

CONNECTING TO OPPORTUNITIES

Government of Northwest Territories

Mount Gaudet Access Road

Waste Management Plan

Version 1. (Also referred to as Draft in PDR)

Government of the Northwest Territories – Department of Infrastructure September 2020



Plan Maintenance and Control

Table 1 Waste Management Plan Document History

Version #	Section(s) Revised	Description of Revision	Prepared by	Issue Date
v. 1.0			INF	September 2020

Note: This Waste Management Plan is being submitted in draft form to the Mackenzie Valley Land and Water Board (MVLWB) to support the review of the Land Use Permit and Water License applications for the Mount Gaudet Access Road Project. Text will be amended as required by the Contractor in the final Waste Management Plan submitted to the MVLWB prior to Project construction.

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Abbreviations

ENR	Department of Environment and Natural Resources
EPA	Environmental Protection Act
GNWT	Government of the Northwest Territories
INF	Department of Infrastructure
kg	kilogram
km	kilometre
L	Litre
LUP	Land Use Permit
m	metre
MGAR	Mount Gaudet Access Road
MVH	Mackenzie Valley Highway
MVWR	Mackenzie Valley Winter Road
MVLWB	Mackenzie Valley Land and Water Board
NWT	Northwest Territories
PKFN	Pehdzéh Kí First Nation
ROW	Right-of-Way
SCP	Spill Contingency Plan
TDGR	Transportation of Dangerous Goods Regulations
WMP	Waste Management Plan

1 Introduction

This Waste Management Plan (WMP) has been developed for use by the Government of the Northwest Territories (GNWT) Department of Infrastructure (INF) and the selected Contractor for the Mount Gaudet Access Road (MGAR) (the Project).

The purpose of the WMP is to provide a guide to all site personnel on the waste management goals, objectives and procedures to be followed during construction of the proposed MGAR. The WMP has been developed in accordance with the Guidelines for Developing a Waste Management Plan prepared by the Mackenzie Valley Land and Water Board (MVLWB).

The goal of the WMP is to:

- Ensure components of our environment, including the air, water, land, vegetation, wildlife and fish, are not negatively affected by construction of the proposed MGAR.
- Ensure aesthetic and land use values surrounding the proposed MGAR corridor remain intact following completion.
- Ensure construction of the proposed MGAR will comply with all applicable acts and regulations, as well as conditions outlined in INF's Land Use Permit (LUP) and Water Licence (WL) for the Project.

1.1 Contact Information

1.1.1 Proponent

Applicant's Name	Alternate Contact
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Department of Infrastructure	Strategic Infrastructure
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1.1.2 Contractor

A contractor has not yet been selected for the Project. Information for the Contractor will be provided to the MVLWB upon award of the contract.

1.2 Effective Date

The effective date of this WMP will be upon MVLWB approval of the final version prior to MGAR construction. The WMP will be updated and possibly revised as needed or at least annually to reflect site-specific conditions.

1.3 Distribution List

This plan and the most recent revisions will be distributed to:

- 1. Environmental Health and Safety Manager
- 2. Project Engineer
- 3. Public Relations
- 4. Camp Manager
- 5. Site Supervisors
- 6. Contractor
- 7. MVLWB
- 8. Applicable INF Employees

Names, addresses and contact information will be added to the final WMP.

1.4 Environmental Policy and Procedures

This WMP deals specifically with procedures and policies for the safe and responsible handling, storage and disposal of waste materials, which have served their original purpose and are scheduled for disposal. It provides background information on the handling of wastes and details the operational requirements to ensure that the construction of the MGAR is conducted in an environmentally responsible manner.

1.5 Legislation and Guidelines

This plan been developed in consideration of the applicable territorial legislation including the following reference documents:

- Northern Land Use Guidelines: Camp and Support Facilities (Lands 2014a)
- Northern Land Use Guidelines: Roads and Trails (Lands 2014b)
- Guideline for Hazardous Waste Management (ENR 2017)
- Guidelines for Developing a Waste Management Plan (MVLWB 2011)

2 Project Details

2.1 Project Overview

The Project is located within the region north of Wrigley, NWT, within the traditional territory of the Pehdzéh Kí First Nation (PKFN). The proposed MGAR would start at the Mount Gaudet Quarry, located approximately 15 kilometre (km) north of Wrigley and would end at the existing location of Hodgson Creek Bridge just north of Wrigley, or at the terminus of Highway 1 immediately south of Wrigley. An additional alignment is being considered to align the MGAR with the potential new location of Hodgson Creek Bridge, which may be required to address issues of spring meltwater and ice back-up at the existing bridge location.

Further geotechnical work, to be undertaken between now and the anticipated construction start date, will be required to determine the final alignment of the MGAR. The final alignment is dependent upon the review of the final report on the geotechnical work, further consultations with PKFN and applications for further funding (in progress). As such, the alignment of the road is described as segments:

- Segment 1 Starts at the Mount Gaudet Quarry and follows the existing MVWR alignment south towards Wrigley for approximately 13 km. Funding is currently available for this segment.
- Segment 2 Starts at the south end of Segment 1 to the location of Hodgson Creek Bridge either to the current bridge location (Segment 2a) or the potential new Hodgson Creek bridge location (Segment 2b).
- Segment 3 The Hodgson Creek Bridge would be raised at its current location (Segment 3a) or a new bridge will be installed further upstream (Segment 3b).
- Segment 4 Starts at the final location of the Hodgson Creek Bridge to the end of Highway #1 either from the current Hodgson Creek Bridge location following the current MVWR alignment (Segment 4a) or on a new alignment from the potential new Hodgson Creek Bridge location (4b).

The final, overall alignment of the MGAR is described in this PDR as two scenarios:

- Scenario 1: Represents a scenario where the existing Hodgson Creek Bridge is raised at its current location. Includes MGAR segments 1, 2a, 3a, and 4a. The total length of the MGAR in this Scenario is 20.81 km.
- Scenario 2: Represents a scenario in which a new Hodgson Creek Bridge is installed upstream of the existing one, and Segments 2b and 4b are constructed to align the MGAR with this new bridge. Includes MGAR segments 1, 2b, 3b, and 4b. The total length of the MGAR in this Scenario is 20.57 km.

The alignment is within the Boreal Cordillera ecoregion and is within the zone of extensive discontinuous permafrost. The region provides habitat for a wide range of wildlife, fish and

vegetation species. A description of environmental conditions within and surrounding the Project area can be found in the MGAR Environmental Overview document.

2.2 General Waste Handling and Disposal

MGAR construction will be based out of a camp located at the Mount Gaudet Quarry, and it is expected that the road will be built from North to South (see Project map in Appendix A). During MGAR construction, waste will only be stored at camp locations. Any waste generated by Project activities will be transported back to the camp locations at the end of each shift. All domestic waste will be stored within closed containers to avoid attracting wildlife and to prevent spills into the environment. All organic waste and other waste types which could act as a wildlife attractant will be stored in wildlife-proof containers in areas which minimize the possibility of wildlife attraction. Non-hazardous wastewater (such as grey water) will be disposed of in sumps located at the camp site. Most other waste types generated by the Project, including assorted trash, bulk metals, and black water / sewage will be trucked off-site and disposed of at the solid waste facility in Fort Simpson. The Fort Simpson solid waste facility contains a sewage/sludge pit, bulk metal and vehicle piles, drum storage, and general waste disposal areas. An approval letter for the use of waste disposal facilities in Fort Simpson, once obtained, will be included in Appendix B of the final WMP. Waste types which cannot be disposed of at the Fort Simpson solid waste facility will be disposed of according to the methods specified in Section **Error! Reference source not found.**, Table 4-1.

All hazardous waste awaiting disposal will be kept on site in a secure building or other appropriate secondary containment. Waste shall not be buried. Camp personnel will conduct weekly monitoring of waste storage facilities at the camp to ensure that wastes are being properly segregated, stored and disposed of, and to identify any presence of wildlife attracted by waste storage or disposal facilities.

3 Definitions

Under the authority of the *Environmental Protection Act (EPA)*, the GNWT has produced a series of environmental guidelines for the management of specific hazardous wastes commonly produced on similar projects. The Environmental Guideline for Hazardous Waste (GNWT 2017) provides definitions of the terms used in the *EPA* and describes the acceptable waste management practices. The following definitions are particularly important to this document.

3.1 Hazardous Waste

A contaminant is a dangerous good that is no longer used for its original purpose and is intended for recycling, treatment, disposal or storage.

A 'hazardous waste' does not include a contaminant that is:

• Household in origin;

- Included in class 1 (explosives) or class 7 (radioactive materials) of the *Transportation of Dangerous Goods Regulations (TDGR)*;
- Exempted as a small quantity;
- An empty container; or
- Intended for disposal in a sewage system or by land filling that meets the applicable standards set out in Schedules I, III or IV of the Guideline for Industrial Waste Discharges in the NWT.

3.2 Empty Container

A container that has been emptied, to the greatest extent possible, using regular handling procedures, but its contents shall not exceed 1% of the container's original capacity or 2 litres (L), whichever is less. This does not include containers which previously contained mercury, or Class 2.3, 5.1 or 6.1 materials of *TDGR*.

3.3 Small Quantity

Hazardous wastes are considered to be small quantities if generated in an amount that is less than 5 kilograms (kg) per month if a solid or 5 L per month if a liquid; and where the total quantity accumulated at any one time does not exceed 5 kg or 5 L. This does not apply to wastes that are mercury or in Class 2.3, 5.1 or 6.1 of the *TDGR*. These wastes must be generated in an amount less than 1 kg per month if a solid or 1 L per month if a liquid; and where the total quantity accumulated at any one time does not exceed 1 kg or 1 L.

4 Identification of Waste Types

Over the course of construction, several types of waste will likely be generated by equipment and crews working within the MGAR right-of-way (ROW). The primary type of waste will include non-mineral wastes; however, some hazardous wastes may be generated. The types of waste anticipated to be generated are outlined below.

Waste Stream	Description	Handling Method	Disposal Method
Domestic wastes (organic and non- organic)	Organic and non-organic waste including garbage, rubbish or food scraps.	Place in odour proof secure waste containers.	Domestic non- hazardous waste will be progressively removed from site and brought to the solid waste facility in Fort Simpson.
Construction materials (non-combustible)	Pieces of material such as metals.	Collect and store in bins at designated area on site.	Construction waste will be progressively removed from site to the solid waste facility

Waste Stream	Description	Handling Method	Disposal Method
			in Fort Simpson
Rubber/used tires	Old or faulty tires used on vehicles or equipment, belts, etc.	Collect and place in designated area on site.	Disposed of at the solid waste facility in Fort Simpson.
Cleared vegetation	Slashed trees and shrubs with possible grubbing.	Set aside trees larger than 12 cm in diameter for use by others. Follow approved methods in Northern Land Use Guidelines: Roads and Trails (Lands, 2014b).	Cleared vegetation may be disposed by way of burning or chipping, but in all cases will follow the approved methods outlined in Northern Land Use Guidelines: Roads and Trails (Lands, 2014b).
Bulky metals (vehicles, equipment)	Any broken vehicles, equipment or bridge/culvert materials	Collect and place in designated area on site.	Disposed of at the solid waste facility in Fort Simpson.
Contaminated soils and snow	Soil or snow contaminated with either diesel, oil or other spill materials.	Pick up contaminated soils or snow and place in lined facility or drum.	Soils or liquid residue will be placed in drums and removed by a registered hazardous waste carrier to an approved facility (Note-Fort Simpson waste facilities do not accept contaminated snow or soil).
Sewage	All human excreta and associated products (black water).	Collected by an onsite sewage lift station and transferred to a heated/insulated holding tank. Contained within black water storage and removed from site by a licenced contractor.	Sewage waste generated from the camp facilities will be removed from site by a licenced contractor and disposed of at the solid waste facility in Fort Simpson.
Grey water	Dirty water other than sewage (for instance, dish washing water) generated at camp facilities.	Directed to sumps for infiltration.	Grease traps on camp facilities will ensure grey water is suitable for depositing in sumps.
Waste oils		Store in "Lube cubes" provided by the petrochemical products supplier.	Disposed of with approved methods at approved facilities.
Used filters	Process (glycol, dips,	Store in filter containers	Disposed of with

Waste Stream	Description	Handling Method	Disposal Method
	water)	in a temporary storage located in a designated lined facility on site.	approved methods at approved facilities.
Used hydrocarbon containers and absorbents	Containers used to store hydrocarbons and absorbent materials used for spill clean-up.	Place in steel drums in a temporary storage located in a designated lined facility on site.	Disposed of with approved methods at acceptable facilities.
Waste antifreeze	From engines possibly contaminated with heavy metals.	Place into empty containers in a temporary storage located in a designated lined facility on site.	Disposed of with approved methods at approved facilities.
Waste solvents	Solvents used to remove grease and oil from engine components and other machinery.	Place into empty containers in a temporary storage container located in a designated lined facility on site.	Disposed of with approved methods at approved facilities.
Explosives	Explosive materials used for blasting.	Explosive material to be handled and maintained only by licenced explosives contractor.	Licenced explosives contractor will be responsible for disposal.
Animal carcasses	Dead or decomposing animal parts.	No storage of animal carcasses will be allowed.	If encountered, animal carcasses will be removed from site through discussions with the Department of Environment and Natural Resources (ENR), GNWT.
Lead acid batteries and alkaline batteries	From personnel and equipment.	Place into empty containers in a temporary storage located in a designated lined facility on site.	Disposed of with approved methods at approved facilities.

4.1 Non-Hazardous Wastes

Non-hazardous, non-mineral wastes generated during construction will primarily include domestic wastes, vegetation from clearing operations, bulky metals (vehicles, equipment) and rubber products (tires). Domestic waste will be created by site personnel and camp facilities, etc., while bulky metals and rubber products will be associated with the use of vehicles and equipment.

Vegetation removal, including tree and shrub slashing and possible grubbing, will be required as part of the Project. Construction of the MGAR will require the widening of the existing winter road

alignment from 20 metre (m) to 40 m in width over the 15 km to 21 km length of the access road, and may include a 2.7 km section outside of the winter road alignment which would be cleared to a width of 40 m to 60 m from an un-disturbed state. Vegetation will also need to be cleared at the proposed Mount Gaudet Quarry.

The potential environmental effects arising from unmanaged non-hazardous, non-mineral wastes include increased wildlife attractants, a change in the aesthetics to the area surrounding the proposed MGAR, degradation of water quality, and degradation of wildlife and fish habitat.

4.2 Sewage

During the Project, portable washroom facilities will be utilized by Project personnel. Sewage wastes will be transported by truck when required to an approved facility in Fort Simpson for disposal.

The potential environmental effects arising from unmanaged sewage wastes include degradation of soil quality, degradation of water quality, degradation of wildlife habitat, and harm to on-site personnel.

4.3 Hazardous Waste

Potential hazardous wastes generated on the alignment include waste oil, fuel, lubricants, oil filters, batteries and solvents from use and maintenance of heavy equipment, as it is expected that equipment will occasionally require servicing within the proposed corridor or quarry area. Other potential hazardous wastes may include contaminated soil, snow or water and sewage if a spill occurs during construction activities. The potential environmental effects arising from unmanaged hazardous wastes include degradation of soil quality, degradation of water quality, wildlife and fish habitat, and harm to Project personnel.

5 Waste Management Facilities

Various wastes will be generated during the construction of the proposed MGAR. It is essential that these wastes are handled, stored and managed in a safe and environmentally responsible manner. It is also important that all waste products are appropriately tracked and that shipping/tracking sheets are provided to site personnel as necessary.

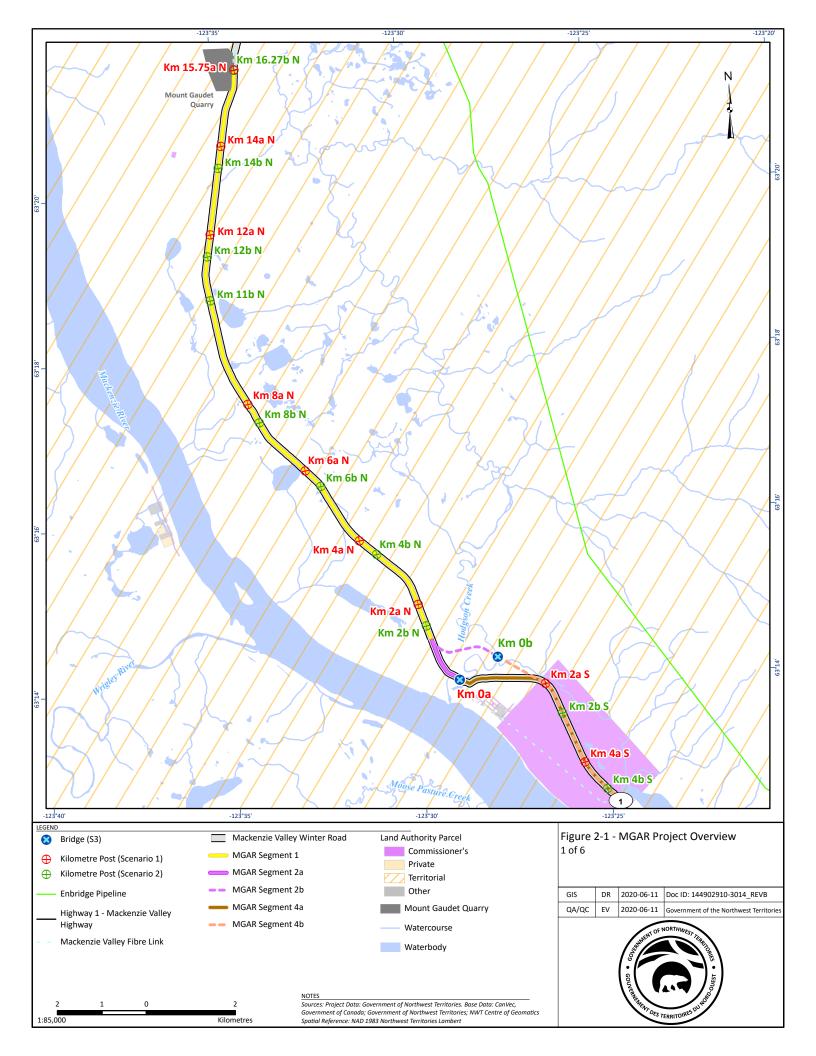
The 100-person camp will include temporary fuel storage, a dining trailer, accommodation trailers for personnel, toilet and bathing facilities, medical facilities, and waste storage facilities. All fuel storage will consist of double-walled fuel tanks and/or approved storage containers with secondary containment (e.g. lined tray and berms or sea-can). The waste storage facility will include designated areas for the various waste streams. The waste storage facility will consist of roll-off type containers for construction waste and closed containers (sea-cans) for domestic waste, each designated for each of the various waste streams. Camp facilities will include an incinerator, sewage lift station, and larger holding tank which will be heated and insulated. Camp and waste management facilities will be located at least 100 m from all water bodies.

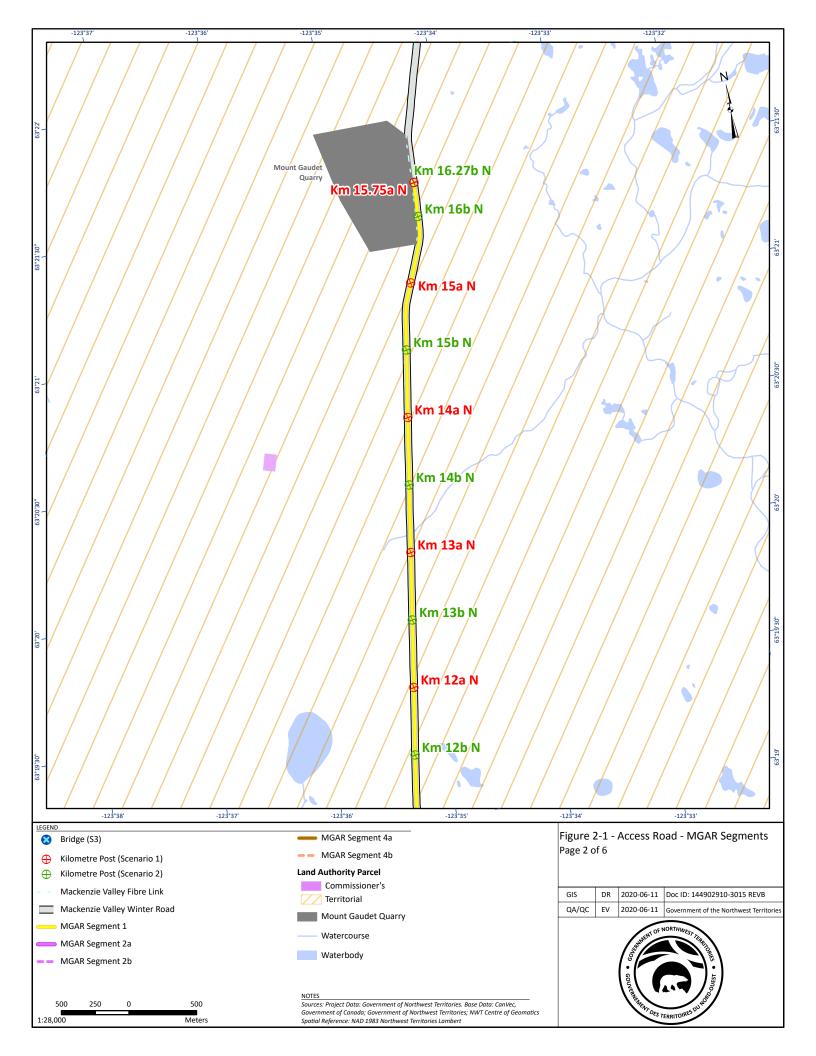
6 References

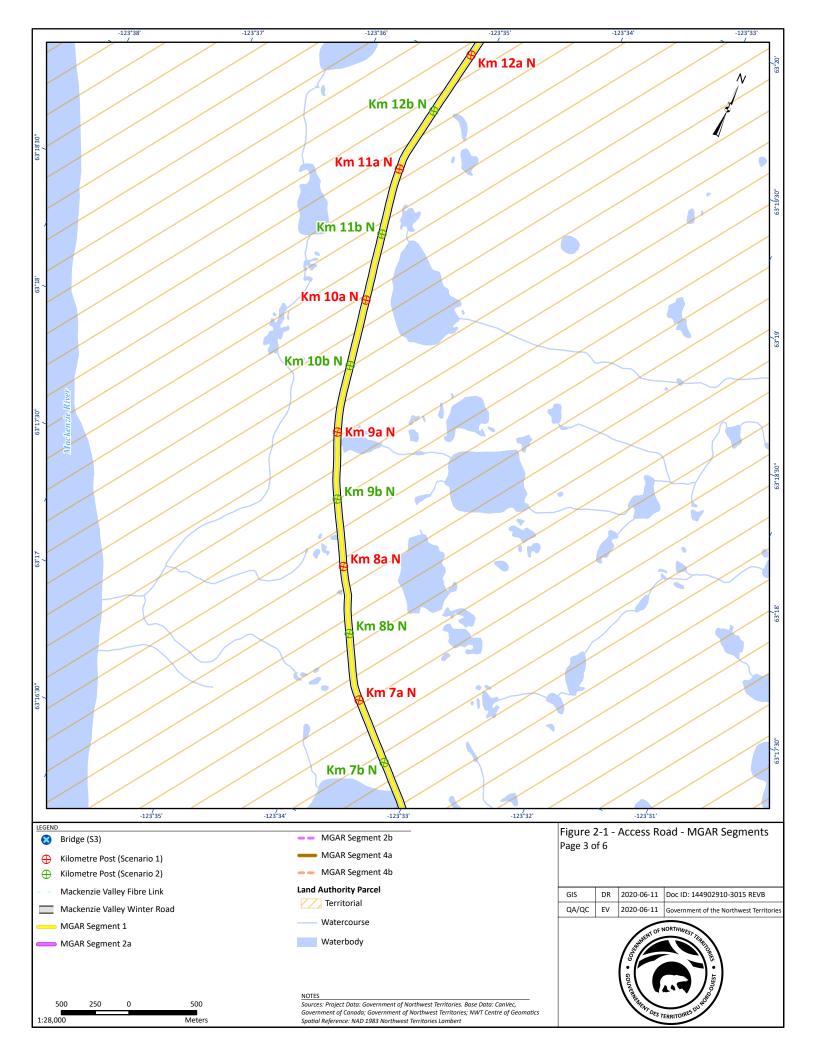
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- Mackenzie Valley Land and Water Board (MVLWB). 2011. Guidelines for Developing a Waste Management Plan. MVLWB, Yellowknife, NT. Retrieved August 2014 from: http://mvlwb.com/resources/policy-and-guidelines.

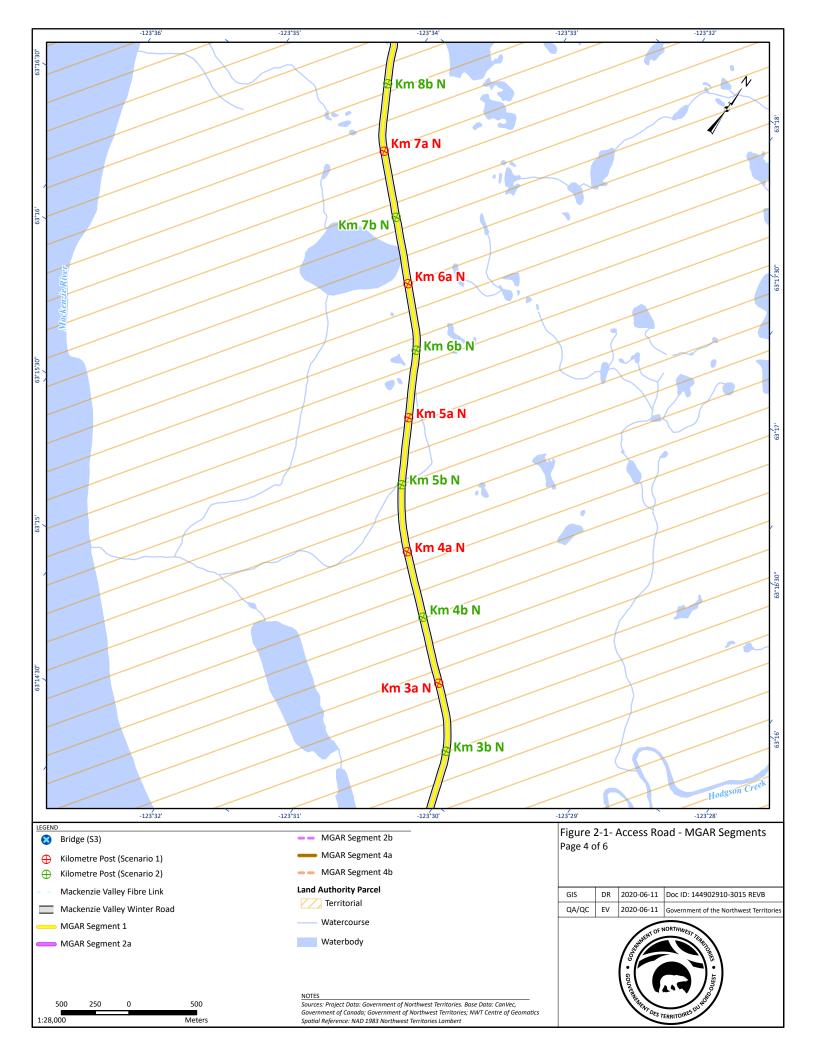
Appendix A

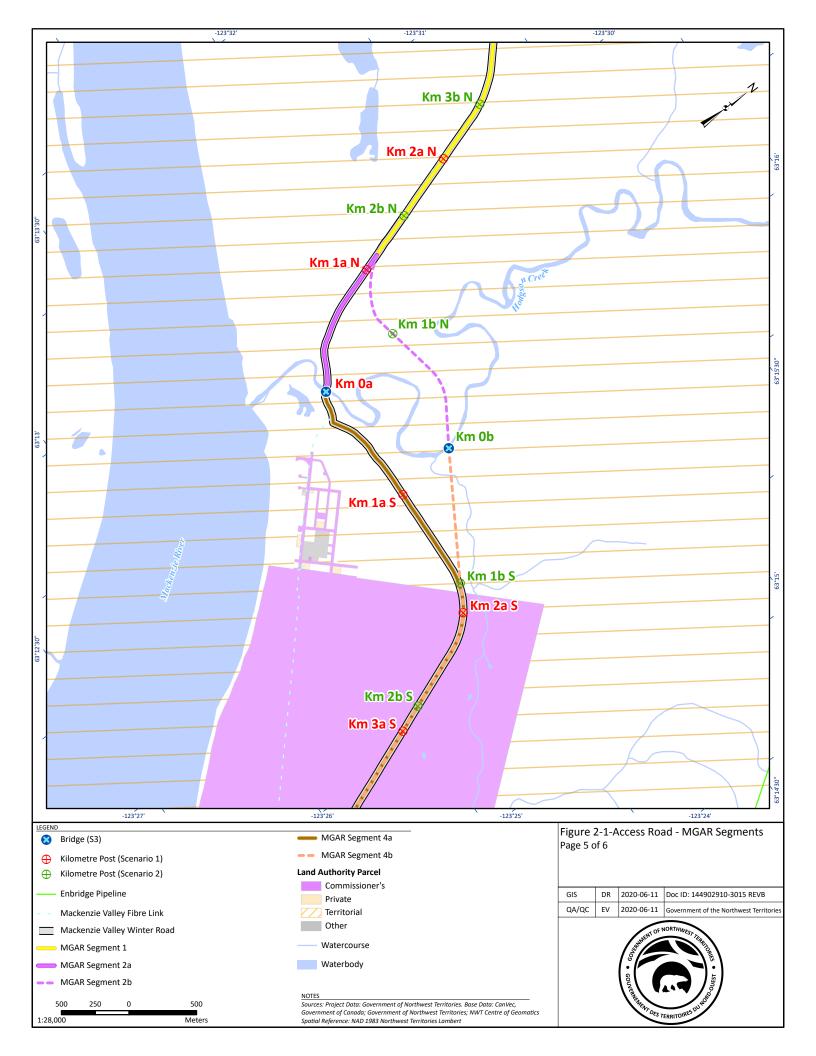
Project Map

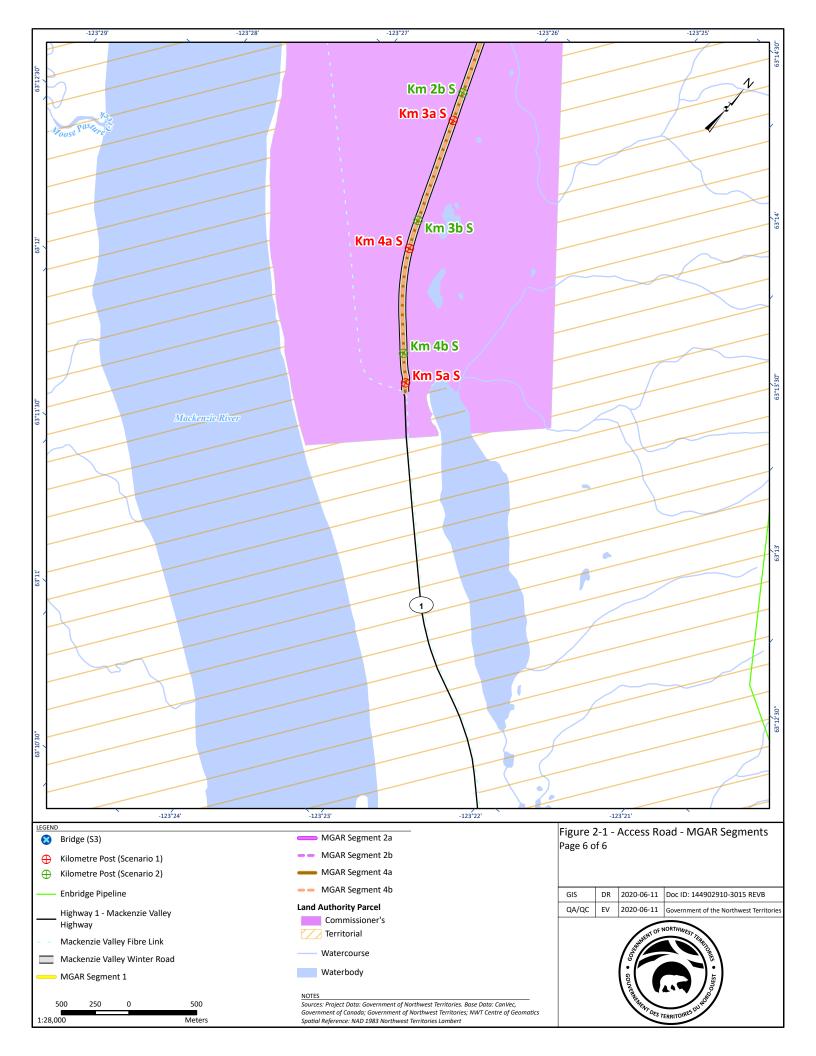












Appendix B

Community Waste Disposal Approval Letters

Village of Fort Simpson



June 4, 2020

Eric Vandenberg Intern, Environmental Analyst, Mackenzie Valley Highway Department of Infrastructure Government of the Northwest Territories 7th floor, YK Centre 4922 48th Street PO Box 1320 Yellowknife NT X1A 2L9

Mr. Vandenberg:

With respect to your recent request regarding the Mount Gaudet Access Road Project, and disposal of materials at the Fort Simpson Landfill, I can provide conditional confirmation at this time for materials disposal in the future.

This "Agreement in Principal" will involve the drafting, by the Village, and signing of "Acceptance Agreements" by the GNWT Department of Infrastructure, and the Contractor's ultimately responsible for delivery of materials. This will be done in consultation with all parties, once we know more clearly the streams and volumes.

Our contact with regard to technical matters will be Mitch Gast (867) 695-6501, and I will also be available through this process on administrative matters.

Respectfully,

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Darrell White SAO, Village of Fort Simpson