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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

water Licence Application
Supplémentaire Questionnaire
For Municipalities

031003NWB3ARV
Revised SuppQuest - ILAE

I. GENERAL

1. Date: _ __September9th_____

2. Applicant:__Hamlet of Arviat _____
   Municipality and Region

3. Contacts: __Richard Van Horne SAO, (Plus Bryan Purdy _)_____
   Name of Contact

   __Senior Administration Officer _____
   Position

   _ 1 867 857 2841 RAH, 1 867 645 8114 BP_/ 1 867 857 2519_____
   Telephone # Fax #

4. Community Status: __ Village Town __ City
   __X Hamlet Settlement Corporation

5. Indicate the status of the municipality's license on the date of the application.
   __ New Application
   __ X 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;
   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);
   j. Traditional use areas outlined on site map and areas around the community used for recreation, camping, fishing, etc.
   k. Abandoned and/or restored water treatment, sewage, and solid waste disposal facilities.

   Are maps attached? __ Yes __ No Already forwarded

   If no, please indicate when they will be available.

Indicate which organization has provided the various maps or diagrams.

CG&T Rankin Inlet (Sewage Lagoon Design by FSC Yellowknife)

III. WATER SUPPLY

Water Source

1. Type of source: __ Lake __X River __Well __ other _____

2. Name of water source and alternative, if any.
3.

WOLF CREEK, AKANARJUK _____
Primary Source Secondary Source

3. Usual break-up & freeze-up period: May 31 November 1.
Break-up Freeze-up

Water Intake

1. Please provide short descriptions for the following:

a. Freshwater intake facility
b. 8 INCH DIAMETER HOSE WITH A CAGE AT THE END

c. Operating capacity of pumps used ** 135 gal per minute

d. Intake screen size **

0.6 metres X 0.6 metres

Water Storage

1. Type of water storage facility. (Check where applicable)
___X Reservoir/Pond ___ Storage tank ___ none ___

___ Other _____Description:

2. If "reservoir" checked:

Is the reservoir lined? _X__ Yes ___ No

What type of liner? Heavy black plastic (vinyl) When was it installed? 2000

Water Treatment

1. Indicate the quality of the water.

Summer:	____ good	__x_ fair	___ poor
Fall:	x_ good	____ fair	___ poor
Winter:	__x_ good	____ fair	___ poor
Spring:	__x_ good	____ fair	___ poor

2. Describe.

3. Type of water treatment.

_ Filtration and chlorination
__X_ 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	2300		
		TOTAL	

General Condition of the water supply facilities

1. General condition of the:

   a. Water supply facility
   _X_ satisfactory __ Unsatisfactory
   New pump house in 1995
   If unsatisfactory, explain.

   b. Storage facility
   X satisfactory Unsatisfactory

   If unsatisfactory, explain.

   c. Distribution system
   _X_ satisfactory __Unsatisfactory

   If unsatisfactory, explain.
   Truck delivery

Modifications

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

IV. SEWAGE DISPOSAL

1. What type(s) of sewage treatment does the community have?
_ x_ Lagoon
___ Mechanical system
Wetland
___ Honey bag
___ Combination/Other: describe

Lagoon *(if applicable)*
1. Has there been any operating problems with the lagoon?
___ Yes __x_ No
If yes, describe
The sewage seeps through the southern side of the se wage berm onto a wetlands area
There is often additional decanting onto the wetlands area

Mechanical System *(if applicable)*
1. Describe (type, specifications, operation and maintenance program for the mechanical wastewater treatment system).

no

2. Are sludges produced ?
__ Yes _x_ No
If yes, describe how the sludges are disposed of:

Wetland*(if applicable)*
1. Describe the Wetland wastewater treatment system.

The wetlands is on a 700metre wide x 500 metre wide on a ban of land on the south side of the sewage lagoon

On an area that approaches the Hudson Bay It is approximately 500metres wide

Honey Bag Pit

1. Does the municipality use a honey bag pit'?

___ Yes __x_ 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 __x__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 __x_ 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

_x_ 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 x__ Yes

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

Drawings of the new sewage lagoon are attached

2. Does the municipality or residents believe changes are needed to the sewage treatment facilities? Describe.
3. yes the new sewage lagoon will eliminate the need to decant sewage directly to the wetlands , but rather allow effluent to slowly seep into the wetlands area

Abandonment and Restoration

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

N/a Old sewage lagoon on the south side of town

Identification

Are there signs identifying past and present sewage disposal sites ?

__x Yes __ No

V. SOLID WASTE DISPOSAL

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

Routine garbage collection

2. Is the solid waste site fenced? x__ Yes __ No

3. Is the fence adequate? x__ Yes __ No

If no, describe

Waste Reduction

1. Does the municipality burn garbage ?

__xYes __No

If yes, describe how and when this is done.

Twice a monthgarbage is burned

2. Has the municipality considered measures for waste reduction such as recycling or reuse?

__ Yes __x No

If yes, describe

Animal Carcasses Pit

1. Does the municipality have an area for the disposal of animal carcasses ?

_ Yes __xNo

If yes, describe the location, drainage and operation/maintenance of the site

Carcasses go in general garbage

Waste Oil Pit

1. Describe the waste oil storage area.

Waste Oil furnace in Hamlet garage burns all used oil created by the Hamlet

Bulky Scrap Metal Waste Disposal Area

1. Does the municipality have a scrap metal or bulky waste disposal area?

__x Yes __ No

If yes, briefly describe its location and operation plan.

An area called MIDDLE DUMP IS USED

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 __X No

If yes, please indicate sources, types and quantity.

2. Will the municipality use a hazardous waste disposal area?
__X Yes ___ No
If yes, describe its:

a. Location

batteries are placed in the middle dump in a specified 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: The solid waste is too close to the airport

a. Solid waste disposal area
__x Satisfactory __ Unsatisfactory
If unsatisfactory, explain.

Modifications

1. Are there any changes planned for the solid waste disposal area?
No _x_Yes
If yes, attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

Implementation schedule is 4 years from now: 2007

2. Are changes needed to the solid waste disposal area? Describe.

Deposit area is being filled and the proimity to the airport is a safety problem

Abandonment and Restoration

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

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: __September 2002____
____ Municipal and Community Affairs	Date: _____
____ Other:	Date: _____

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

___x Yes ___ No

If yes, describe.

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

__x_ Yes ___ No

If yes, describe.

Yes Public Works GN has absorbent products to clean oil spill

5 Drums of absorbent product at the bulk fuel tank farm

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 ?

_x Yes ___No

If Yes, answer the questions a to e

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

The chlorine levels are taken by Public works of the GN each day

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

c. Who is responsible for water sampling ?

Name: _John Owlijoot _____

Position: ___ Pw& S Local rep.

Telephone #:____ 857 2860 _____

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 _x_ 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.

Water has bad taste in the summer musky taste and once in a while thereis complaint about too much chlorine In June when level in reservoir is low there is some turbitity inn the water

VIII. PUBLIC HEALTH *(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 __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

6. Have there been any problems or health/environmental concerns with solid waste disposal?
___ Yes ___x No

If yes, describe

Monitoring Program

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

3. Contact:
(Community Government and Transporation Representative)

Telephonc #

Fax #

4. Population (according to most recent census results): 2250

5. Estimated growth rate over next 5 years: 2900

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 _x_Yes

If yes, specify.

Yes then elders are consulted

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 __x_Yes

If yes, provide details below.

Prepared by	Title	Completion Date

If no, are such studies being planned?

__ No __Yes.

If yes, specify:

Attachments

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?
_x_ Yes ___No

If Yes, who has provided them ? Fergsuson Simek and Clark

If no, indicate when they will be available.

Hydrology

1. Effects on surface water flow:
Are any stream channels altered? __ Yes _x_ No

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

Are there changes in water flow downstream of the project?__ Yes _x_ No

Is a storage reservoir created in a natural channel? __ Yes x__ No

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

2. Drainage Area:
What is the drainage area? _____km^2
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 _x_No

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

4. Will the cross-section of any watercourse be changed? ___ Yes _x_ 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? _____ m^3/day.

2. Is water drawn from the source ___ intermittently _x_continuously

3. If it is drawn intermittently, during what month(s) is it drawn? August

4. For what period is it drawn (days/weeks/months)? 1 month _____

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.
There is no effect on the volume in Wolf creek

Water Intake

1. Please provide short descriptions of the following:
   a. freshwater intake facility

      A metal box 2 feet x 2 feet x 2 feet

   b. operating capacity of the pumps
   c. 2000 Gallons Hour

c. intake screen size

Water Storage

1. Is a dam or dyke being used to store or alter the flow of water? ___Yes __x_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^3 _____ 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

1. Indicate the capacity of the treatment facility. _____ L/min

2. What is the capacity of the water storage facility._____ m^3

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.

Chlorine is added to each water truck load as it is loaded

4. Are there any changes planned in the water treatment facilities? no
___xNo ___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:
__x_ 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^3

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 _____2.5____ m.

5. What is the design freeboard? _____1.5____ m.

6. Indicate the retention time of the sewage while in the treatment facility__1year___ days.

7. Indicate the estimated rate of discharge of wastewater_____ L/sec.

8. Indicate the location of the discharge point_____south side of existing lagoon ___
.

9. Is the discharge: _x__seasonal ___continuous

If the discharge is seasonal, during what month(s) is it done? July to October ____
What is the duration of the discharge (days/weeks/months) ? __3 months_____

10. Are there any changes planned in the sewage disposal facilities?
___ No __x_Yes
If yes, attach a copy of the plan or indicate changes and include an implementation schedule. Attached

.

Solid Waste Disposal

1. Indicate the capacity of the disposal area _____ m^3.

2. The *average* depth of the solid waste disposal site 2.0 m.

3. The current facility will meet community needs until the year 2006.

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?
The solid waste site is bermed to prevent leachate from flowing to the ocean
yes

5. Indicate the volume of water that may enter these areas from any source(s) and attach all pertinent details of the diversions. No flow just matural precop

Source	Volume

6. Please describe any diversions of watercourses:

7. Are there any changes planned in the solid waste disposal facilities?

__ No __xYes

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

Expand Sewage lagoon Project 507 340 $ 195.0 K in 2003/04 + 96.0K in 2004/05

Other

1. Describe any additional details on the existing municipal facilities which should be considered by the Nunavut Water Board during it review.
2. ***The expand sewage lagoon project contractor was stopped as there was no Water Board license and no water approval of the expand sewage lagoon project. Regardless a new sewage lagoon would have ended decanting raw sewage onto the wetland for at least two to three years. Prompt approval is required to keep this project on schedule.***