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NUNAVUT WATER BOARD

NUNAVUT IMALIRIYIN
KATIMAYINGI

OFFICE DES EAUX DU NUNAVUT

**Water Licence Application
Supplementary Questionnaire
For Municipalities**

Nunavut Water Board
SEP 29 2003
Public Registry

Municipality and Region

Position

Are maps attached? ☐ Yes ☒ No

If no, please indicate when they will be available.

Indicate which organization has provided the various maps or diagrams.

III. WATER SUPPLY

Water Source

1. Type of source: ☐ Lake ☐ River ☐ Well ☒ ☐ Other

2. Name of water source and alternative, if any.

*

Primary Source Secondary Source
3. Usual break-up & freeze-up period: June September
Break-up Freeze-up

Water Intake

1. Please provide short descriptions for the following:
 - a. Freshwater intake facility
Stream

 - b. Operating capacity of pump used
NIL

 - c. Intake screen size
NIL

Water Storage

1. Type of water storage facility. (Check where applicable)
☐ Reservoir/Pond ☒ **Storage tank** ☐ none
☐ Other _____ Description:

2. If "reservoir" checked: **N/A**

Is the reservoir lined? ☐ Yes ☐ No

What type of liner? _____ When was it installed? _____

Water Treatment

1. Indicate the quality of the water.

Summer:	<input type="checkbox"/> [*] good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Fall:	<input type="checkbox"/> [*] good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Winter:	<input type="checkbox"/> [*] good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Spring:	<input type="checkbox"/> [*] good	<input type="checkbox"/> fair	<input type="checkbox"/> poor

2. Describe: Recirculation Process under Heat Tracing

3. Type of water treatment.

☐ Filtration and chlorination
☐ ^{*} Chlorination only
☐ None
☐ Other _____
Description

Water Use And Distribution

1. Volume of water use:

Distribution	Estimated number of people on the system A	Estimated average water consumption (Liters/capita/day) B	Total water consumption (Day/day) A x B
PIPED			
TRUCKED	150	95.17	14,275.50 liters
TOTAL			

General Condition of the water supply facilities

1. General condition of the:
 - a. Water supply facility
* ☐ satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

- b. Storage facility
☐ * ☐ satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

- c. Distribution system
☐ * ☐ satisfactory ☐ Unsatisfactory

If unsatisfactory, explain.

Modifications

1. Are there any changes *planned* for the water supply system?
☐ No ☐ * Yes

If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

Planning stage, waiting for Capital funding.

2. Does the community believe changes needed to the water supply, storage or treatment facilities? Describe.

Yes, Source water modeling and optimization of the entire water supply system.

Identification

Are there signs identifying drinking water sources presently used by the municipality?

☐ Yes ☐ * ☐ No

IV. SEWAGE DISPOSAL

1. What type(s) of sewage treatment does the community have?

☐ ^{*} ☐ Lagoon
☐ Mechanical system
☐ Wetland
☐ Honey bag
☐ Combination/Other: Describe:

Lagoon (if applicable)

1. Has there been any operating problems with the lagoon? ☐ Yes ☐ ^{*} ☐ No
If yes, describe

Mechanical System (if applicable) *N/A*

1. Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).
2. Are sludge's produced ? ☐ Yes ☐ No
If yes, describe how the sludge's are disposed of:

Wetland (if applicable)

1. Describe the Wetland wastewater treatment system.

Natural sloping ground without vegetation.

Honey Bag Pit: N/A

1. Does the municipality use a honey bag pit?
☐ Yes ☐ No
If yes, describe the location, drainage, and operation/maintenance of the site:

Commercial, Industrial and/or Hazardous Wastes

1. Are there any sources of commercial or industrial *liquid* waste being discharged or deposited to the wastewater treatment system that may affect the quality of the effluent or leachate produced? *(The municipality should be aware that any commercial or industrial discharge has to be approved by the municipality)*

___ Yes * ___ No

If yes, indicate sources, types and quantities.

Sewage Discharge

1. Are fish, shellfish and other wildlife harvested in or near the discharge area?
___ Yes ☒ No
If yes, indicate species harvested, and level of harvest.

General Condition of the sewage treatment facilities

1. General condition of the:
- a. Sewage collection system ☒ Satisfactory ___ Unsatisfactory
If unsatisfactory, explain.
- b. Discharge control system ☒ Satisfactory ___ Unsatisfactory
If unsatisfactory, explain.
- c. Dams, diversion dykes, berms ☒ Satisfactory ___ Unsatisfactory
If unsatisfactory, explain.

Modifications

1. Are there any changes *planned* in the sewage treatment facilities? ☒ No
___ Yes
If yes, please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.
2. Does the municipality or residents believe changes are needed to the sewage treatment facilities?
If yes Describe.
NO

Abandonment and Restoration; N/A

1. List and describe abandoned or restored sewage treatment facilities.
Refer to original attachment maps.

Identification

Are there signs identifying past and present sewage disposal sites? ___ Yes ___ No

V. SOLID WASTE DISPOSAL

1. Briefly describe how solid wastes are collected and delivered to the disposal area.
2. Is the solid waste site fenced? ☐ Yes ☒ No
3. Is the fence adequate? ☐ Yes ☐ No
If no, describe:

Waste Reduction

1. Does the municipality burn garbage?
☐ Yes ☒ No
If yes, describe how and when this is done.
2. Has the municipality considered measures for waste reduction such as recycling or reuse?
☐ Yes ☒ No
If yes, describe

Animal Carcasses Pit

1. Does the municipality have an area for the disposal of animal carcasses?
☐ Yes ☒ No
If yes, describe the location, drainage and operation/maintenance of the site

Waste Oil Pit

1. Describe the waste oil storage area.
A designated area inside the landfill site

Bulky Scrap Metal Waste Disposal Area

1. Does the municipality have a scrap metal or bulky waste disposal area?
☒ Yes ☐ No
If yes, briefly describe its location and operation plan.

Commercial, Industrial and/or Hazardous Wastes Disposal Area

1. Are there any commercial or industrial waste being discharged or deposited in the solid waste disposal area? (The municipality should be aware that any discharge of commercial or industrial waste has to be approved by the municipality)

___ Yes * ___ No

If yes, please indicate sources, types and quantity.

2. Will the municipality use a hazardous waste disposal area? **N/A**
___ Yes ___ No

If yes, describe its:

- a. Location
- b. Structure
- c. Operation and maintenance (describe special handling/disposal methods for these wastes)

General Condition of the Solid Waste Disposal Area

1. Comment on the general conditions of the:
- a. Solid waste disposal area * ___ Satisfactory ___ Unsatisfactory

If unsatisfactory, explain.

Modifications

1. Are there any changes planned for the solid waste disposal area?

___ * ___ No ___ Yes

If yes, attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

2. Are changes needed to the solid waste disposal area? **N/A**
Describe.

Abandonment and Restoration

1. List and describe abandoned or restored solid waste facilities. N/A
Indicate their location on a map.

Identification

Are there signs identifying past and present solid waste disposal sites?

☐ Yes ☒ No

VI. INSPECTION AND MONITORING

1. When were municipal facilities inspected by?

☒ * Indian and Northern Affairs Inspector at:

Date: July, 2008

☐ * Municipal and Community Affairs (**Presently GN-CGS**)

Date: September, 2008

☐ Other: _____ Date: _____

2. Is there a system in place for reporting spills?

☒ Yes ☐ No

If yes, describe.

Spill Action Line

3. Is there a contingency plan for clean up of spills?

☐ Yes ☐ No

If yes, describe.

Spill Kits are available.

4. Have any spills occurred in the past five years?

☐ Yes ☒ No

If yes, describe and show on a map the locations of the spills. What action has been taken to clean the affected areas?

Monitoring Program

1. Is water sampling and analysis done?

* ☐ Yes ☐ No

If Yes, answer the questions a to e:

- a. Briefly describe how samples are taken and sent to the laboratory.
b.

Daily from each Truck and monthly for the lab.

The monthly samples are sent to GN-DOH lab through local Health centre.

- c. Briefly describe any monitoring done for wastewater effluent and leachate.

INAC inspector did effluent sampling during decanting in July 2008

- c. Who is responsible for water sampling?

Name: Hamlet Water Truck Drivers

Position: Water Truck Drivers

Telephone #: _____

Fax #: _____

Level of training: **Locally Trained**

- d. Recognized laboratory performing analysis of samples.

Name: **GN-DOH Lab in Iqaluit**

Address: _____

Telephone #: _____

Fax #: _____

- e. Are any changes planned in the water quality-monitoring program? ☐ Yes

* ☐ No

If yes, describe.

VII. PUBLIC CONCERNS

1. What concerns does the municipality or residents have regarding the municipal water supply water supply or waste disposal facilities? List the concerns and describe what steps have been taken to address those concerns.

Optimization stuffy is being planned. New Water Trucks will be ordered.

VIII. PUBLIC HEALTH : Please contact GN-DOH

(Help may be obtained from the Regional Environmental Health Officer if you have difficulty with this section.)

1. Date: _____
2. Municipality: _____
3. Contact: (Environmental Health Officer Contact)

Telephone # _____

Fax #: _____

4. Have there been any problems or health/environmental concerns with drinking water?

___ Yes * ___ No

If yes, describe:

5. Have there been any problems or health/environmental concerns with sewage disposal/treatment?

___ Yes * ___ No

If yes, describe

6. Have there been any problems or health/environmental concerns with solid waste disposal?

___ Yes * ___ No

If yes, describe:

Monitoring Program

1. Does the Regional Health Board perform water quality sampling?

☒ Yes ☐ No

If Yes, answer questions (a) to (e)

GN-DOH Environmental Health officer

- a. Briefly describe the sampling methodology.

Health inspectors collect samples two/three times in a year and test in their Lab in Iqaluit for QA/AC.

- b. Briefly describe any monitoring of wastewater effluent and leachate.

INAC inspector did this year. Hamlet will start by themselves from next year and so.

- c. Who is responsible for sampling?

Name: Hamlet Staff

Position: Whoever on duty

Telephone #: _____

Fax #: _____

Level of training: Locally trained _____

- c. Recognized laboratory performing analysis of samples.

Not established yet. Planning from 2009

Name: _____

Address: _____

Telephone #: _____

Fax #: _____

- e. Are any changes planned in the water quality-monitoring program?

☐ Yes ☒ No

If yes, describe.

IX. TECHNICAL INFORMATION *(Assistance may be obtained from the Regional Community Government (CGS) office if you have difficulty with this section).*

1. Date: Sep.12, 2008
2. Municipality: Hamlet of Hall Beach
3. Contact: SAO

Telephone #: _____

Fax #: _____

4. Population: 150
5. Estimated growth rate over next 5 years: Total: 155 (estimated), Growth rate: 3.33%
6. Has any baseline data collection and evaluation been undertaken with respect to the physical, biological, and chemical characteristics of the main water bodies in the area?
 Yes * No

If yes, provide a summary of program details or site title, authors, cities, and dates:

If no, are such studies being planned?

 No * Yes (If yes, when and by whom):

Not yet determined.

7. Have Elders been consulted in the collection of baseline data on main water bodies in the area?
 No * Yes
If yes, specify.
No record is available.
8. Has any baseline data collection and evaluation been undertaken with respect to the various biophysical components of the environment potentially affected by the project?
 * No Yes
If yes, provide details below.

If no, are such studies being planned?

☐ No ☐ *Yes.

If yes, specify:

Once funding is approved.

Attachments NIL

1. Attach detailed plan or drawing(s) of the present *solid waste disposal area*. Include the following information:
 - a. details of pond size and elevation;
 - b. details of all retaining structures (dimensions, materials of construction, etc.);
 - c. details of the drainage basin, and existing and proposed drainage modifications;
 - d. details of all decant, siphon mechanisms etc., including sewage treatment facilities;
 - e. details regarding direction and path of wastewater flow from the area;
 - f. distance from watercourses and fish bearing waters;
 - g. location and construction of liners;
 - h. leachate and groundwater collection systems; and
 - i. control structures.
2. Attach detailed plan or drawing(s) of the present *sewage treatment system*. The drawing(s) should include the following:
 - a. details of all retaining structures (dimensions, materials of construction, etc.);
 - b. details of the drainage basin, and existing and proposed drainage modifications;
 - c. details regarding direction and path of wastewater flow from the area;
 - d. indications of the distance from watercourses and fish bearing waters;
 - e. all sources of seepage presently encountered near these areas, volumes (m^3/day) and directions.
 - f. The volume of seepage flow (m^3 / day); and
 - g. The direction of each flow.
3. Are drawings for the solid waste disposal area and sewage treatment system attached?
☐ Yes ☐ * ☐ No

If Yes, who has provided them?

If no, indicate when they will be available.

Hydrology

1. Effects on surface water flow:

Are any stream channels altered? ☐ Yes ☒ No

Is the natural storage or water level of any lake or pond changed? ☐ Yes ☒ No

Are there changes in water flow downstream of the project? ☐ Yes ☒ No

Is a storage reservoir created in a natural channel? ☐ Yes ☒ No

If yes to any of the above, briefly describe the expected change in flow or storage:

2. Drainage Area: N/A

What is the drainage area? _____ km²

What is the average elevation of the drainage basin? _____ metres

Is the drainage basin outlined on an attached map? ☐ Yes ☐ No

Describe the drainage basin characteristics, (vegetation, general soil type, lakes, swamps and permafrost areas, etc.)

3. Channel characteristics:

Is the course of any channel changed? ☐ Yes ☒ No

If yes, describe measures to maintain stream bed and bank stability.

4. Will the cross-section of any watercourse be changed? ☐ Yes ☒ No

If yes, describe the change and its effect on the flow capacity of the channel.

Water Supply

1. What is the rate of withdrawal from the source? 16.99 **m³/day**
2. Is water drawn from the source * intermittently continuously
3. If it is drawn intermittently, during what month(s) is it drawn?
June to August
4. For what period is it drawn (days/weeks/months)?
Months
5. What is the rate of flow of source (if river) or size (if lake)? Unknown
6. At the intended rate of water usage, describe the effects on the river or lake from which water will be drawn.

Not known

Water Intake

1. Please provide short descriptions of the following:
 - a. freshwater intake facility : **3 inch diameter gravity intake line**
 - b. operating capacity of the pumps: **No**
 - c. intake screen size: **No**

Water Storage

1. Is a dam or dyke being used to store or alter the flow of water? Yes * No
2. What are the dimensions of the dam or dyke? N/A
Length: Width: Height:
U/S slope: D/S slope:
3. Does the proposed dam create a reservoir in a natural watercourse? N/A
Yes No
If yes, what is the storage capacity and surface area of the reservoir?
 m³ ha.
4. Will the dam or dyke affect fish migration or movement ? **N/A**
Yes No
If yes, describe all measures for compensation of fish habitat lost due to the dam or dyke, and mitigation for fish migration or movement.

Water Treatment

1. Indicate the capacity of the treatment facility. 1000 L/min
2. What is the capacity of the water storage facility:
2 Tanks*3896=7792 cubic meters=7,792,000 litres
3. Describe the method of water treatment (i.e., backwash, flocculation, sedimentation, chemicals used), and provide the results of the most recent bacteriological and chemical analysis. Attach a diagram, if possible.
Chemical used-Chlorination
4. Are there any changes planned in the water treatment facilities? No
 * Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule.
Include excerpt from MACA Capital Plan if available.

Sewage Disposal

1. Indicate the level of sewage treatment:
 * primary secondary tertiary
Pre-treatment (if applicable): screening maceration
Lagoons (if applicable): anaerobic * aerobic facultative
2. Indicate the capacity of the sewage treatment facility: **(19,360 approximately) m³**
3. Based on current population projections, the facility will meet the needs of the community until the year 2020.
4. Average depth of the wastewater lagoon : **4.57m.**
5. What is the design freeboard? 1.0m.
6. Indicate the retention time of the sewage while in the treatment facility
90 days.
7. Indicate the estimated rate of discharge of wastewater 11.36 L/sec.
8. Indicate the location of the discharge point:
S-W corner of the Lagoon towards sea
9. Is the discharge: * seasonal
If the discharge is seasonal, during what month(s) is it done?
Normally August

What is the duration of the discharge (days/weeks/months) ? 4days

10. Are there any changes planned in the sewage disposal facilities?

 * No Yes

If yes, attach a copy of the plan or indicate changes and include an implementation schedule.

Include excerpt from MACA Capital Plan if available

Solid Waste Disposal

1. Indicate the capacity of the disposal area 4000 m³
2. The *average* depth of the solid waste disposal site 1.0m m.
3. The current facility will meet community needs until the year: 2020.
4. Do any natural watercourse enter the solid waste disposal area? What methods are used to decrease the amount of runoff water entering these areas? **NO**
5. Indicate the volume of water that may enter these areas from any source(s) and attach all pertinent details of the diversions.

Source

Volume

6. Please describe any diversions of watercourses:

 NIL

7. Are there any changes planned in the solid waste disposal facilities? * No
 Yes

If yes, attach a copy of the plan or indicate changes and include an implementation schedule

Other

1. Describe any additional details on the existing municipal facilities which should be considered by the Nunavut Water Board during its review.

N/A