Ditch Construction
- Drainage Alteration
- Drilling other than Geoscientific
- Ecological Surveys
- Excavation
- Explosive Storage
- Fuel Storage
- Topsoil, Overburden or Soil
 - fill
 - disposal removal
 - storage
- ✓ Waste Management
 - ✓ disposal of hazardous waste
 - ✓ waste generation
 - drilling wastes and hydraulic flowback fluids
- Sewage
 - disposal of sewage
- ✓ Geoscientific Sampling
 - trenching
 - diamond drill
 - borehole core sampling
- Bulk soil sampling
- Gravel
- Hydrological Testing
- Site Restoration
 - fertilization
 - grubbing
 - planting/seeding
 - reforestation
 - scarify
 - spraying
 - recontouring
- Slashing and removal of vegetation
- Soil Testing
- Stream Crossing/Bridging
- Tunneling/Underground
- Water Intake
- Other

NTS Topographic Map Sheet Numbers

NTS Map Sheet #s: (LIST ALL THAT APPLY)

096C, 096E, 106I, 96M

Latitude/Longitude and UTM System:
(DEGREES, MINUTES, SECONDS, MAP SHEET)

Tulita Active Lagoon – 64°54'40.79"N, 125°31'58.08"W
 Tulita Active Landfill – 64°54'24.98"N, 125°31'32.76"W
 Norman Wells Active Landfill – 65°17'45.93"N, 126°43'50.87"W
 Fort Good Hope Active Lagoon – 66°16'54.72"N, 128°36'31.49"W
 Fort Good Hope Active Landfill – 66°16'51.90"N, 128°36'35.82"W
 Fort Good Hope Closed Landfill – 66°16'5.07"N, 128°36'30.64"W
 Colville Lake Active Lagoon – 67°1'5.45"N, 126°3'51.88"W
 Colville Lake Active Landfill – 67°1'5.68"N, 126°3'45.57"W
 Colville Lake Closed Landfill – 67°2'17.27"N, 126°4'0.58"W

Nearest Community and Water Body: Town of Norman Wells – Mackenzie River, Fort Good Hope – Mackenzie River, Colville Lake – Colville Lake, Tulita – Mackenzie River

Land Status (consultation information)

(CHECK ALL THAT APPLY)

- Free Hold / Private Commissioner's Land Federal Crown Land Municipal Land
- June 28, 2017 letter confirming multiple reserves for Monitoring Well sites from A/Deputy Minister of GNWT-Department of Lands included in application (Appendix A)

Transboundary Implications

(CHECK ALL THAT APPLY - IF KNOWN & APPLICABLE)

- British Columbia Alberta Saskatchewan Yukon
- Nunavut Wood Buffalo National Park Inuvialuit Settlement Region

N/A

Type of Transboundary Implication:

- Impact / Effect Development

Public Concern

(DESCRIBE)

N/A

PHYSICAL - CHEMICAL EFFECTS

IMPACT

MITIGATION

1. Groundwater

Water table alteration

1. To prevent intrusion of surface water, the applicant has stated monitoring wells will be sealed with bentonite at closure.
2. Should a flowing artesian well be encountered during drilling, Condition #11 requires the Permittee to a) plug the Borehole in such a manner as to permanently prevent any further outflow of water; and (b) immediately report the occurrence to the Board and an Inspector.

Water quality changes

1. The project is to monitor groundwater, the applicant stated in box #19, additional information for box 7 of the LUP application, i that on-site training for government staff and/or staff of the respective community government will be provided to enable the GNWT to perform monitoring well sampling on an independent basis in the future.
2. To prevent intrusion of surface water, well installation includes a layer of bentonite material poured into the hole around the well casing, on top of a sand layer. The bentonite will seal the space between the well casing, the side of the drilled hole and the sand layer to mitigate surface water from infiltrating into the well and affecting the results of the groundwater sampling. The bentonite will fill the hole to the ground surface and then native material will be placed around the base of the well and mounded to promote surface run-off away from the well. Consultation with local works staff on well locations will be sought to determine if there are known areas of ponded water around the sites.
3. If fuel spills it may migrate into groundwater.
4. A Spill Contingency Plan has been developed in accordance with INAC's *Guidelines for Spill Contingency Planning*, April 2007.
5. Standard spill kits will be located wherever fuel is used.
6. Portable drip pans and appropriately sized transfer hoses with pumps will be used during refueling the drill rig to avoid any leaks/drips on the land.

7. If a reportable spill occurs, it will be reported to the NWT 24-Hour Spill Report Line at (867) 920-8130 or spills@gov.nt.ca and GNWT Inspector 867-587-7206.
8. A revised Spill Contingency Plan will be required to be submitted to the Board within 30 days of issuance that includes the correct contact information for Environment and Climate Change Canada (ECCC) Emergency in Section 4.2 (Off-site Resources).

Infiltration changes

1. A 2" PVC well will be installed at each sampling location, drilled to permafrost or refusal. Each well will be protected with a lockable 6" steel casing. The wells will be sealed against surface water intrusion and stick up 2-3 feet above the ground surface
2. The standard Flowing Artesian Wells, condition #9, was added to the Land Use Permit to prevent flowing water from a borehole by: (a) plug the Borehole in such a manner as to permanently prevent any further outflow of water; and (b) immediately report the occurrence to the Board and an Inspector.

Other:

N/A

IMPACT

MITIGATION

1. Surface Water

Water flow or level changes

Water quality changes

1. Fuel is to be transported in support of land use activities and therefore there is a potential for fuel used on site to contaminate surface waters. The impact of spills can be reduced by having an appropriate Spill Contingency Plan and spill equipment in place, and by training personnel in spill responses. The Spill Contingency Plan, once approved, will regulate fuel handling and spills management. Standard fuel handling and spill contingency conditions have been included in the LUP.
2. A Spill Contingency Plan has been developed in accordance with INAC's *Guidelines for Spill Contingency Planning*, April 2007.
3. Standard spill kits will be located wherever fuel is used.
4. Portable drip pans and appropriately sized transfer hoses with pumps will be used during refueling the drill rig to avoid any leaks/drips on the land.
5. If a reportable spill occurs, it will be reported to the NWT 24-Hour Spill Report Line at (867) 920-8130 or 24T spills@gov.nt.ca 24T and GNWT Inspector 867-587-7206.
6. A revised Spill Contingency Plan will be required to be submitted to the Board within 30 days of issuance that includes the correct contact information for Environment and Climate Change Canada (ECCC) Emergency in Section 4.2 (Off-site Resources).

Water quantity changes

Drainage pattern changes

Temperature

Wetland changes / loss

Other: Increased sedimentation, erosion effects, disturbance of aquatic organisms.

N/A

IMPACT

MITIGATION

2. Noise

Noise increase

1. The applicant stated in box #19, additional information for box #6, of the application that short-term, temporary noise-related impacts will occur during well drilling. There is no mitigation for noise during drilling and installing monitoring wells. As any increase in noise disturbance from undertaking will be temporary and localized in nature, there are no anticipated long term effects.

Noise in/near water

Other:

N/A

IMPACT

MITIGATION

3. Land

Geologic structure changes

1. Changes to geologic structure will be minimal and restricted to drilling and installing monitoring wells in the vicinity of landfills and sewage lagoons. If required, a vehicle gate will be installed around the monitoring wells to provide long-term access control to the wells. The well depth will extend as far as permafrost or refusal, whichever is shallower, as wells only need to be deep enough to access the groundwater table.

Soil contamination

1. Soil contamination is possible in the case of a spill.
2. A Spill Contingency Plan has been developed in accordance with INAC's *Guidelines for Spill Contingency Planning*, April 2007.
3. Standard spill kits will be located wherever fuel is used.
4. Portable drip pans and appropriately sized transfer hoses with pumps will be used during refueling the drill rig to avoid any leaks/drips on the land.
5. .
6. If a reportable spill occurs, it will be reported to the NWT 24-Hour Spill Report Line at (867) 920-8130 or 24T spills@gov.nt.ca and GNWT Inspector 867-587-7203
7. All spill-related waste will be disposed of at an appropriate off-site facility.

Ground disturbance

1. All drilling activities will be occurring around existing disturbed areas and minimal brush clearing is anticipated.
2. Standard LUP conditions related to restoration of lands will apply with additional requirement to include final closure and reclamation plans for the wells
3. Standard LUP conditions related to preventing of rutting and a stop work condition should rutting occur will apply.

Buffer zone loss

Soil compaction & settling

Destabilization / erosion

Permafrost regime alteration

Other:

N/A

IMPACT

MITIGATION

4. Non Renewable Natural Resources

Resource depletion

1. Equipment and vehicles using fossil fuels will be utilized in the most efficient manner possible in order to minimize program fossil fuel requirements.

Other

N/A

IMPACT

MITIGATION

5. Air / Climate / Atmosphere

Greenhouse gases

1. Vehicles and equipment, using fossil fuels, emit substances that contribute to air pollution and global warming. The cumulative effects of these activities are an unavoidable impact of fossil fuel usage. The cumulative effects are unknown.

Other

BIOLOGICAL ENVIRONMENT

IMPACT

MITIGATION

1. Vegetation

Species composition

Species introduction

Toxin / heavy metal accumulation

Loss of timber along seismic lines

Damage to ground vegetation and permafrost

1. Minimal clearing of vegetation may be required to access sites.
2. Minimizing brush removal will mitigate soil erosion and enhance re-growth potential.
3. Standard conditions are included in the Permit to ensure clearing is minimized with appropriate brush disposal. If required, disposal of clear brush will be in an appropriate facility with a preference for onsite municipal facilities.

Increased fire hazard

Other

N/A

IMPACT

MITIGATION

2. Wildlife & Fish

Effects on rare, threatened or endangered species

Fish population changes

Waterfowl population

Breeding disturbances

Population reduction

Species diversity change

Health changes (identify)

1. Spills of fuel could be harmful to wildlife and aquatic life.
2. All spills will be cleaned up according to the Spill Contingency Plan.

Behavioral changes (identify)

Habitat changes / effects

Game species effects

Toxins / heavy metals

Forestry changes

Agricultural changes

Other:

N/A

INTERACTING ENVIRONMENT

1. Habitat & Communities

Predator-prey

Wildlife habitat / ecosystem composition changes

1. A standard condition is included in Permit to ensure the Permittee will take all reasonable measures to prevent damage to wildlife and fish Habitat during this land-use operation (condition 20).

Reduction / removal of keystone or endangered species

Removal of wildlife corridor or buffer zone

Other:

N/A

1. Social & Economic

Planning / zoning changes or conflicts

Increase in urban facilities or services use

1. Minimal increases in use of urban facilities or services is expected for the short duration of installing the monitoring wells.

Rental house

Airport operations / capacity changes

Human health hazard

2. Hazardous materials on-site will be primarily limited to fuel.
3. Anyone handling hazardous material on-site will be required to wear all personal protective equipment.
4. All personnel are required to support and comply with the consultant's (Dillon Consulting) Environmental, Health and Safety Policy making safety, health and protection of the environment a part of their daily routine and ensuring that they follow safe work methods and relevant regulations.

Impair the recreational use of water or aesthetic quality

Affect water use for other purposes

Affect other land use operations

Quality of life changes

Public concern

Other:

5. The installation of monitoring wells provides new infrastructure to the community. GNWT-MACA has stated the communities may choose to

have their staff conduct the sampling. The applicant will provide an opportunity to train staff in groundwater sampling. This provides an opportunity for increased capacity within communities which can improve compliance with existing municipal Water Licences.

N/A

1. Cultural & Heritage

Affects to historic property

Increased economic pressure

Changes to or loss of historic resources

Changes to or loss of archeological resources

Increased pressure on archeological resources

Effects to aboriginal lifestyle

N/A:

1. Given the location of activities and involvement of minimal ground disturbance, the risk of impact to buried pre-contact sites is very low. If any new cultural or heritage resource is discovered during the undertaking, work must cease and the Prince of Wales Northern Heritage Centre shall be contacted immediately. Standard LUP conditions applied that pertain to archaeological and heritage resources

PRELIMINARY SCREENER / REFERRING BODY INFORMATION
(CHECK ALL THAT APPLY)

| | RA or DRA | ADVISE | PERMIT REQUIRED |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| Federal | | | |
| ATOMIC ENERGY CONTROL BOARD | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| CANADIAN HERITAGE | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| CANADIAN TRANSPORTATION AGENCY | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ENVIRONMENT AND CLIMATE CHANGE CANADA | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| FISHERIES & OCEANS | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| ABORIGINAL AFFAIRS AND NORTHERN DEVELOPMENT CANADA | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| CANADIAN NORTHERN ECONOMIC DEVELOPMENT AGENCY – NWT REGION | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| INDUSTRY CANADA | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| NATIONAL DEFENSE | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| NATIONAL ENERGY BOARD | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| NATURAL RESOURCES | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| PUBLIC WORKS & GOVERNMENT SERVICES | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| TRANSPORT CANADA | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| CANADIAN NUCLEAR SAFETY COMMISSION | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Territorial | | | |
| MUNICIPAL & COMMUNITY AFFAIRS | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| EDUCATION, CULTURE AND EMPLOYMENT | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| ENVIRONMENT & NATURAL RESOURCES | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| INFRASTRUCTURE | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| DEPARTMENT OF HEALTH AND SOCIAL SERVICES | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| PRINCE OF WALES NORTHERN HERITAGE CENTRE | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| INDUSTRY, TOURISM AND INVESTMENT | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| LANDS | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| OFFICE OF THE REGULATOR OF OIL AND GAS OPERATIONS | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| Boards | | | |
| GWICH'IN LAND & WATER BOARD | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| SAHTU LAND & WATER BOARD | <input checked="" type="checkbox"/> | <input type="radio"/> | <input checked="" type="checkbox"/> |
| MACKENZIE VALLEY LAND & WATER BOARD | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| MACKENZIE VALLEY ENVIR. IMPACT REVIEW BOARD | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| SAHTU LAND USE PLANNING BOARD | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| SAHTU RENEWABLE RESOURCES BOARD | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| SAHTU HEALTH BOARD | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| Aboriginal / First Nation | | | |
| SAHTU SECRETARIAT INCORPORATED | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| CHARTER COMMUNITY OF K'ASHO GOT'INE (FORT GOOD HOPE) | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| FORT GOOD HOPE METIS NATION | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| FORT GOOD HOPE RENEWABLE RESOURCES COUNCIL | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| K'ASHO GOT'INE DISTRICT LAND CORP. (YAMOGA) | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| DELINE GOTINE GOVERNMENT | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| FORT NORMAN WELLS METIS LAND CORPORATION | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| FORT NORMAN WELLS RENEWABLE RESOURCES COUNCIL | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| NORMAN WELLS LAND CORPORATION | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| NORMAN WELLS RENEWABLE RESOURCE COUNCIL | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| HAMLET OF TULITA | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| TULITA RENEWABLE RESOURCES COUNCIL | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| TULITA LAND CORPORATION | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |
| TULITA BAND COUNCIL | <input type="radio"/> | <input checked="" type="checkbox"/> | <input type="radio"/> |

TULITA DISTRICT LAND CORPORATION
 BEHDZI AHDA FIRST NATION BAND

Local Government
 TOWN OF NORMAN WELLS

REASONS FOR DECISION

(LIST ALL REASONS AND SUPPORTING RATIONALES FOR PRELIMINARY SCREENING DECISION)

- Adequate time has been given to Reviewers to provide potential environmental impacts and mitigation measures on information as requested from the Proponent during the Initial review period.
- The effects of the Program on the environment can take place in an environmentally responsible manner provided that mitigation measures are followed.

| - | PRELIMINARY SCREENING DECISION |
|--|---|
| <input type="radio"/> | Outside Local Government Boundaries |
| <input type="radio"/> <input type="radio"/> | The development proposal might have a significant adverse impact on the environment, <i>refer it to the EIRB.</i> <i>Proceed with regulatory process and/or implementation.</i> |
| <input type="radio"/> <input type="radio"/> | The development proposal might have public concern, <i>refer it to the EIRB.</i> <i>Proceed with regulatory process and/or implementation.</i> |
| <input checked="" type="checkbox"/> | Wholly within Local Government Boundaries |
| <input type="radio"/> <input checked="" type="checkbox"/> | The development proposal is likely to have a significant adverse impact on air, water or renewable resources, <i>refer it to the EIRB.</i> <i>Proceed with regulatory process and/or implementation.</i> |
| <input type="radio"/> <input checked="" type="checkbox"/> | The development proposal might have public concern, <i>refer it to the EIRB.</i> <i>Proceed with regulatory process and/or implementation.</i> |

Preliminary Screening Organization

Sahtu Land & Water Board

Signatures

Misled Donlito