



**Mackenzie Valley Land and Water Board**  
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## Staff Report

<b>Applicant:</b> Hamlet of Fort Liard	
<b>Location:</b> Fort Liard, NT	<b>Application:</b> MV2009L3-0025
<b>Date Prepared:</b> July 8, 2016	<b>Meeting Date:</b> July 21, 2016
<b>Subject:</b> Proposed revision to the Surveillance Network Program (SNP)	

### 1. Purpose/Report Summary

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (the Board) a request to reinstate Surveillance Network Program (SNP) station 1478-6 under the Hamlet of Fort Liard's (the Hamlet) municipal Water Licence (Licence), MV2009L3-0025.

### 2. Background

- March 1, 2010 – Licence MV2009L3-0025 issued for a period of 10 years;
- November 23, 2015 – Hamlet submitted sampling results and request to decant to the Environment and Natural Resources Water Resources Officer (Inspector);
- November 24, 2015 – Request to reinstate SNP 1478-6 received from the Inspector;
- May 5, 2015 – Request sent for review;
- June 9, 2016 – Review comments due;
- July 5, 2016 – Responses from Hamlet received;
- **July 21, 2016 – Request for new SNP location presented to the Board;** and
- February 29, 2020 – MV2009L3-0025 expires.

### 3. Discussion

On November 24, 2015 the Inspector submitted a request for SNP station 1478-6 to be reinstated in the Licence (attached). SNP station 1478-6 is located upstream of the culvert at Hwy #7. The rationale for this station is to

monitor effluent from the Sewage Disposal Facilities (SDF) following decant and prior to reaching the Petitot River. The station was active for a period of five years (1997-2001) in the Hamlet's previous Licence N3L3-1478, however the status of the station was changed to inactive when the Licence was renewed in 2002 in response to a request from the Hamlet.

The Inspector made the request to reinstate station 1478-6 due to concerns regarding the Hamlet's discharge of effluent that did not meet the Effluent Quality Criteria (EQC) set out in their Licence. In her submission, the Inspector also requested that the Hamlet complete maintenance work on the SDF:

“In order to avoid emergency decants in future and ensure better monitoring of effluent discharged to the receiving environment, I recommend that the Hamlet budget to have overdue maintenance work completed at the Sewage lagoon cells next year (i.e. de-sludge cells) and that the inactive SNP Station 1478-6 be sampled again on a regular basis for the duration of the 2016 open water season. Completing this work will show Due Diligence on the Hamlet's part and be considered if there are future exceedances to licence EQC.”

Background on the Sewage Disposal Facilities

The SDF in the Hamlet of Fort Liard consist of a four-cell system. Generally, sewage is pumped sequentially through each cell before final decant from the last cell.

Licence MV2009L3-0025, Part D, item 2 states:

Sewage effluent discharged from the Sewage Disposal Facilities at Surveillance Network Program station number 1478-9 shall meet the following effluent quality standards:

<b>Parameter</b>	<b>Maximum average concentration</b>
Suspended Solids	30 mg/L
BOD5	40 mg/L
Faecal Coliforms	1,000 CFU/100mL

The Waste discharged shall have a pH between 6 and 9 and no visible sheen of oil and grease.

Licence MV2009L3-0025, Part D, item 5 states:

The Licensee shall advise an Inspector at least ten days prior to initiating the decant of the Sewage lagoon.

The Hamlet has requested permission to discharge sewage effluent from the SDF that did not meet the EQC three times between 2014 and 2015 (requests are attached). On each occasion, the Inspector reviewed the data and allowed the Hamlet to discharge so that the SDF could continue to operate while maintaining the 1 metre freeboard required in Part D, item 4 of Licence MV2009L3-0025.

#### **4. Comments**

As per Licence MV2009L3-0025, Part B, item 2, the SNP and compliance dates specified in the Licence may be modified at the discretion of the Board.

#### **5. Review Comments**

Comments were received from GNWT – Environment and Natural Resources (ENR) and Board staff. All parties, including the Hamlet were amenable to reinstating SNP 1478-6 to better monitor effluent from the SDF and recommended working with the Inspector to delineate the exact station location. The reviewer comment summary table is attached.

#### **6. Security**

N/A

#### **7. Conclusion**

The Inspector has requested that SNP station 1478-6 be reinstated to better monitor discharged effluent from the Sewage Disposal Facilities. As per Licence MV2009L3-0025, Part B, item 2, the Board has the authority to make this change to the License. A draft Licence for the Board's consideration is attached; edits to the Licence have been made using track changes.

#### **8. Recommendation**

Board staff recommend that SNP station 1478-6 be reinstated in Licence MV2009L3-0025.

Board staff recommend that the Board direct the Hamlet to work with the Inspector to determine a location that is in the flow path of the effluent discharged from the SDF and submit geographic coordinates and a map of the location.

## 9. Attachments

- [Inspector Request to reactivate SNP station](#)
- [Correspondence with Hamlet re: November 2015 decant](#)
- [Correspondence with Hamlet re: July 2015 decant](#)
- [Correspondence with Hamlet re: September 2014 decant](#)
- Comment summary table
- Draft Board response letter
- Draft Water Licence with SNP 1478-6
- Draft Reasons for Decision

Respectfully submitted,



Miki Ehrlich  
Regulatory Officer



Heather Scott  
Technical Advisor

## Review Comment Table

<b>Board:</b>	MVLWB
<b>Review Item:</b>	Hamlet of Fort Liard - Proposed change to SNP, 2015 Annual Report, and Sewage Lagoon Capacity Study (MV2009L3-0025)
<b>File(s):</b>	<a href="#">MV2009L3-0025</a>
<b>Proponent:</b>	Hamlet of Fort Liard
<b>Document(s):</b>	<a href="#">MV2009L3-0025 - Hamlet of Fort Liard - Inspector request to reactivate SNP station</a> (211 KB) <a href="#">MV2009L3-0025 - Hamlet of Fort Liard - 2015 Annual Water Licence Report</a> (13 MB) <a href="#">MV2009L3-0025 - Hamlet of Fort Liard - Sewage Lagoon Capacity Study</a> (9 MB)
<b>Item For Review Distributed On:</b>	May 5 at 14:37 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	June 9, 2016
<b>Proponent Responses Due By:</b>	July 5, 2016
<b>Item Description:</b>	<p>There are three submissions for review relating to Fort Liard's municipal Water Licence MV2009L3-0025.</p> <p><b>1. Proposed change to the Surveillance Network Program (SNP):</b> To support better monitoring of effluent discharged to the receiving environment, the Inspector has recommended that the Hamlet begin sampling at the inactive Surveillance Network Program (SNP) Station 1478-6 on a regular basis. The location of station 1478-6 is described in the SNP as Water from stream flowing to Petitot River upstream of culvert at Hwy #7. The Board seeks input from reviewers this recommendation as well as appropriate testing parameters and sampling frequency. A change to the SNP requires Board approval.</p> <p><b>2. 2015 Annual Water Licence Report:</b> The Hamlet of Fort Liard has submitted an Annual Water Licence Report for 2015 as per Item B.1 of their Licence. Although formal approval of Annual Reports is not required under the Licence, the Board must be satisfied that the Licensee has reported and performed sampling and analyses in accordance with the requirements of their Licence. Therefore, reviewers are invited to submit comments on the Annual Report. Recommendations on the results reported as well as recommendations that may assist the Hamlet in the development and completion of future Annual Reports are welcome.</p>

	<p><b>3. Sewage Lagoon Capacity Study:</b> The Hamlet of Fort Liard has submitted a Sewage Lagoon Capacity Study. This study is not a requirement of the Water Licence, but was undertaken by the Hamlet to provide an assessment of the state of current sewage facilities and determine whether an expansion to the facilities is needed. The Board welcomes comments from reviewers on this Study.</p> <p><b>June 28, 2018 update:</b> An extension to the deadline for the Hamlet to respond to reviewer comments has been granted. <b>The new deadline for responses to reviewer comments is Tuesday, July 5, 2016.</b></p> <p>Please note which submission your comments pertain to when providing comments and recommendations. If you have questions or comments regarding this review or the Online Review System please contact Miki Ehrlich at (867)766-7469 or mehrlich@mvlwb.com .</p>
<p><b>General Reviewer Information:</b></p>	<p>In addition to the email distribution list, the following organizations received review materials by fax:</p> <ul style="list-style-type: none"> <li>• Fort Liard Metis Local #67 - Ernie McLeod, President - (867)770-4573</li> <li>• Fort Simpson Métis Local #52 - Marie Lafferty, President - (867)695-2040</li> <li>• Hay River Metis Council - Karen Lafferty, President - (867)874-4472</li> <li>• Liard First Nation - Daniel Morris, Chief - (867)536-7910</li> <li>• Northwest Territory Métis Nation - Garry Bailey c/o Tim Heron, NWTMN IMA Coordinator - (867)872-3586</li> </ul>
<p><b>Contact Information:</b></p>	<p>Heather Scott 867-766-7463  Jen Potten 867-766-7468  Miki Ehrlich 867-766-7469</p>

## Comment Summary

GNWT - ENR: Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Response
5	General File	<b>Comment</b> ( <a href="#">doc</a> ) ENR Letter with Comments and Recommendations <b>Recommendation</b>		
3	Topic 2: Proposed Change to the Surveillance Network Program	<b>Comment</b> There is currently no spatial information available regarding the location of inactive SNP Station 1478-6 other than the general statement that it is located upstream of the culvert at Highway #7. The current Water Licence has the description of the SNP station "inactive - location to be determined." <b>Recommendation</b> 1) ENR recommends the Inspector along with a representative of the Hamlet confirm the best location for the proposed SNP Station 1478-6. If the above location or an alternate location is proposed, this information should be submitted to the MVLWB and the SNP section of the Water Licence should be amended to reflect the change. This should include a site figure/map and GPS coordinates.	<b>July 4:</b> A possible location for SNP Station 1478-6 was reviewed with the Regional Water Officer, Brad McInnes during June 2016. No instructions or confirmation of location for this Station has been received at this time. The Hamlet will follow directions received from the MVLWB relating to SNP Station 1478-6 location, operation and testing.	Noted.
4	Topic 3: Proposed	<b>Comment</b> Proposed sampling	<b>July 4:</b> Proposed sampling would be	Noted.

	Change to the Surveillance Network Program	frequency and parameters. <b>Recommendation</b> 1) ENR supports the Inspectors request for the initiation of sampling at SNP Station 1478-6. ENR recommends the parameters included should be similar to other currently active Municipal Water Licences. ENR recommends the following parameters: TSS, pH, BOD, Oil and Grease, ammonia, phosphorous, and Fecal Coliform. Sampling should occur prior to discharge, and weekly during the discharge periods.	carried out as per any changes made to the Municipal Water License sampling and testing frequency and/or parameters.	
<b>MVLWB: Heather Scott</b>				
<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Response</b>
4	Addition of SNP 1478-6	<b>Comment</b> MV2009L3-0025 states that "The Licensee shall maintain the Sewage Disposal Facilities to the satisfaction of an Inspector (Part D, item 7)", "The Surveillance Network Program and compliance dates specified in the Licence may be modified at the discretion of the Board (Part B, item 3", and that "Sewage effluent discharged from the Sewage Disposal Facilities" must meet the effluent quality criteria specified in Part D, item 2.  <b>Recommendation</b> Given current operations of the Sewage Disposal	<b>July 4:</b> Proposed additional monitoring and sampling would be carried out following any changes made to the Municipal Water License sampling and testing frequency and/or parameters. A meeting was held with the inspector to attempt to identify an exact location for SNP 1478-6. The location of this Station along with any possible additional monitoring or testing information required has not been received at this time. The Hamlet will follow directions received from the MVLWB relating to SNP Station 1478-6 location, operation and testing.	Noted.

		<p>Facilities, the licensee has been unable to meet Part D, item 2; therefore, it is recommended that additional monitoring be undertaken to understand the impact that the Sewage discharge may be having on the downstream environment. Recommend that the licensee work with the inspector to locate an exact monitoring station for SNP 1478-6 to be reinstated in the SNP for MV2009I3-0025.</p>		
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June 9, 2016

Miki Ehrlich  
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Mackenzie Valley Land and Water Board  
7<sup>th</sup> Floor – 4910 50<sup>th</sup> Avenue  
P.O. Box 2130  
Yellowknife, NT  
X1A 2P6

Dear Ms. Ehrlich,

**Re: Hamlet of Ft. Liard  
Water Licence – MV2009L3-0025  
Proposed Change to SNP,  
2015 Annual Water Licence Report and  
Sewage Lagoon Capacity Study  
Request for Comments**

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the plan at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

### **Topic 1: Water Licence Deficiencies**

#### **Comment(s):**

The Hamlet of Fort Liard (the Hamlet) has historically experienced compliance issues regarding the water quality EQCs at the discharge for the Sewage Lagoon facility. The Hamlet has submitted for review a Sewage Lagoon Capacity Study by Dillon Consulting (2015) that provides recommendations on how to address some of the difficulties the facility is experiencing, including recommending desludging of Cell 3 in 2016. This recommendation is further supported by the Inspector, as indicated in the Inspector's letter to the Hamlet on November 24, 2015. ENR agrees that desludging of the Sewage Lagoon would potential alleviate some of the non-compliance issues regarding the Licence.

**Recommendation(s):**

- 1) ENR recommends the Hamlet initiate the process of desludging the Sewage Lagoon, including submitting to the MVLWB a Sludge Removal Plan for approval. ENR further supports the recommendations for operations and infrastructure improvements presented in the Dillon (2015) Sewage Lagoon Capacity Study and encourages the Hamlet to implement the recommendations as soon as fiscally possible.
- 2) ENR recommends that the sewage sludge should be properly managed and stored within a defined area of the community landfill until it is suitable for mixing with granular material and used as landfill cover material.

**Topic 2: Proposed Change to the Surveillance Network Program****Comment(s):**

There is currently no spatial information available regarding the location of inactive SNP Station 1478-6 other than the general statement that it is located upstream of the culvert at Highway #7. The current Water Licence has the description of the SNP station "inactive - location to be determined."

**Recommendation(s):**

- 1) ENR recommends the Inspector along with a representative of the Hamlet confirm the best location for the proposed SNP Station 1478-6. If the above location or an alternate location is proposed, this information should be submitted to the MVLWB and the SNP section of the Water Licence should be amended to reflect the change. This should include a site figure/map and GPS coordinates.

**Topic 3: Proposed Change to the Surveillance Network Program****Comment(s):**

Proposed sampling frequency and parameters.

**Recommendation(s):**

- 1) ENR supports the Inspectors request for the initiation of sampling at SNP Station 1478-6. ENR recommends the parameters included should be similar to other

currently active Municipal Water Licences. ENR recommends the following parameters: TSS, pH, BOD, Oil and Grease, ammonia, phosphorous, and Fecal Coliform. Sampling should occur prior to discharge, and weekly during the discharge periods.

Comments and recommendations were provided by ENR technical experts in the Water Resources Division and the North Slave Region and were coordinated and collated by the Environmental Impact Assessment Section, Conservation, Assessment and Monitoring Division (CAM).

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email [patrick\\_clancy@gov.nt.ca](mailto:patrick_clancy@gov.nt.ca).

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Clancy', written in a cursive style.

Patrick Clancy  
Environmental Environmental Regulatory Analyst  
Environmental Impact Assessment Section  
Conservation, Assessment and Monitoring Division  
Department of Environment and Natural Resources  
Government of the Northwest Territories