

APPENDIX E

WASTE MANAGEMENT PLAN

WASTE MANAGEMENT PLAN

CONSTRUCTION OF THE NORMAN WELLS TO CANYON CREEK ACCESS ROAD



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1.0 INTRODUCTION

The project is the construction of approximately 14 km of all-season access road from Quarry Road in the Town of Norman Wells to approximately 450 m beyond the existing bridge at Canyon Creek. The project also includes the development of a haul road to a proposed new quarry, upgrades to the access road to Jackfish Lake and development of a road to proposed camping/recreational areas on Sahtu Lands at Canyon Creek. The total estimate of new road construction and upgrades to existing road is 18.75 km.

The proposed project will consist of the following components:

- Mobilizing construction equipment from Norman Wells and Tulita.
- Clearing, grubbing and stripping all vegetated material from within the working face and development area of the quarry.
- Blasting, excavation, crushing and stockpiling of gravel materials within the staging area.
- Sourcing and use of water from the Mackenzie River to provide temporary working surfaces and winter access road during frozen ground conditions.
- Use of construction equipment and a lunchroom/wash car combination trailer.
- Disposal of waste at approved offsite disposal facilities.
- Construction of an estimated 10 km winter access trail along new and existing cut lines from the intersection with Quarry Road in the Town of Norman Wells to the proposed new quarry.
- Construction of an all-season haul road from the proposed new quarry to the new Access Road.
- Construction of an all-season Access Road from the intersection with Quarry Road in the Town of Norman Wells to approximately 450 m east of Canyon Creek Bridge.
- Construction of an all-season access road to camping/recreational areas on either side of Canyon Creek, downstream from the Canyon Creek Bridge.

2.0 COMPANY INFORMATION

2.1 The Applicant

Department of Transportation (DOT), GNWT
P.O. Box 1320
Yellowknife, NT X1A 2L9

Telephone: 867.767.9082 x31050
Facsimile: 867.920.2565

Attention: Rhonda Batchelor, Director – Environmental Affairs
Email: Rhonda_Batchelor@gov.nt.ca

2.2 The Contractor

TDIC/HRN Contracting Joint Venture
 63 MacKenzie Drive
 P.O. Box 329
 Norman Wells, NT X0E 0V0

Telephone: 867.587.2168
 Facsimile: 867.587.3015

Attention: David Hodgson, President
 Email: hci4@theedgenw.ca

3.0 PROJECT LOCATION

3.1 Access Road

Latitude	Longitude	Extent
65° 17' 40.577"N	-126° 43' 36.183"W	Western Extent, Intersection with Quarry Road in Town of Norman Wells
65° 13' 25.577"N	-126° 30' 53.362"W	Eastern Extent, East of Canyon Creek Bridge

3.2 Proposed New Quarry

Latitude	Longitude	Extent
65° 17' 3.290"N	-126° 31' 56.275"W	Northwest Corner
65° 16' 56.026"N	-126° 32' 4.474"W	Southwest Corner
65° 16' 57.120"N	-126° 31' 25.007"W	Northeast Corner
65° 16' 49.851"N	-126° 31' 33.213"W	Southeast Corner

4.0 EFFECTIVE DATE OF PLAN

This Waste Management Plan (WMP) is effective upon Sattu Land and Water Board (SLWB) approval of the Land Use Permit for construction of the Norman Wells to Canyon Creek Access Road.

5.0 PURPOSE AND SCOPE

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, details the operational requirements to ensure that the facility is maintained in an environmentally responsible manner, and outlines the environmental monitoring and reporting required by the regulatory agencies.

6.0 LEGISLATION AND GUIDELINES

The Norman Wells to Canyon Creek Access Road will be constructed and operated under a Land Use Permit and Water Licence issued by the SLWB. In addition, the project will also operate under a quarry permit issued through the Department of Lands, GNWT.

The principal applicable legislation, dealing with specific issues related to hazardous waste management and the environment, is the Northwest Territories (NWT) *Environmental Protection Act (EPA)*. Other relevant legislation includes the *Waters Act*, *Fisheries Act* and the *Transportation of Dangerous Goods Act and Regulation (TDGR)*.

The management of specific hazardous materials is addressed by the Federal *Canadian Environmental Protection Act for Polychlorinated Biphenyl's (PCB's)*, the *Explosives Act*, and the Atomic Energy Control Board (AECB) for the safe use and storage of radioactive materials.

The management of hazardous materials is subject to legislation intended to protect the health and safety of workers and the public, such as the *NWT Safety Act*, *Occupational Health and Safety Regulations*, the *Work Site Hazardous Materials Information System Regulations (WHMIS)*, the *National Fire Code* and the *NWT Public Health Act*.

7.0 DEFINITIONS

Under the authority of the Environmental Protection Act, the GNWT, Environment and Natural Resources has produced a series of 'Environmental Guidelines' for the management of specific hazardous wastes commonly produced by NWT industries. The Environmental Guidelines for the management of waste solvents, batteries, and antifreeze, have been referred to during the preparation of this plan.

The Environmental Guideline for the General Management of Hazardous Waste in the NWT provides definitions of terms used in the EPA and Environmental Guidelines, and describes the principles of acceptable waste management practice. The following definitions are particularly important to this document.

7.1 Hazardous Waste

A contaminant which 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 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 (* 'dangerous good' as defined in the TDGR).

7.2 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, whichever is less. This does not include containers which previously contained mercury, or Class 2.3, 5.1 or 6.1 materials of the TDGR.

7.3 Small Quantity

Hazardous waste that is generated in an amount that is less than 5 kilograms per month if a solid, or 5 litres per month if a liquid; and where the total quantity accumulated at any one time does not exceed 5 kilograms or 5 litres. This does not apply to wastes that are mercury or in Classes 2.3, 5.1 or 6.1 of the TDGR. These wastes must be generated in an amount less than 1 kilogram per month if a solid or 1 litre per month if a liquid; and where the total quantity accumulated at any one time does not exceed 1 kilogram or 1 litre.

8.0 WASTE MANAGEMENT PRINCIPLES

The Guideline for the General Management of Hazardous Waste in the NWT describes the responsibilities of hazardous waste generators and states principles for the storage and management of these wastes. The following principles will be incorporated into the Norman Wells to Canyon Creek Access Road project hazardous waste management programs.

8.1 Responsibilities

All waste generated on site is the responsibility of DOT and will be disposed of at the approved facilities.

8.2 Waste Reduction

The waste management program will attempt to minimize waste production by applying the principles of **Reducing** the use of materials, **Reusing** materials whenever possible, **Recycling** materials and **Recovering** value from used materials.

8.3 Waste Streams

DOT will ensure that separate waste types are segregated and disposed of at appropriate waste facilities as outlined in **Table 1**.

Table 1: Segregated Waste Streams for the Project

Waste Stream	Description	Handling Method	Disposal Method
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 placed in drum and removed by registered hazardous waste carrier to approved facility. Spill contingency and remediation actions will be implemented as outlined in the Emergency Response and Spill Management Plan prepared for the project.
Domestic Wastes (organic and non-organic)	Organic and non-organic waste including garbage, rubbish or food scraps.	Placed in animal-proof sealed waste containers.	Domestic non-hazardous waste will be removed from the lunchroom/wash car trailer at the proposed new quarry site at the end of each winter operating season and disposed of at the Town of Norman Wells waste landfill facility.

Table 1: Segregated Waste Streams for the Project

Waste Stream	Description	Handling Method	Disposal Method
Sewage	All human excreta and associated products (grey water).	Contained within grey water storage removed from site by a licenced contractor.	Sewage waste will be disposed of at the approved sewage lagoon in the Town of Norman Wells.
Waste Oils	Waste oil is stored in "Lube cubes" provided by the petrochemical products supplier.	Waste material is handled in accordance to <i>NWT Used Oil and Waste Fuel Management Regulations</i> .	Disposed in accordance to <i>NWT Used Oil and Waste Fuel Management Regulations</i> .
Used Filters	Process (glycol, Dips, water).	Remove and dispose of filters as they are used.	Hazardous waste leaving the site is tracked on hazardous waste movement documents that confirm the ultimate disposal of hazardous waste at authorized receiving facilities.
Used Hydrocarbon Containers and Absorbents	Containers used to store hydrocarbons and absorbent materials used for spill clean up.	Placed in steel drums and taken to disposal.	Hazardous waste leaving the site is tracked on hazardous waste movement documents that confirm the ultimate disposal of hazardous waste at authorized receiving facilities.
Waste Antifreeze	From engines possibly contaminated with heavy metals.	Placed into empty containers and taken to disposal.	Hazardous waste leaving the site is tracked on hazardous waste movement documents that confirm the ultimate disposal of hazardous waste at authorized receiving facilities.
Waste Solvents	Solvents used to remove grease and oil from engine components and other machinery.	Placed into empty containers and taken to disposal.	Hazardous waste leaving the site is tracked on hazardous waste movement documents that confirm the ultimate disposal of hazardous waste at authorized receiving facilities.
Used Tires	Old or faulty tires used on vehicles or equipment.	No removal of tires on site. Work at an appropriate mechanical shop in Norman Wells.	Hazardous waste leaving the site is tracked on hazardous waste movement documents that confirm the ultimate disposal of hazardous waste at authorized receiving facilities.
Explosives	Explosive materials used for blasting.	No long term storage of explosives, rather the use of explosives will be dealt with on a daily basis and hauled from the storage site located in Norman Wells.	Unused materials will remain in the approved storage magazines and/or returned to the vendor.
Animal Carcasses	Dead or decomposing animal parts.	No storage of animal carcasses within the quarry premises will be allowed.	If encountered, animal carcasses will be removed from site through discussions with the Department of Environment and Natural Resources, GNWT.

9.0 WASTE MANAGEMENT FACILITIES

Various wastes will be generated during the development and operation of the Norman Wells to Canyon Creek Access Road project. It is essential that these wastes are handled, stored and managed in a safe and environmentally responsible manner.

The project does not have a camp outside of existing lodging and accommodations facilities in Norman Wells. A lunchroom/wash car trailer will be located at the proposed new quarry site. It will be equipped with a grey water system and the grey water will be trucked out to an approved sewage disposal site.