



**Waste Management Plan for the
NWT Highway #8 (Dempster Highway) Operations and
Maintenance
Land Use Permit
G07E006**

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Environmental Affairs
Department of Transportation
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1.0 INTRODUCTION

This Waste Management Plan (WMP) has been developed by the Government of the Northwest Territories (GNWT) Department of Transportation (DOT). It is to be used by the Department and its Contractor(s) during operations and maintenance activities on NWT Highway #8 (The Dempster Highway) licenced under LUP G07E006. This waste management plan will be implemented for all activities undertaken for the life of this land use permit.

The purpose of the WMP is to provide a guide to all site personnel on the waste management goals, objectives and procedures to be used during permitted operations and maintenance activities. 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 (2011).

The Department of Transportation is cognizant of the need to ensure components of our environment are not negatively affected by permitted activities; aesthetic and land use values of the permitted alignment remain intact following expiry of the permit; and, that the Department and its Contractors will comply with all applicable acts and regulations, as well as conditions outlined in the DOT's land use permit and water license. With these in mind, the Department has developed the following WMP.

1.1 PROJECT / SITE DESCRIPTION

The activities to be completed under this land use permit include safety and grade improvements at strategic or critical locations, the temporary placement and storage of construction/work camps, equipment and fuel caching, and quarry operations throughout the permitted years. Other activities include the construction, operation and maintenance of a winter access road between the Dempster Highway and the Arctic Red River, near the community of Tsiigehtchic.

This Waste Management Plan is applicable to the operations and maintenance activities as described above. It is not transferable to the ferry landings located at Km 74 (Peel River Ferry Landing) or Km 142.6 to 143.6 (Mackenzie/Arctic Red River Ferry Landing) or any other projects along the alignment.

The permitted area extends along the highway #8 alignment between the NWT/Yukon Border and the town of Inuvik, NWT.

2.0 IDENTIFICATION OF WASTE TYPES

Over the course of the Project, several types of waste will be generated by equipment and crews working within the Project area. The primary type of waste will include non-hazardous wastes; however,

some hazardous wastes may be generated. All potential waste types are listed below and further descriptions are provided in Sections 2.1 to 2.3:

Non-hazardous wastes:

- Domestic wastes;
- Sanitary wastes;
- Construction materials (i.e., waste geotextile, scrap metal);
- Cleared vegetation;

Hazardous wastes:

- Used oil, fuel, lubricants, greases, oil, filters, and solvents
- Contaminated soil, snow/ice and/or water

2.1 NON-HAZARDOUS WASTES

Non-hazardous, non-mineral wastes generated during the Project will primarily include domestic wastes, sanitary wastes, and construction materials. Domestic wastes will be brought to the site with Project personnel in their lunches, crew vehicles, etc., while sanitary wastes will be generated on-site.

Vegetation needing to be cut will be windrowed and burned in a suitable location along the permitted alignment.

Some waste construction material may be generated during operation and maintenance activities. These wastes may include geotextile material, wire mesh, steel wire, and scrap wood and metal.

The potential environmental effects arising from unmanaged non-hazardous, non-mineral wastes include increased wildlife attractants, potential for sanitary spills or leaks, a change in the aesthetics of the Project area, and degradation of water quality, and wildlife and fish habitat quality.

2.2 HAZARDOUS WASTES

Potential hazardous wastes generated on-site include waste oil, fuel, lubricants, oil filters, solvents, etc., from use and maintenance of heavy equipment. Other potential hazardous wastes may include contaminated soil, snow or water should a spill occur during Project activities.

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

Table 1 – Summary of Waste Types and Expected Volumes

Waste Type	Expected Volumes
Non-hazardous	
Domestic	20-30 cubic metres/year
Sanitary/Sewage	10-20 cubic metres/year
Vegetation	120-180 cubic metres/year
Construction materials	50-60 cubic metres/year
Hazardous	5-10 cubic metres/year

3.0 MANAGEMENT OF WASTE TYPES

3.1 NON-HAZARDOUS WASTES

Within the alignment of the Dempster Highway, the non-hazardous wastes will be temporarily stored within the indicated areas outlined in the drawings in Appendix A. The following management and mitigation techniques may be implemented to reduce the potential for environmental effects associated with non-hazardous, non-mineral wastes:

Domestic wastes:

- On-site, domestic wastes will be stored in clearly marked containers with tight-fitting lids (i.e., garbage cans). Domestic wastes will be transported back to one of Ft. McPherson, Tsiigehtchic, or Inuvik daily with site personnel and disposed of at an approved Solid Waste Facility.

Sanitary wastes:

- On-site, sanitary wastes will be stored in an on-site sewage tank. Sanitary wastes will likely be removed from site every two to four weeks by vacuum truck. Sanitary wastes will be transported back to and disposed of at an approved Sewage Facility at one of the local communities in the area.

Cleared vegetation (from INAC 2010b):

Minimal vegetation is anticipated to be wasted however in the event that some clearing is required the following practices will be employed:

- Trees will be felled away from water sources to minimize the amount of vegetation material that could enter the aquatic environment.
- If clearing trees or packing snow with a dozer blade, mushroom or smear blades will be used and the uprooting of the trees will be avoided. Small trees and shrubs will be cleared by hand, or with the dozer blade to “walk down” the vegetation, with the blade set at a fixed height. The blade will push small trees and shrubs down and the weight of the machine will compress felled

vegetation. The ground cover and surface organic layer will be left in place.

- Burning of brush may be required. If determined necessary, brush piles will be burned away from other vegetation to minimize the risk of fire spreading.

Construction materials:

- On-site, waste construction materials will be stored in clearly marked containers with lids. These waste materials will be transported back to a community, if/when necessary, and disposed of at an approved Solid Waste Facility. These containers will be inspected daily to ensure no domestic waste is disposed of here.

3.2 HAZARDOUS WASTES

Hazardous wastes generated during the permitted operations and maintenance activities will be stored at the designated fuelling and contaminant storage area within the Project area. This area is outlined in the drawings in Appendix A and is greater than 100 m from a water source; this will prevent potential spills or leaks from entering the creek.

Any hazardous wastes will be stored in clearly marked containers with lids (i.e., drums). Any hazardous wastes will be removed from the designated storage area a minimum of bi-weekly, if necessary. As the contaminated soil/snow wastes will be transported to an approved waste facility for treatment. If other contaminated materials require disposal (i.e., spill pads), these will be disposed of through a licensed facility. For this transport and disposal, the Contractor or DOT will complete the appropriate waste manifest form.

4.0 INFRASTRUCTURE REQUIRED FOR WASTE MANAGEMENT

The following types of infrastructure will be required for proper waste management of the Project:

- Cleared vegetation storage area – this area for windrowing or burning will be selected within an appropriate location along the highway alignment by the Contractor and DOT site representative;
- Waste storage or disposal facility – Approved Solid Waste Facility;
- Sewage disposal facility – Approved Sewage Facility; and,
- Appropriate hazardous waste disposal facility – Approved hazardous waste disposal facility.

5.0 REFERENCES



Indian and Northern Affairs Canada (INAC). 2010a. Northern Land Use Guidelines Volume 7 – Pits and Quarries. Natural Resources and Environment Branch, INAC, Ottawa, ON. Available online: <http://www.aadnc-aandc.gc.ca/eng/1100100023585/1100100023587> (13 November 2012).

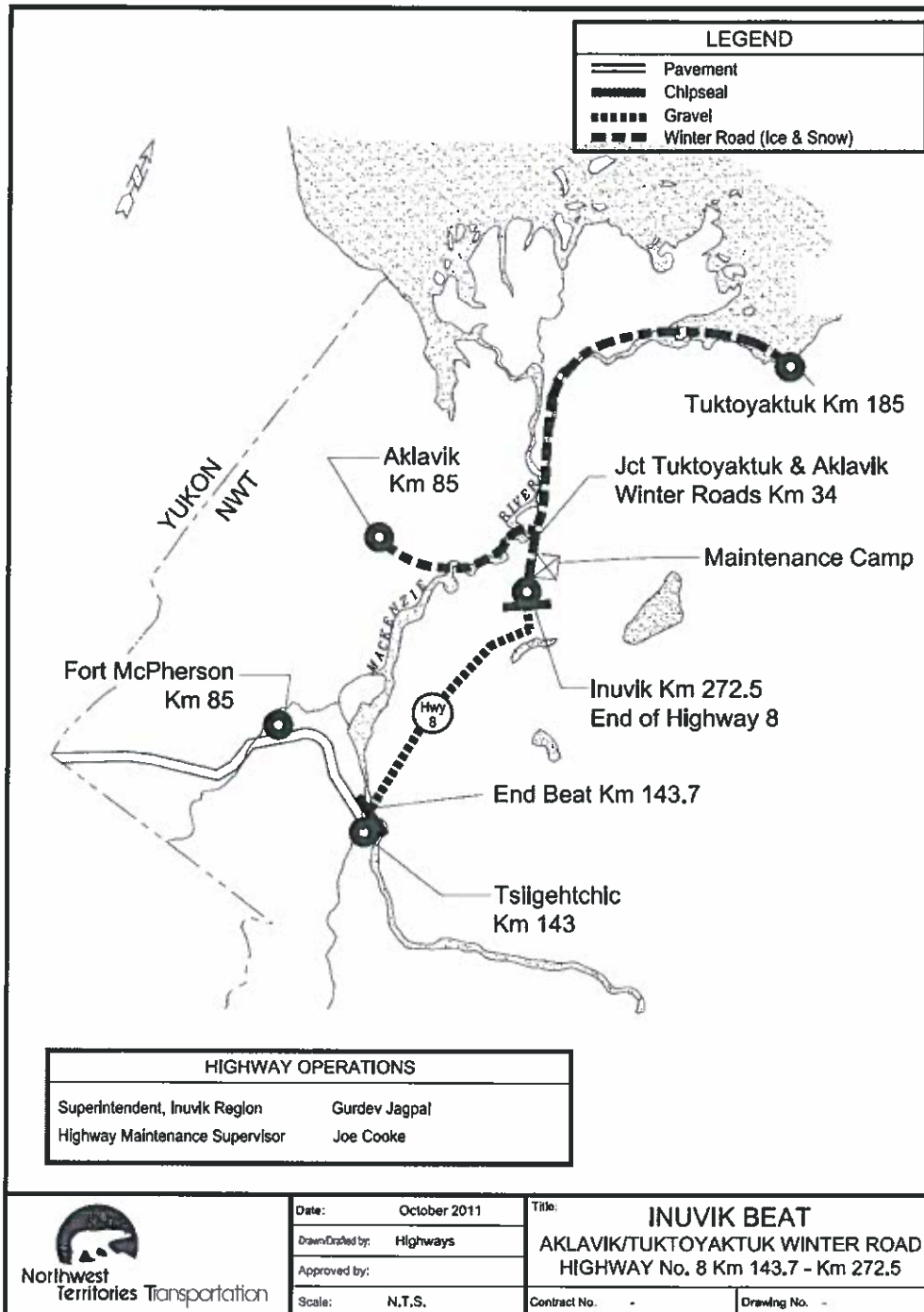
Indian and Northern Affairs Canada (INAC). 2010b. Northern Land Use Guidelines Volume 5 – Access: Roads and Trails. Natural Resources and Environment Branch, INAC, Ottawa, ON. Available online: <http://www.aadnc-aandc.gc.ca/eng/1100100023568/1100100023583> (13 November 2012).

Mackenzie Valley Land and Water Board (MVLWB). 2011. Guidelines for Developing a Waste Management Plan. MVLWB, Yellowknife, NT. Available online: <http://mvlwb.com/resources/policy-and-guidelines> (19 November 2012).

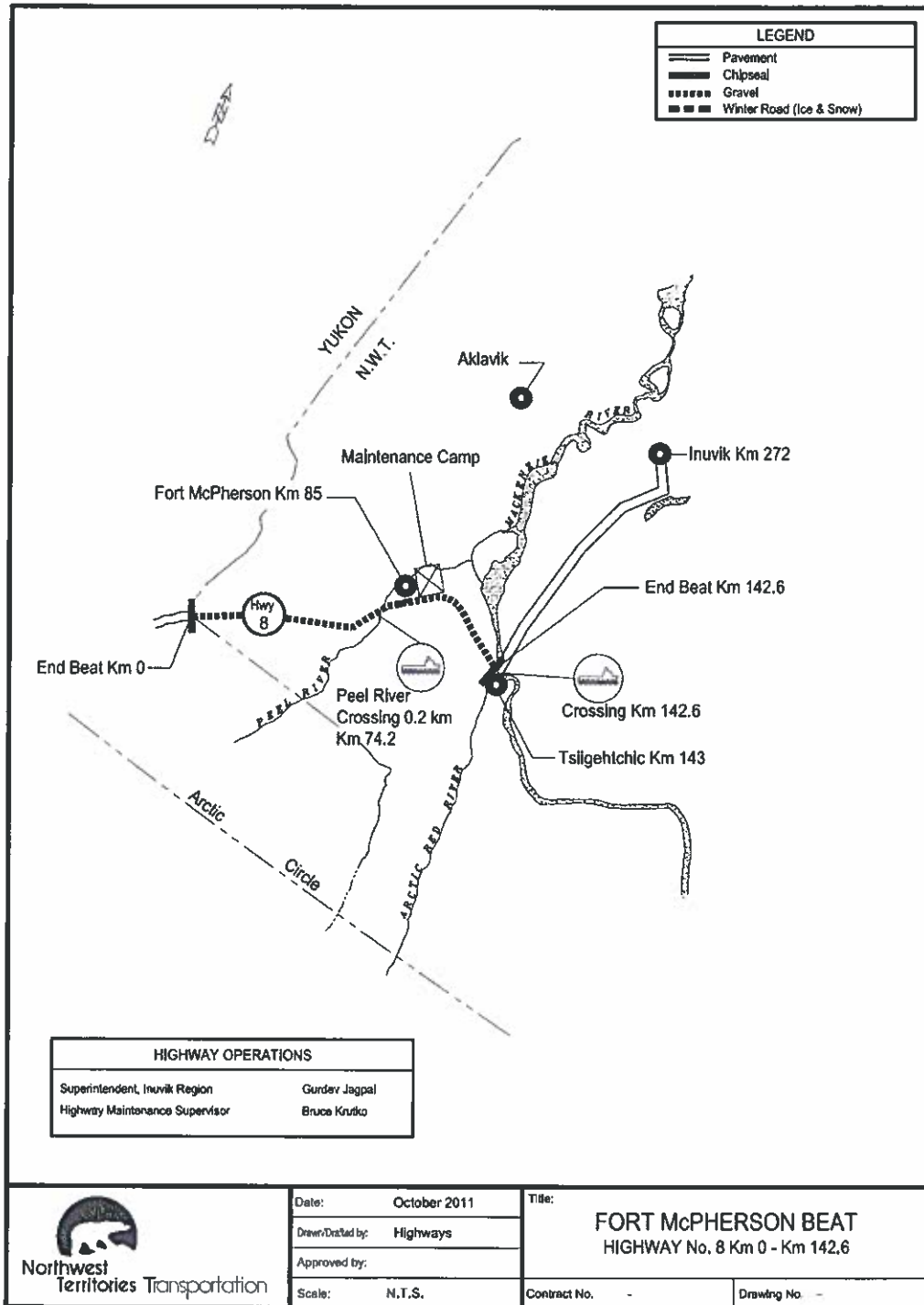


Waste Management Plan APPENDIX A

Sketches



Highway #8 alignment: Km 272.5, Town of Inuvik, to Km 143.7, Mackenzie River Ferry Landing



Highway #8 alignment: Km 142.6, Mackenzie River Ferry Landing, to Km 0, YT/NT Border