

Review Comment Table

Board:	WLWB
Review Item:	Community Government of Whatì - Lagoon Summer Cell Expansion - Design - Version 2.0 (W2017L3-0002)
File(s):	
Proponent:	Community Government of Whatì
Document(s):	Lagoon Summer Cell Expansion - Design - Version 2.0 (5.3 MB)
Item For Review Distributed On:	Mar 8 at 13:56 Distribution List
Reviewer Comments Due By:	Mar 29, 2019
Proponent Responses Due By:	Apr 5, 2019
Item Description:	<p>AECOM, on behalf of the Community Government of Whatì, has submitted revised design drawings (i.e., Version 2.0) for the expansion of the lagoon summer cell, for Board approval. The design drawings are required by Part E, Condition 1 of Water Licence W2017L3-0002.</p> <p>Reviewers are invited to submit comments and recommendations using the Online Review System (ORS) by the review comment deadline specified below. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the proponent prior to submitting comments and recommendations. If reviewers do, however, submit questions or are seeking clarification, they are asked to provide specific recommendations on how the Board should consider the proponent's response in their decision.</p> <p>All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p>
Contact Information:	<p>Anneli Jokela 867-765-4588 Brodie Costello 867-765-4583</p>

Comment Summary

Community Government of Whatì (Proponent)				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	General File	Comment (doc) Attachment: Responses to GNWT-ENR comments 1 and 2 Recommendation		
GNWT - ENR: Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
4	General File	Comment (doc) ENR Letter with Comments and Recommendations Recommendation		

1	Topic 1: EQC Exceedances Investigation	<p>Comment Following past exceedances observed at the Whati Sewage Disposal Facilities (SDF), the Board directed the community to complete an investigation of type and source of EQC exceedances to be provided in the 2018 Annual Report (due March 31st, 2019). Improvements made to the initial Summer cell Plans submitted in 2018, were outlined in the updated designs plans currently for review. As such, the initial liner of coletanche bituminous membrane was replaced by a 60 mm HDPE liner, and rock check dams were added to minimize further erosion along discharge channel. As specified in the WLWB's November 2018 Reasons for Decision letter, it would also appear that past exceedances reported may be linked to the fact that the monitoring location used was incorrect and captured raw sewage quality rather than partially treated wastewater (see next comment). ENR considers the EQC exceedance investigation to be an important first step in identifying potential exceedances sources/reasons. ENR looks forward to the submission of this information towards better understanding the Whati SDF system, which may also subsequently inform in the planning of adequate mitigative measures, if/as required.</p> <p>Recommendation None.</p>	<p>Apr 5: Please reference the attached letter for the Proponent Response</p>	
2	Topic 2: SDF Operation and Maintenance Plan (v.3) - SNP Monitoring Locations	<p>Comment Following the 2018 initial Whati Summer Cell Expansion review, the WLWB November 2018 Reasons for Decision letter directed the community, under Decision Item 2, page 2 of 8, that changes relating to the summer cell expansion, and associated operation and maintenance modifications, as well as sludge management planning, be integrated into the SDF O&M Plan (v.3), 90 days prior to discharging wastewater into expanded cell. As specified in the above comment, the location of SNP 002-2 may need to be revised to ensure it is capturing wastewater effluent quality at the end of the lagoon ponds - and not adjacent to the winter ice pack storage berm.</p> <p>Recommendation 1) ENR recommends that Whati provide all necessary information and updates, as</p>	<p>Apr 5: Please reference the attached letter for the Proponent Response</p>	

		requested in the November 2018 WLWB Reasons for Decision letter.		
3	None	Comment None Recommendation 2) ENR recommends that updated SNP locations (with associated GPS coordinates) be included within the Whati SDF O&M Plan (v.3), in order to best support community staff tasked with SNP monitoring duties at the SDF.	Apr 5: No SNP relocation is anticipated at this time. Pending site investigation, regrading of the site, upstream from the SNP, may be required to re-instate the original sewage treatment sequence.	

WLWB: Brodie Costello

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Part E, Condition 4 of Water Licence W2017L3-0002	Comment Part E, Condition 4 of the Licence states: "Any fill materials used in the construction of any facilities must be from an approved source and be clean and free of contaminants." During review of the first version of the design drawings, the Community Government of Whati (CGW) was asked to describe the materials that may be used during construction, and to confirm they are from an approved source and free from contaminants. The CGW responded that "materials used during construction will be readily available granular material from the local Hamlet quarry - the materials will be clean and free of contaminants." Recommendation Please confirm that this is still the case with the revised design.	Apr 5: All fill materials for the cell expansion shall be from the local Hamlet quarry.	
2	Treatment Efficacy	Comment During consideration of the first version of the design, there were some questions related to treatment efficacy. Recommendation Please explain if, and how, the proposed design revisions may influence the treatment efficacy of the sewage.	Apr 5: The liner material change will have no effect on the treatment efficacy. The lagoon dimensions, elevations, and storage/treatment parameters remain the same as the previous approved submittal.	



March 28, 2019

Joseph Mackenzie
Chair
Wekeezhii Land and Water Board
#1-4905 48th Street
Yellowknife, NT
X1A 3S3

Dear Ms. Elsasser,

**Re: Community Government of Whati
 Type B Water Licence – W2017L3-0002
 Revised Lagoon Summer Cell Expansion Design Plan
 Request for Review and Comments**

The Department of Environment and Natural Resources, 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*, the *Species at Risk (NWT) Act*, the *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

Topic 1: EQC Exceedances Investigation

Comment(s):

Following past exceedances observed at the Whati Sewage Disposal Facilities (SDF), the Board directed the community to complete an investigation of type and source of EQC exceedances to be provided in the 2018 Annual Report (due March 31st, 2019).

Improvements made to the initial Summer cell Plans submitted in 2018, were outlined in the updated designs plans currently for review. As such, the initial liner of coletanche bituminous membrane was replaced by a 60 mm HDPE liner, and rock check dams were added to minimize further erosion along discharge channel. As specified in the WLWB's November 2018 Reasons for Decision letter, it would also

appear that past exceedances reported may be linked to the fact that the monitoring location used was incorrect and captured raw sewage quality rather than partially treated wastewater (see next comment).

ENR considers the EQC exceedance investigation to be an important first step in identifying potential exceedances sources/reasons. ENR looks forward to the submission of this information towards better understanding the Whati SDF system, which may also subsequently inform in the planning of adequate mitigative measures, if/as required.

Recommendation(s):

None.

Topic 2: SDF Operation and Maintenance Plan (v.3) - SNP Monitoring Locations

Comment(s):

Following the 2018 initial Whati Summer Cell Expansion review, the WLWB November 2018 Reasons for Decision letter directed the community, under Decision Item 2, page 2 of 8, that changes relating to the summer cell expansion, and associated operation and maintenance modifications, as well as sludge management planning, be integrated into the SDF O&M Plan (v.3), 90 days prior to discharging wastewater into expanded cell.

As specified in the above comment, the location of SNP 002-2 may need to be revised to ensure it is capturing wastewater effluent quality at the end of the lagoon ponds - and not adjacent to the winter ice pack storage berm.

Recommendation(s):

- 1) ENR recommends that Whati provide all necessary information and updates, as requested in the November 2018 WLWB Reasons for Decision letter.
- 2) ENR recommends that updated SNP locations (with associated GPS coordinates) be included within the Whati SDF O&M Plan (v.3), in order to best support community staff tasked with SNP monitoring duties at the SDF.

Comments and recommendations were provided by ENR technical experts in the Water Management and Monitoring Division and the North Slave Region and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM), Environmental Stewardship and Climate Change Division.

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.

Sincerely,

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

Patrick Clancy
Environmental Regulatory Analyst
Environmental Assessment and Monitoring Section
Environmental Stewardship and Climate Change Division
Department of Environment and Natural Resources
Government of the Northwest Territories

April 4, 2019

Wek'èezhii Land and Water Board
P.O. Box 32
Wekweètì, NT X0E 1W0

Re: Lagoon Summer Cell
Expansion – Design

WLWB File: W2017L3-0002

To Whom it may Concern

In response to the letter dated November 14, 2018, the Community Government of Whatì (CGW) offers the following feedback to the WLWB's request for action on the following items:

1. The Board directs CGW to investigate the type and source of EQC exceedances, in coordination with the Inspector, and provide an update in their next Annual Report

In consultation with our consultant, CGW has determined that the deterioration of the berm detention structures downslope of the winter discharge lagoon may be a significant contributor to the EQC exceedances. A logical first step in advancing this theory is to complete an inspection and topographic survey of this area to compare the current condition of the berms to the berms in the original design drawings. The result of this work will ascertain the condition of the berm structures and identify the need for any remedial work in order to restore the structures to the conditions for intended process design to function. CGW intends to advance this work in 2019 and report on this with the 2019 annual report submission

2. The Board directs the CGW to submit Version 3.0 of the SDF O&M Plan to the Board for Approval, describing the expanded lagoon cell associated operation and maintenance changes, 90 days prior to discharging into the expanded lagoon summer cell.

Version 3.0 of the SDF Operations & Management (O&M) Plan will be submitted to the Board for approval, describing the expanded lagoon cell and associated operation and maintenance changes, 90 days prior to discharging wastewater into the expanded lagoon cell. CGW intends to update the SDF operations and maintenance plan based upon the anticipated operation of the expanded lagoon and submit this revision with the 2019 annual report.

3. The Board directs the CGW to describe their plans for sludge management in Version 3.0 of the SDF O&M Plan.

CGW intends to update the SDF operations and maintenance plan and submit this revision with the 2019 annual report for the anticipated management of biosolids accumulating in the lagoon; in summary, the sludge management plan will include a sludge survey to ascertain the volume of the accumulated sludge, followed by the development of an appropriate means to remove, dewater and ultimately dispose of the biosolids.

The dewatered biosolids are then composted and ultimately disposed of as an organic cover material; the use as cover material will be dependent upon the "quality" of the composed biosolids