



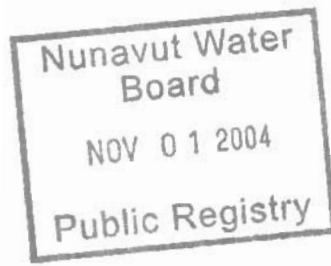
P.O. Box 119  
GJOA HAVEN, NT X0E 1J0  
TEL: (867) 360-6338  
FAX: (867) 360-6369

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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI

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**Water Licence Application  
Supplementary Questionnaire  
for Municipalities**



INTERNAL	
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EXT.	

I. GENERAL

1 Date: September 29, 2004

2 Applicant: **Community and Government Services**  
Municipality and Region

3 Contacts: Bryan W. Purdy P.Eng.  
Name of Contact

\_\_\_\_ Municipal Planning Engineer  
Position

\_\_\_\_ 1 867 645 8159                    1 867 645 8196  
Telephone #                                    Fax #

4 Community Status:  Village  Town  City  
 Hamlet  Settlement Corporation

5 Indicate the status of the municipality's license on the date of the application.

New Application  
 Renewal Water License # \_\_\_\_\_

## II. ATTACHMENTS

1 Attach current or up-to-date detailed map(s) showing the locations of the:

- a. raw water intake;
- b. Water storage and treatment facilities;
- c. Fuel and chemical storage;
- d. Sewage treatment facilities (lagoon, honey bag pit, wetland);
- e. Wastewater treatment area and discharge outlets;
- f. Solid waste disposal areas and drainage patterns;
- g. Hazardous waste disposal area;
- h. Transportation access routes; YES
- i. Existing water bodies/courses and any changes to these water bodies/courses that have or may occur as a result of water use or waste disposal facilities, locations of environmental monitoring sites. (Outline drainage basin); Shown on maps submitted
- j. Traditional use areas outlined on site map and areas around the community used for recreation, camping, fishing, etc. Yes
- k. Abandoned and/or restored water treatment, sewage, and solid waste disposal facilities.

Are maps attached?  Yes \_\_\_\_\_

If no, please indicate when they will be available.

All UN answered items are completely non applicable

Indicate which organization has provided the various maps or diagrams.

Aboriginal Engineering Ltd

### III. WATER SUPPLY: This section is not applicable NOT APPLICABLE

#### *Water Source*

1. Type of source:  Lake  River  Well  other \_\_\_\_\_

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

3.

Primary Source	Secondary Source
3. Usual break-up & freeze-up period: <input type="checkbox"/> June	<input type="checkbox"/> late October
Break-up	Freeze-up

#### *Water Intake*

1. Please provide short descriptions for the following:

a. Freshwater intake facility

b. Operating capacity of pumps used

c. Intake screen size

#### *Water Storage*

1. Type of water storage facility. (Check where applicable)

Reservoir/Pond  Storage tank  none \_\_\_\_\_

Other \_\_\_\_\_ Description: \_\_\_\_\_

2. If "reservoir" checked:

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 checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Fall:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Winter:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor
Spring:	<input checked="" type="checkbox"/> good	<input type="checkbox"/> fair	<input type="checkbox"/> poor

2. Describe.

3. Type of water treatment.

Filtration and chlorination  
 Chlorination only  
 None  
 Other \_\_\_\_\_

Description

### Water Use And Distribution

Volume of water use:

Distribution	Estimated number of people on the system <b>A</b>	Estimated average water consumption (Liters/capita/day) <b>B</b>	Total water consumption (Day/day) <b>A x B</b>
PIPED			
TRUCKED			
<b>TOTAL</b>			

***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.

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

***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)***

1. Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).

2. Are sludges produced ?

Yes  No

If yes, describe how the sludges are disposed of:

***Wetland (if applicable)***

1. Describe the Wetland wastewater treatment system.

An engineered wetlands with an SNP POINT is established in Chesterfield Inlet

***Honey Bag Pit***

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, shell fish 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?  
Describe.

***Abandonment and Restoration***

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 not applicable**

1. Briefly describe how solid wastes are collected and delivered to the disposal area.

2. Is the solid waste site fenced?  Yes(\* partially)  No

3. Is the fence adequate?  Yes  No

If no, describe

***Waste Reduction not applicable***

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.

#### ***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***

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?  
\_\_\_\_ 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  
 X Satisfactory     Unsatisfactory  
If unsatisfactory, explain.

***Modifications***

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

***Abandonment and Restoration***

1. List and describe abandoned or restored solid waste facilities.  
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 \* Date: \_\_\_\_\_  
 Municipal and Community Affairs  
\* Date: Summer of 2004 Attached \_\_\_\_\_  
Date: \_\_\_\_\_
2. Is there a system in place for reporting spills?  
 Yes  No  
If yes, describe.
3. Is there a contingency plan for clean up of spills?  
 Yes  No  
If yes, describe. **The road construction contractor will have to follow environmental criteria, by a Land Use Plan**
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 NOT APPLICABLE***

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

c. Who is responsible for water sampling? Not applicable

Name: Stephen Hartman & Don Tanuyak

Deleted: Steve

Deleted: \_\_\_\_\_

Deleted: \_\_\_\_\_

Position: Environmental officer & Pumper truck operator

Telephone #: 867-645-8181

Fax #: 867-645-8197

Level of training: Technologist -Miramichi N.B Community College 20 month Environmental Technology

Deleted: \_\_\_\_\_

d. Recognized laboratory performing analysis of samples.

Name: Envior Test Labs

Address: 745 Logan Avenue, Winnipeg, Mn

Telephone #: 204-945-3705

Fax #: 204-945-0763

Deleted: \_\_\_\_\_

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 or waste disposal facilities? List the concerns and describe what steps have been taken to address those concerns.

**VIII. Not applicable PUBLIC HEALTH** (*Help may be obtained from the Regional Environmental Health Officer if you have difficulty with this section.*)

1. Date: September 29 2004
2. Municipality:of Chesterfield Inlet
3. Contact: (Environmental Health Officer : Mr. Fred O' Brien

**Telephone #:** 1 867 645 2171

**Fax #:** \_\_\_\_\_

4. Have there been any problems or health/environmental concerns with drinking water ?  
       Yes   x   No

If yes, describe

5. Have there been any problems or health/environmental concerns with sewage disposal/treatment?  
       Yes   x   No

If yes, describe sewage study by Jacques Whitford has been under way since the fall of 2003

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?  
 No  If Yes, answer questions (a) to (e)

a. Briefly describe the sampling methodology

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

c. Who is responsible for sampling ?  
Name:  
Position:  
Telephone #:  
Fax # :  
Level of training:

d. Recognized laboratory performing analysis of samples.

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 (CG&T) office if you have difficult with this section.*)

1 Date:

2. Municipality: Rankin Inlet

3. Contact:  
(Community Government and Transporation Representative)

Telephone # 1 867 645 8114

Fax #

4 Population (according to most recent census results): 2335

5 Estimated growth rate over next 5 years: 3% per year

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  x  No

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

Prepared by

Title

Completion Date

If no, are such studies being planned?

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

7. Have Elders been consulted in the collection of baseline data on main water bodies in the area?

No  Yes

If yes, specify.

Community elders actively participated in the selection of the road to Diana River

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 some basic work done by Jacques Whitford Associates

If yes, provide details below.

Prepared by

Title

Completion Date

If no, are such studies being planned?

No  Yes.

If yes, specify:

**Attachments Not applicable at all**

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, including 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  
Some shallow ravines

2. Drainage Area:

What is the drainage area? 30,000 km<sup>2</sup>

What is the average elevation of the drainage basin? 0.2 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 Not applicable at all*

1. What is the rate of withdrawal from the source? \_\_\_\_\_ m<sup>3</sup>/day.
2. Is water drawn from the source  intermittently  continuously
3. If it is drawn intermittently, during what month(s) is it drawn? \_\_\_\_\_
4. For what period is it drawn (days/weeks/months)? \_\_\_\_\_
5. What is the rate of flow of source (if river) or size (if lake)? \_\_\_\_\_
6. At the intended rate of water usage, describe the effects on the river or lake from which water will be drawn.

*Water Intake NOT APPLICABLE*

1. Please provide short descriptions of the following:
  - a. freshwater intake facility
  - b. operating capacity of the pumps
  - c. intake screen size

*Water Storage( NOT APPLICABLE TO THIS APPLICATION )*

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?  
Length: \_\_\_\_\_ Width: \_\_\_\_\_ Height: \_\_\_\_\_  
U/S slope: \_\_\_\_\_ D/S slope: \_\_\_\_\_
3. Does the proposed dam create a reservoir in a natural watercourse?  
 Yes  No  
If yes, what is the storage capacity and surface area of the reservoir?  
\_\_\_\_\_ m<sup>3</sup> \_\_\_\_\_ ha.
4. Will the dam or dyke affect fish migration or movement ?  
 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 not applicable***

1. Indicate the capacity of the treatment facility. \_\_\_\_\_ L/min
2. What is the capacity of the water storage facility. \_\_\_\_\_ m<sup>3</sup>
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.
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 \_\_\_\_\_ m<sup>3</sup>
3. Based on current population projections, the facility will meet the needs of the community until the year \_\_\_\_\_.
4. Average depth of the wastewater lagoon \_\_\_\_\_ m.
5. What is the design freeboard? \_\_\_\_\_ m.
6. Indicate the retention time of the sewage while in the treatment facility \_\_\_\_\_ days.
7. Indicate the estimated rate of discharge of wastewater \_\_\_\_\_ L/sec.
8. Indicate the location of the discharge point \_\_\_\_\_.
9. Is the discharge:  seasonal  continuous  
If the discharge is seasonal, during what month(s) is it done? \_\_\_\_\_  
What is the duration of the discharge (days/weeks/months) ? \_\_\_\_\_
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 \_\_\_\_\_ m<sup>3</sup>.
2. The *average* depth of the solid waste disposal site \_\_\_\_\_ m.
3. The current facility will meet community needs until the year \_\_\_\_\_.
  
4. Do any natural watercourse enter the solid waste disposal area? **No** What methods are used to decrease the amount of runoff water entering these areas?
  
5. Indicate the volume of water that may enter these areas from any source(s) and attach all pertinent details of the diversions.

<u>Source</u>	<u>Volume</u>
---------------	---------------
  
6. Please describe any diversions of watercourses:

No diversions at all photographs included on the drawings and maps

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.

Include excerpt from CG & T Capital Plan if available.

*Other*

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

**This is pioneer road construction 4.4 kilometres from the Hamlet  
OF Chesterfield Inlet**