



HAMLET OF ARVIAT
P.O. BOX 150
ARVIAT, NUNAVUT XOC-0EO

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FACSIMILE TRANSMISSION

Date: September 11, 2003

To: Nunavut Water Board
Gjoa Haven, Nunavut

From: Ronald Suluk
Planning & Lands Administrator
Hamlet of Arviat
Email- ronsuluk@allstream.net

Fax Number: (867) 360-6369
Phone number: (867) 360-6338

Number of pages to follow: 24

Subject: Supplementary questionnaire- Hamlet of Arviat

The questionnaire is attached and I have completed what I can. I sent it to Bryan Purdy to assist in the completion of some questions but did not get a response from him. If you require any other information, feel free to contact myself.

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[Signature]

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NUNAVUT WATER BOARD

NUNAVUT IMALIRIYIN KATIMAYINGI

Nunavut Water
Board

SEP 11 2003

Public Registry

**Water Licence Application
Supplementary Questionnaire
for Municipalities**

INTERNAL	
PC	DP
MA	
FO	
LA	
BS	
ST	
TA1	
TA2	
RC	
ED	
CH	
BRD	
EXT.	

I. GENERAL

1. Date: Sept. 5/03
2. Applicant: Arviat, Kivalliq
Municipality and Region
3. Contacts: Ronda Suluk
Name of Contact
Lead Administrator
Position
(867) 857-2841 (867) 857-2519
Telephone # Fax #
4. Community Status: ☐ Village ☐ Town ☐ City
☒ Hamlet ☐ Settlement Corporation
5. Indicate the status of the municipality's licence on the date of the application.
☒ New Application
☐ Renewal - Water Licence #

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

If no, please indicate when they will be available.

Plans/drawings have already been sent with the original application

Indicate which organization has provided the various maps or diagrams.

FSC/CGAT/Hamlet

III. WATER SUPPLY

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: _____

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 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.

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	Estimated average water consumption (Litres/capita/day)	Total water consumption (Litres/day)
	A	B	A x B
PIPED			
TRUCKED			
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.

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

Sewage level has almost reach the top of the berm a number of occasions.

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.

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.

Beluga whale - July to September

Arctic char - June to September

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.

The sewage seepage is inadequate in ratio with sewage coming in

- 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.

A new lagoon planned to be constructed next to the existing lagoon.

2. Does the municipality or residents believe changes are needed to the sewage treatment facilities? Describe.

Yes, current lagoon will not hold the capacity of sewage for the spring years.

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

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.

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?

☐ 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? 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

☒ Municipal and Community Affairs

Date: _____

Date: June 2003

____ Other:

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.

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

- c. Who is responsible for water 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.

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.

The smell of the sewage lagoon reaches the town when winds are coming from the south.

The exist lagoon will not hold or meet the capacity required.

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 #: (967) 857-3100

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?
___ 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 difficulty with this section).*

1. Date:

2. Municipality:

3. Contact:

(Community Government and Transportation Representative)

Telephone #

Fax #

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

5. Estimated growth rate over next 5 years:

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:

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.

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.

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.

The above information can be found in the design prepared by FSC Architects and Engineers, which was sent with the original application.

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.

Al ready sent.

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

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? *7 ha*
What is the average elevation of the drainage basin? *6* 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? _____ m³/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

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

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?
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?
_____ m³ _____ 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. _____ m³
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 24800 m³

3. Based on current population projections, the facility will meet the needs of the community until the year 2009?

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. *Plan for new lagoon this summer*

Include excerpt from MACA Capital Plan if available.

Solid Waste Disposal

1. Indicate the capacity of the disposal area _____ m³.
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? 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.

SourceVolume

6. Please describe any diversions of watercourses:

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 MACA 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.