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Staff Report

Applicant: Government of Yukon – Department of Highways and Public Works	
Location: Hwy #8 – Yukon Border to Inuvik	File Number(s): MV2019L8-0013 and MV2019X0027
Date Prepared: June 17, 2022	Date of Board Meeting: July 7, 2022
Subject: Closure and Reclamation Plan Version 1.0	

1. Purpose

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board) a Closure and Reclamation Plan Version 1.0 (Plan) submitted by Government of Yukon – Department of Highways and Public Works (GY – DHPW) to fulfill Part C Condition 61 of Permit MV2019X0027 and Part I Conditions 2 of Licence MV2019L8-0013.

2. Background

- August 31, 2020 – Issuance of Permit MV2019X0027 and Licence MV2019L8-0013;
- April 21, 2022 – Plan received;
- April 25, 2022 – Plan deemed complete and review commenced;
- May 20, 2022 – Comments and recommendations due and received;
- June 3, 2022 – Responses due and received;
- June 3, 2022 – Late comments submitted by Gwich'in Tribal Council Department of Lands and Resources;
- June 7, 2022 – Responses to GTC comments received;
- June 9, 2022 – Revised Plan submitted, in consideration of reviewer comments
- **July 7 2022 – Revised Plan presented to the Board for decision, and**
- August 20, 2025 – Expiration of Permit MV2019X0027 and Licence MV2019L8-0013.

3. Discussion

History

On August 31, 2020, GY – DHPW received a Permit and a Licence for the construction of an approximately 800-km fibre optic line from Dawson City, Yukon to Inuvik, Northwest Territories. For the purposes of the Permit and Licence Applications, the project was defined as the section of the Dempster Fibre Project (DFP) located in the Northwest Territories. The fibre optic cable will enter the Northwest Territories at the Yukon/Northwest Territories border and then travel approximately 271 km north, within the Dempster Highway right-of way to Inuvik. The project is located entirely within the Gwich'in Settlement Area (GSA), passing through the communities of Fort McPherson and Tsiigehtchic. The project will connect to an existing terminal facility in Inuvik and to existing buildings in communities along the route to provide service to those communities. The project was determined to be transboundary as outlined in the MVLWB Governance Policies – June 2019, because it crosses territorial borders.

The purpose of this project is to tie into the existing Mackenzie Valley Fibre Line, creating a continuous network running through Yukon, Northwest Territories and Northern British Columbia. This new line will ensure Yukon, Northwest Territories, and other northern communities will have access to a secondary fibre network in the event of a service disruption. It will also benefit the northern communities that tie into the line through satellite by providing redundancy.

The proposed development includes:

- Fibre optic cable and conduit to be installed adjacent to the Dempster Highway along the Right of Way, extending from the Yukon border to Inuvik; and
- Handholes along the route.

Construction and operation of the project will require the following supporting activities:

- a) The use of water and deposit of waste;
- b) Geotechnical drilling;
- c) Use of pre-existing staging areas for equipment and materials (up to five staging areas may be used at one time);
- d) The use and storage of fuel;
- e) Construction of temporary camps to accommodate work crews;
- f) Clearing of vegetation as required in the right of way;
- g) Installation of conduits and fibre optic cable;
- h) HDD drilling and/or installation of cable at watercourse crossings; and
- i) Ongoing operation and maintenance.

Management Plans

In the initial Project Description submitted with the Applications, GY – DHPW referred to several different reports and plans (Emergency Frac-Out Response Plan, Inspection and Maintenance Plan, Permafrost Protection Plan, Erosion and Sediment Control Plan, and Construction Environmental Management Plan), this was unclear to reviewers as to why these various reports and plans were not submitted with the Application. The recommendation to the Board was to include the various reports and plans in the

conditions of the authorizations. GY – DHPW agreed to submit the Plans for Board approval prior to construction. To address the comments and recommendations as well as the commitments made, the Board included conditions requiring the submission of noted Plans.

Part C Condition 61 (MV2019X0027) states:

A minimum of 90 days prior to the commencement of this land use operation, the Permittee shall submit to the Board, for approval, a Closure and Reclamation Plan. The Permittee shall not commence Project activities prior to Board approval of the Plan.

Part I Condition 2 (MV2019L8-0013) states:

A minimum of 90 days prior to the commencement of Project activities, the Licensee shall submit to the Board, for approval, a Closure and Reclamation Plan. The Licensee shall not commence Project Activities prior to Board approval of the Plan.

On April 21, 2022, GY-DHPW submitted the required Closure and Reclamation Plan Version 1.0.

Summary of Closure and Reclamation Plan

The purpose of this plan is to outline the restoration activities to be implemented throughout the duration of the Dempster Fibre Project (DFP). Reclamation activities will be conducted in any project areas where material was staged, where soil or vegetation was disturbed as part of the installation process, and in riparian zones. Reclamation activities will support the return of areas affected by the project to viable and self-sustaining ecosystems. These activities will also support the continuation of a healthy environment and any future human activities that will occur in the project area. This plan is applicable to all construction crew personnel on the Project and outlines the response to construction stage and operations stage restoration.

Construction Phase Reclamation Measures Identified in the Plan

- Progressive reclamation during conduit placement, including backfill, compaction, and erosion control.
- Removal of all construction equipment, trailers and seacans, camp equipment, and construction materials.
- Filling or clearing of any tracks, ruts, grooves, or other surface damage left behind from the placement of the units.
- The disposal of all waste in accordance with the project's approved Waste Management Plan.
- As required: repair, recontouring, revegetation, restoration to temporary access trails and staging areas.

Decommissioning Phase Reclamation Measures Identified in the Plan

- Project life estimated at 25 years, cable expected to be left underground to prevent ground disturbance during removal.
- Surface infrastructure will be removed.

- Best Management Practices for erosion/sedimentation include re-contouring handhole locations to ensure natural drainage occurs, revegetating areas with native grasses, shrubs and trees, avoiding placement of stockpiles within riparian areas, scheduling removal activities to occur during frozen ground conditions, and scheduling work around watercourses to avoid wet, windy and rainy periods.

4. Public Review Comments

On April 25, 2022, the Plan was circulated for public review on the Online Review System (ORS). By May 20, 2022, comments and recommendations were received from the Government of the Northwest Territories – Environment and Natural Resources (GNWT-ENR). Gwich'in Tribal Council (GTC) submitted late comments on June 3, 2022.

GNWT-ENR commented it was agreeable to the conceptual nature of the plan, given the Licence requirement to submit a final closure and reclamation plan, a minimum three years prior to the expiry of the Licence in 2024 (ENR #1). GTC-Department of Lands and Resources recommended that the Plan be updated to include measures for progressive reclamation in areas where natural re-vegetation may be inhibited (GTC DLR#1).

By June 10, GY-DHPW responded to all comments, and updated the Plan (Version 2) to reflect the recommendations received, and submitted it to the Board on June 9, 2022.

5. Staff Comments

Staff confirm that Plan revisions have considered reviewer recommendations. Staff are of the opinion that the proposed closure and reclamation activities are suitable for the proposed activities at this time. Further updates to the plan, both post-construction and at time of decommissioning, will be required.

6. Security

The status of security for this Project will not be affected by the Board's decisions related to the Plan.

7. Conclusion

Board staff conclude that the revised Plan has adequately addressed the comments and recommendations received during the review, is in conformity and the requirements of Permit MV2019X0027 and Licence MV2019L8-0013 and can be approved.

Board staff conclude there are no outstanding issues or concerns with this Plan.

8. Recommendation

Board staff recommend the Board **make a motion to approve the Closure and Reclamation Plan version 2** as required by Land Use Permit MV2019X0027 and Water Licence MV2019L8-0013.

A draft decision letter is attached.

9. Attachments

- [MV2019X0027](#)
- [MV2019L8-0013](#)
 - [Closure and Reclamation Plan Version 1.0](#)
 - [Closure and Reclamation Plan Version 2.0](#)
- Review Comment Summary Table and Attachments
- Draft Decision Letter from the Board

Respectfully submitted,



AlecSandra Macdonald
Regulatory Specialist

Reviewer Comments and Proponent Responses

Project: Dempster Fibre Project

Board: Mackenzie Valley Land and Water Board

Organization: Government of Yukon - Department of Highways and Public Works

No.	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response	Board Decision
GNWT-ENR - EAM (Environmental Assessment and Monitoring) - Erin Goose					
1	Closure and Reclamation Plan	<p>ENR has reviewed the Closure and Reclamation Plan (Version 1.0) submitted by the proponent. ENR notes that the plan is conceptual in detail but understands this is due to the long duration of the project (i.e., 25 years) and low risk of activities (i.e., workers camps located only in existing quarries).</p> <p>The plan states that it will be updated before final decommissioning, expected around 2049, understanding that there will likely be a licence renewal before then. The current water licence requires the proponent to submit a final closure plan three years prior to the expiration of this licence or a minimum of two years prior to the end of project activities, whichever occurs first. This would mean that</p>	ENR recommends updating the conceptual plan to state that a final closure plan will be submitted as indicated in Part I of the water licence.	Due to the planned timing of construction activities, the Interim Closure and Reclamation and Final Closure and Reclamation Plans were submitted as one document. The construction mitigations relate to the interim closure activities, and the decommissioning activities relate to the final closure of the project. Best practices for decommissioning of the line are likely to change over the fibre optic line's lifespan, so the decommissioning plan is noted as being conceptual in detail. The best practices for decommissioning at the time of final closure will be implemented.	Proponent response is satisfactory.

No.	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response	Board Decision
		the final closure plan would require submission in 2024. Based on ENR's previous review of the current reclamation security estimate and understanding of the water licence conditions (e.g., waste management plan requirements), ENR is agreeable to the conceptual plan at this time.			
2	Cover Letter	Comment Letter	N/A		
Gwich'in Tribal Council - Lands and Resources - Kanda Gnama					
1		Clearing Progressive reclamation should be contemplated in areas where natural revegetation may be inhibited.		The Closure and Reclamation Plan will be updated to incorporate text regarding progressive reclamation in areas where revegetation may be inhibited.	Proponent response is satisfactory.



June 3, 2022

Attention: AlecSandra Macdonald, Gwich'in Land and Water Board

**RE: MV2019X0027, MV2019L8-0013 -Dempster Fibre Line _Government of Yukon
- Department of Highways and Public Works**

Dear AlecSandra,

On behalf of the Gwich'in Tribal Council (GTC), I would like to thank you for the opportunity to provide feedback regarding the following plans inherent to the Dempster Fibre Line Project:

- **Closure and Reclamation Plan**
- **Emergency Frac-Out Response Plan**
- **Environmental Management Plan**
- **Heritage Resource Management Plan**
- **Inspection and Maintenance Plan**
- **Permafrost Protection Plan**
- **Sediment and Erosion Control Plan**
- **Wildlife Management and Monitoring Plan**

The submission below summarizes GTC's comments and recommendations regarding specific aspects of these Plans.

Mahsi (thanks) for your time and attention to this matter. Please do not hesitate to contact me should you have any questions.

Sincerely,

Kanda Kola Gnama
Transboundary Specialist

cc. Leigh-Ann Williams Jones, GTC Manager of Lands and Resources

GTC's comments and recommendations

- **Closure and Reclamation Plan**

Clearing

Progressive reclamation should be contemplated in areas where natural revegetation may be inhibited.

- **Emergency Frac-Out Plan**

No concerns regarding this plan.

- **Environmental Management Plan**

Section 4.2 clearing and brushing.

Progressive reclamation should be implemented in areas where natural revegetation may be inhibited to reduce the impacts of edge effects, prevent habitat fragmentation and to decrease the potential for preferential use by predators. Special attention should also be paid to key nesting and burrowing wildlife species that may be impacted through ground compaction and/or habitat loss. Restricting activity periods during peak migration times or implementing stop work orders should be contemplated when key wildlife species are present within close range to work sites, including but not limited to Moose, Porcupine Caribou, Boreal Woodland Caribou, etc.

4.5 Horizontal Directional Drilling

For Horizontal Directional Drilling Mitigation Measures, it is quite concerning that the proponent contemplates disposing of drill waste in natural depressions, irrespective of how inert the by-products may be. It is concerning to the GTC that project proponents would even contemplate such a disposal method in Arctic Regions, given the ecological sensitivity of many areas, which are continually experiencing permafrost degradation, changes in drainage patterns due to increased flooding events and runoff, and vegetation loss due to changing thermal regimes and disturbance. GTC is strongly against any deposition of any wastes within the Gwich'in Settlement Region (GSR) and would expect that all wastes be trucked outside of the GSR.

Noise disturbance: noise disturbance is lacking in this plan.

The GTC believes that noise disturbance will occur during the project construction phase and requests that mitigation measures related to this disturbance be developed to avoid potential effects on wildlife and nearby communities as required. Special consideration should be given to areas where subsistence harvesting is being conducted by Participants, including hunting, trapping, berry picking and fishing.

- **Inspection and Maintenance Management Plan**

No concerns regarding this plan.

- **Sediment and Erosion Control Plan**

Summary of the drainage conditions

The proponent did not provide a summary of drainage conditions to be encountered along the Dempster highway in the ESC. This summary is required in the Plan.

Conventional Burry (page 5 of the plan)

The proponent has proposed using vibratory plow or trencher for conventional bury. The GTC is of the opinion that to minimize ground disturbance and the project's environmental footprint; only vibratory plows should be used for this project. This is particularly important as the plan did not outline a detailed method for **dispersion of surface water**, should water begin to pond or begin to preferentially follow the trench/slice within which the FOC will be installed. Given the current challenges that our Region faces with regard to flooding and drainage, any activity that has the potential to exacerbate this challenge should be adequately scrutinized to ensure any potential negative impacts to drainage systems are sufficiently mitigated.

Surface Lay (page 5 of the plan)

The plan did not outline the potential environmental consequences of this method. GTC requests that the proponent provides more details of potential impacts.

- **Wildlife Management and Monitoring Plan**

Section 1.2 - Engagement

This section indicates that GTC and Tetlit Gwich'in Council in Fort McPherson will review this Plan. The GTC requests that the proponent reaches out to the Gwichya Gwich'in Council in Tsiigehtchic and the Nihtat Gwich'in Council in Inuvik for review and feedback.

Overall, GTC reiterates the concerns raised by the GRRB regarding this plan, especially caribou hunting along the Dempster Highway by Gwich'in participants. Caribou is a significant part of local diets and is equally important for food security. The proponent must consult with the local Renewable Resources Councils to ensure that activity periods do not coincide with subsistence harvesting and will minimize any disruption to harvesting practices, including trapping, hunting and berry picking. As per section 12.4.13 of the Gwich'in Comprehensive Land Claim Agreement (GCLCA), if a land-use conflicts with harvesting activities, the Proponent is required to consult with the GTC, as well as provide notification to any Renewable Resource Council for the area in which the land is situated.

Failure to do so, would be considered an infringement on Gwich'in hunting rights and cultural practices along the Dempster highway.

- **Heritage and Resources Management plan**

The Chance find protocols/procedures

The Chance find protocols/procedures are not written in plain language (the Yukon Government ones are, however). If these will be reviewed and used by non-technical workers, it would be beneficial if these guidelines were written in plain language.

Flagging any “chance find” sites might attract looting or even simple damage from curious members of the public who may stop and explore, especially considering this is along the highway. Can another way to identify sites be used instead? If there will be a lot of other flagging, and the flagging tape doesn't specify that it's heritage materials, then this is less of a concern.

Human remains

Covering human remains with a tarp or blanket may not be the best practice, and the RCMP and Teet'it Gwich'in should be consulted to confirm this practice before this guide is finalized.

- **Permafrost protection plan.**

Permafrost protection awareness Training:

The plan did not provide sufficient information on what training will consist of. More details about this training are required.

Thaw Sensitivity

Permafrost along much of the Dempster Highway corridor is generally warmer than about -5°C. (Page 5 of PPP).

This appears to be a gross generalization, and the characteristics of permafrost in the Gwich'in Settlement Region should be explored.

A detailed description of soil characteristics is important to determine areas where specific mitigation activities are required. A transect outlaying these characteristics is advisable.

Permafrost and Snow

Deep snow insulates the permafrost in the winter. Unnaturally deep accumulations can prevent the active layer from fully refreezing (page 6).

Considering the elevated snowpack accumulation observed this year, extra caution should be undertaken throughout the construction phase as impacts to the active layer and permafrost/water table from increased insulating factors is likely to occur. These potential impacts to the active layer and permafrost are concerning and additional mitigation measures should be explored to reduce any further impacts.

Methods for Identifying Permafrost

The plan stated that: *The following **methods and tools** will be implemented to ensure construction crew and personnel have the knowledge and resources available to identify areas with a high potential for permafrost prior to conducting installation activities* but seems to limit these methods and tools to site identification and ground probing by the construction crews.

This is confusing as the project design (engineering and Geotechnical design) should have identified thaw sensitive and thaw-stable permafrost areas. Especially with regards to the extensive research that has already been conducted and published within the GSA, that specifically addresses permafrost. Ground probing by construction crews and environmental monitors should constitute an additional contribution to protecting permafrost, not the primary detection tool.

Best Practices for Permafrost Reclamation

This section is satisfactory. The same approach should have been implemented as a proactive step to identify the different types of permafrost along the Highway corridor prior to executing project activities.



May 20, 2022

Tyree Mullaney
Regulatory Specialist
Mackenzie Valley Land and Water Board
P.O. Box 2130
4922-48th Street 7th Floor YK CENTRE MALL
YELLOWKNIFE, NT X1A 2P6

Dear Tyree Mullaney,

**Re: Dempster Fibre Project, Closure and Reclamation Plan Version 1.0,
MV2019X0027**

The Department of Environment and Natural Resources, Government of the Northwest Territories has reviewed the application at reference based on its mandated responsibilities under the *Waters Act* and has included comments and recommendations for the consideration of the Board at this time.

If you have any technical questions, please contact Bill Pain, Environmental Management Scientist, Water Management and Monitoring Division at email Bill.Pain@gov.nt.ca.

Should you have any general questions, please contact Erin Goose in the Environmental Assessment and Monitoring unit at email gnwt_ea@gov.nt.ca

Sincerely,

Erin Goose
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