

WASTE MANAGEMENT PLAN

LUPIN WINTER ACCESS

Lac de Gras, NWT to Lupin Mine, NU

December 2018





PLAIN LANGUAGE SUMMARY

This Plan describes what is done with any waste generated during construction, operation and closure of the winter road between Lac de Gras and Lupin.

REVISION HISTORY

Revision #	Date	Section	Summary of Changes	Author	Approver
1	Dec 2018	All	New document	S. Hamm	K. Ruptash



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1.0 INTRODUCTION

1.1 COMPANY NAME

Nahanni Construction Ltd.

P.O. Box 2076

100 Nahanni Drive

Yellowknife, NT

X1A 2P6

Phone: 867-873-2975

Fax: 867-873-9620

Contact: Kenny Ruptash

1.2 SITE NAME AND LOCATION

The Program involves constructing and operation a portion of the Tibbitt to Contwoyto Winter Road (TCWR) route from the Ekati Mine turnoff on Lac de Gras in the Northwest Territories (NT; Lac de Gras) to the Lupin Mine in Nunavut (NU; Lupin). The road route is illustrated in Figure 1, with coordinates along the route presented in Table 1. The Lupin Mine, which will be used for staging and most waste receiving is located on the west shore of Contwoyto Lake, approximately 285 kilometres southeast of Kugluktuk, within the Kitikmeot Region, Nunavut, at the following general geographical coordinates:

Latitude: 65° 46' N and Longitude: 111° 14' W.

1.3 EFFECTIVE DATE

This *Waste Management Plan* (the Plan) is effective for the duration of the land use operation, commencing upon approval of this Plan and effective through winter road construction, operations and closure activities for a period of up to five (years) or as otherwise permitted.

1.4 COMPANY PROFILE

With 120 full time staff, upwards of 200 seasonal staff and 25 years working in the North, NCL has become an expert in dealing with arctic construction projects north of the 60th parallel. Our operation is efficiently sized and our ability to adapt to different jobs makes us one of the North's most versatile and reliable contractors. Our offices in Yellowknife, NT and Rankin Inlet, NU, help our clients overcome tough northern conditions, many times in remote locations, to complete arctic construction projects on time, on budget, and with great safety and environmental compliance records.

Table 1. Coordinates for points along the proposed winter road route alignment.

Feature ID	Point ID	Longitude	Latitude
0	1	-111.2341594	65.77917122
1	2	-111.1403304	65.79441198
2	3	-110.8681918	65.69651677
3	4	-110.6811563	65.64789779
4	5	-110.4514014	65.5243696
5	6	-110.2309842	65.39993098
6	7	-109.8783989	65.28732641
7	8	-109.7757167	65.20286566
8	9	-109.680819	65.12185807
9	10	-109.7171734	65.03356105
10	11	-109.7194375	65.03082829
11	12	-109.725032	65.02407207
12	13	-109.739037	65.00714399
13	14	-109.7874266	64.94848779
14	15	-109.917558	64.86167221
15	16	-109.9697881	64.85429591
16	17	-110.0272751	64.84615326
17	18	-110.0978356	64.82855087
18	19	-110.1408717	64.71880059
19	20	-110.0476168	64.57102691
20	21	-110.1915516	64.51178426

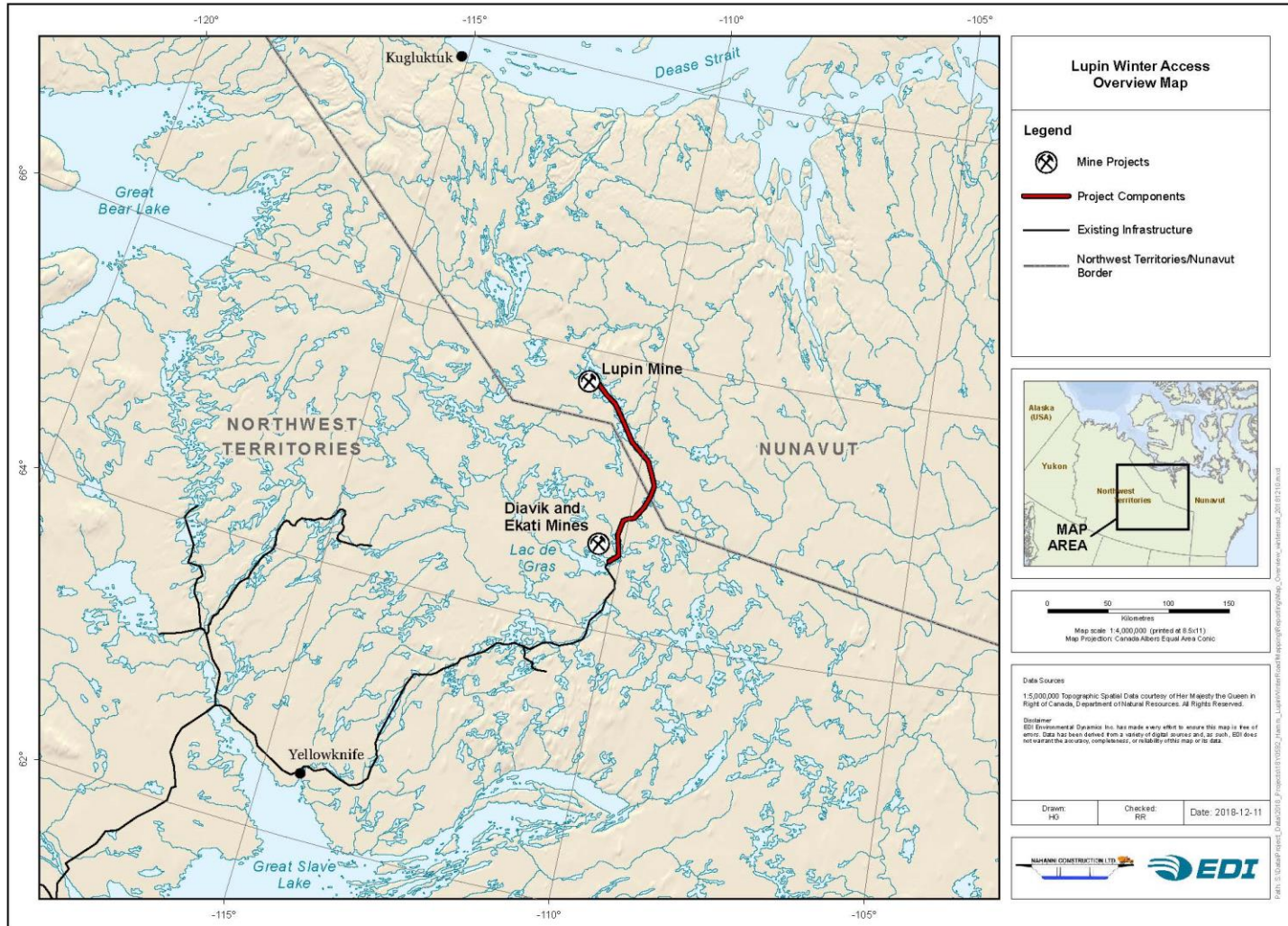


Figure 1. Lupin Mine Winter Access Program location.

1.5 PURPOSE AND SCOPE

The Program involves constructing and operation a portion of the TCWR route from the Ekati Mine turnoff on Lac de Gras to Lupin to mobilize and demobilize equipment and supplies that may be used for ongoing reclamation of Lupin in the Kitikmeot Region of Nunavut (the Program). The Program includes transportation only of equipment and supplies such as bulk fuel, lime and explosives; activities occurring at the Lupin mine site are authorized elsewhere and are outside of the scope of the Program.

Waste management goals include limiting impacts to the environment including terrestrial and aquatic resources, and operating in a manner that is compliant with all authorizations.

The objectives of this Plan are to:

- Ensure employees and contractors are trained to manage waste in a compliant manner; and
- Outline appropriate waste management measures to ensure environmental protection.

1.6 PLAN MANAGEMENT

The Project Manager or designate is responsible for Plan implementation.

A copy of this Plan is maintained in NCL's office in both Yellowknife and on site at Lupin.

The Plan will be reviewed annually by the Project Manager and updated as needed. When material changes occur, the updated document will be issued externally as needed.

1.7 WASTE MANAGEMENT ACTIVITIES

Given the nature of the Program, being transportation, limited waste management activities are expected to occur in association with the Program. Any waste produced will be collected for appropriate offsite disposal either at the Lupin Mine or via suitable waste receiver.

1.8 SITE DESCRIPTION

The Program occurs along an existing winter road route established in the 1970's and since used intermittently to service the Lupin Mine and the Jericho Mine (the Winter Road). The Winter Road route predominantly traverses lakes, with few portages where the road occurs overland. Of the 213 km, 95 km occur in Northwest Territories and 118 occur in Nunavut. Seven (7) portages occur in Northwest Territories and there is one (1) portage in Nunavut.

The Winter Road occurs entirely above the tree line, with overland portions traversing the barrenlands of the Southern Arctic Ecozone and the Tundra Shield Low Arctic Ecoregion, within the Slave Geologic province. Portages generally follow low-lying terrain found between lakes along the road route (EBA 2001, GNWT 2012).

The Winter Road is accessed in mid- to late-winter only. At this time, ground is frozen and snow-covered, and ice thickness on lakes is up to 2 m thick.



1.9 GUIDANCE

Table 2 lists guidance considered in drafting this Plan.

Table 2 Relevant guidance documents including legislation, permits and licences.

Document	Authority
MVLWB Guidelines for Developing a Waste Management Plan (2011a)	Mackenzie Valley Land and Water Board
Contingency Planning and Spill Reporting in Nunavut: A guide to the new regulations	Government of Nunavut
Environmental Guideline for the General Management of Hazardous Waste in Nunavut (2010)	Government of Nunavut
Guideline for Hazardous Waste Management (2017)	Government of Northwest Territories
A Guide to the Spill Contingency Planning and Reporting Regulations (2011)	Government of Northwest Territories
<i>Nunavut Water Nunavut Surface Rights Tribunal Act (2002) and Nunavut Water Regulations (2013)</i>	Indigenous and Northern Affairs Canada
<i>Territorial Lands Act (1985) and Land Use Regulations (2016)</i>	Indigenous and Northern Affairs Canada
<i>Mackenzie Valley Resource Management Act (1998)</i>	Government of Canada
<i>Northwest Territories Lands Act (2014)</i>	Government of Northwest Territories
<i>Northwest Territories Land Use Regulations (2014)</i>	Government of Northwest Territories
<i>Northwest Territories Waters Regulations (2014)</i>	Government of Northwest Territories
<i>Environmental Protection Act (1988)</i>	Government of Northwest Territories, Nunavut
<i>Waters Act (2014)</i>	Government of Northwest Territories
<i>Spill Contingency Planning and Reporting Regulations (1993)</i>	Government of Northwest Territories, Nunavut
<i>Canadian Environmental Protection Act (1999)</i>	Environment and Climate Change Canada
<i>Environmental Emergency Regulations (2003)</i>	Environment and Climate Change Canada
<i>Transportation of Dangerous Goods Act (1992)</i>	Transport Canada
<i>Transportation of Dangerous Goods Regulations (2012)</i>	Transport Canada
<i>Hazardous Products Act (1985)</i>	Health Canada
Screening Decision Report	Nunavut Impact Review Board
Approval Without a Licence	Nunavut Water Board
Land Use Permit	Crown-Indigenous Relations and Northern Affairs Canada Government of Northwest Territories

2.0 WASTE TYPES

Types of waste that may be generated through the Program include:

- Non-mineral waste: domestic waste;
- Potentially hazardous waste: spent spill response materials.



2.1 NON-MINERAL WASTE

Domestic waste may be generated by driver's eating in their trucks, and/or use of the emergency shelter in an emergency situation. This waste volume is expected to be minimal.

A potential environmental effect of improperly managing this waste stream may be the attraction of wildlife to the work area or road corridor.

2.2 POTENTIALLY HAZARDOUS WASTE

Spent spill response materials may be generated in the event of an unplanned release from vehicles constructing, maintaining or decommissioning the road, or vehicles transiting the road. Due to a robust safety and maintenance program, no waste of this type is expected to be generated; however, in the event of an unplanned accident the volume of waste generated may vary depending on the magnitude of the spill.

A potential environmental effect of improperly managing this waste stream may be an impairment of water quality.

3.0 WASTE MANAGEMENT

3.1 NON-MINERAL WASTE

Domestic waste will be collected by the individual generators and disposed of in designated containers at Lupin, for further disposal or treatment at existing facilities, such as incineration or landfilling. Recyclable materials such as beverage containers will be collected and recycled off site.

Should the emergency shelter be used, wastewater will be disposed of at the existing permitted Lupin mine waste disposal facilities.

3.2 POTENTIALLY HAZARDOUS WASTE

Should a spill occur and waste materials arise from the spill response, they will be collected and backhauled for disposal and/or treatment off site at a suitable facility.

4.0 WASTE INFRASTRUCTURE

There is no waste management infrastructure construction or operation included with this scope.

Approved use of existing waste management infrastructure may occur at Lupin.

5.0 ROLES AND RESPONSIBILITIES

NCL is responsible for activities associated with Lupin winter access, including implementation and management of this Plan.



5.1 STAFF, CONTRACTORS, SUPPLIERS AND VISITORS

All personnel conducting activities on site, including staff, contractors, suppliers and visitors, are required to implement this Plan as it pertains to their activities on site. Specifically, these responsibilities include:

- Disposing of domestic waste in designated containers;
- Responding to spills in accordance with the *Spill Contingency Plan*;
- Cooperating with your supervisor and/or NCL management to implement a waste management program;
- Carrying out only those duties and tasks that you are experienced at and trained to perform;
- Where there is uncertainty, asking questions and bring concerns to the attention of your supervisor when working with waste.

5.2 MANAGERS AND SUPERVISORS

Managers and supervisors have a responsibility to ensure that staff, contractors, consultants and visitors have been trained in NCL waste management expectations and procedures.

6.0 REPORTING AND DOCUMENTATION

Waste management reporting will occur in accordance with record keeping and reporting requirements of various project authorizations.

7.0 TRAINING

All attendees to site participate in a site orientation which outlines waste management expectations, roles and responsibilities.



8.0 REFERENCES

Canadian Environmental Protection Act (CEPA). S.C. 1999, c.33

Environmental Emergency Regulations SOR/2003-307

Environmental Protection Act. R.S.N.W.T. 1988, c.E-7

Hazardous Products Act R.S.C., 1985, C. H-3

Mackenzie Valley Resource Management Act. S.C. 1998, c. 25

Northwest Territories Lands Act. S.N.W.T. 2014,c.13

Northwest Territories Lands Use Regulations. R-012-2014

Northwest Territories Waters Regulations. R-019-2014

Nunavut Waters and Nunavut Surface Rights Tribunal Act. S.C. 2002, c.10

Nunavut Waters Regulations. SOR/2013-69

Spill Contingency Planning and Reporting Regulations R-068-93

Territorial Lands Act. R.S.C.. 1985, c. T-7

Territorial Land Use Regulations. SOR/2016 R-32, s.1.

Transportation of Dangerous Goods Act. S.C. 1992, c.34

Transportation of Dangerous Goods Regulations. SOR/2012-245

Waters Act. S.N.W.T. 2014,c. 18

Government of the Northwest Territories. 2017. Guideline for Hazardous Waste Management. Revised October 2017.

Government of the Northwest Territories. 2011. A Guide to the Spill Contingency Planning and Reporting Regulations. Environment and Natural Resources. Updated March 2011.

Government of Nunavut. 2011. Contingency Planning and Spill Reporting in Nunavut: A guide to the new regulations.

Government of Nunavut. 2010. Environmental Guideline for the General Management of Hazardous Waste in Nunavut.

MVLWB. 2011. Guidelines for Developing a Waste Management Plan.