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January 16, 2020

File: MV2014F0013 MV2014L8-0006 MV2019L8-0002

Mr. David Harpley Canadian Zinc Corporation SUITE 1710-650 West Georgia Street Vancouver BC V6B 4N9

Sent via Email

Dear Mr. Harpley:

Administrative Update to MV2014F0013, MV2014L8-0006 and MV2019L8-0006 Land Use Fee MV2014F0013 Canadian Zinc Corporation – Prairie Creek All Season Road Project

The Mackenzie Valley Land and Water Board (MVLWB or the Board) met on January 16, 2020 to review an administrative update to condition 109 of Permit MV2014F0013 and Schedule 5 condition 1 j) ii. of Licence MV2014L8-0006 and Schedule 4 condition 1 j) ii. of Licence MV2019L8-0002. Errors in the text of these conditions have been corrected.

The Board hereby directs Canadian Zinc Corporation to submit the land use fee for land use operations taking place on federal lands for Permit MV2014F0013. Submit payment of the land use fee, made out to the **Receiver General of Canada**, in the amount of \$800.00 to: Mackenzie Valley Land and Water Board, P.O. Box 2130, Yellowknife, NT, X1A 2P6.

If you have any questions or concerns, please contact Kimberley Murray at (867) 766-7458 or <u>kmurray@mvlwb.com</u>.

Yours sincerely,

Mavis Cli-Michaud MVLWB, Chair

Copied to: Distribution List

Attached: Land Use Permit MV2014F0013 Water Licence MV2014L8-0006 Water Licence MV2019L8-0002

Land Use Permit



Permit Class	Permit No	Amendment No	
А	MV2014F0013	-	

Subject to the Mackenzie Valley Land Use Regulations and the terms and conditions in this Permit, authority is hereby granted to:

Canadian Zinc Corporation

Permittee

to proceed with the land use operation described in the Application of:

Signature	Date	
Mr. David Harpley	April 16, 2014	
Type of Land Use Operation		
Road		
Location		
All Season Road connecting Prairie Creek Mine to the Liard Highway		

This Permit may be assigned, extended, discontinued, suspended, or cancelled pursuant to the Mackenzie Valley Land Use Regulations.

Dated at	Yellowknife	this	13	day of	November	, _	2019
Signature Cha	ir		Sig	nature Witne	255		
progr	perand			Ant	autoth		
Mavis Cli-Micha	aud		Am	anda Gauthie	er		
Effective Date	2:		E	xpiry Date:			
November 13	, 2019		N	ovember 12,	2024		

ATTENTION

It is a condition of this Permit that the Permittee comply with the provisions of the *Mackenzie Valley Resource Management Act* and Regulations and the terms and conditions set out herein. A failure to comply may result in suspension or cancellation of this Permit.

Conditions Annexed to and Forming Part of Land Use Permit # MV2014F0013

Table of Contents

Part A: Scope
Part B: Definitions
Part C: Conditions Applying to All Activities
26(1)(a) Location and Area
26(1)(b) <u>Time</u>
Annual Report
26(1)(c) Type and Size of Equipment
26(1)(d) <u>Methods and Techniques</u>
Independent Technical Review Panel Terms of Reference
Structure Description and Construction Plans
Design and Construction Plans
Design Drawings
Independent Technical Review Panel Final Report
As -Built Report – Engineered Structures
26(1)(e) Type, Location, Capacity, and Operation of All Facilities
26(1)(f) Control or Prevention of Ponding of Water, Flooding, Erosion, Slides, and Subsidence of Land
Sediment and Erosion Control Plan
Permafrost Management and Monitoring Plan
26(1)(g) Use, Storage, Handling, and Ultimate Disposal of Any Chemical or Toxic Material
26(1)(h) <u>Wildlife and Fish Habitat</u>
26(1)(i) Storage, Handling, and Disposal of Refuse or Sewage
Waste Management Plan
26(1)(j) Protection of Historical, Archaeological, and Burial Sites
Archaeological Impact Assessment
Cultural Heritage Protection Plan
26(1)(k) Objects and Places of Recreational, Scenic, and Ecological Value
Rare Plant Management Plan
Invasive Species Management Plan
26(1)(I) <u>Security Deposit</u>
26(1)(m) <u>Fuel Storage</u>
Spill Contingency Plan
26(1)(n) Methods and Techniques for Debris and Brush Disposal
26(1)(o) <u>Restoration of the Lands</u>
Closure and Reclamation Plan
Closure and Reclamation Completion Report
Performance Assessment Report
26(1)(p) <u>Display of Permits and Permit Numbers</u>
26(1)(q) <u>Biological and Physical Protection of the Land</u>
Engagement Plan
Avalanche Hazard Management Plan
Geochemical Verification Program
Borrow Pit Management Plan
Explosives Management Plan
Traffic Control Mitigation and Road Operations and Maintenance Plan
Contaminant Loading Management Plan

Part A Scope

- 1. This Permit entitles the Permittee to conduct the following land-use operation:
 - a) Construction, operation, and maintenance of an All Season Road, including the Construction, operation, and maintenance of a temporary Winter Road;
 - b) Development and operation of Borrow Pits;
 - c) Operation of Construction Camps, including equipment, fuel and material storage areas;
 - d) Construction, operation and maintenance of access roads;
 - e) Construction of bridges and culverts;
 - f) Use of explosives;
 - g) Use of self-propelled earth moving equipment and equipment over 10 tons;
 - h) Use and storage of fuel;
 - i) Use of machinery for moving earth and clearing land; and
 - j) Use of motorized earth drilling machinery.
- 2. This Permit is issued subject to the conditions contained herein with respect to the use of land for the activities and area identified in Part A, condition 1 of this Permit.
- 3. Compliance with the terms and conditions of this Permit does not excuse the Permittee from its obligation to comply with the requirements of any applicable Federal, Territorial, or Municipal laws.

Part B: Definitions¹

Acid Rock Drainage – acidic Water, often with elevated sulphate concentrations, that occurs as a result of oxidation of sulphide minerals contained in rock or other materials that are exposed as a result of natural weathering processes, Construction, or Project activities.

Adaptive Management – a systematic, rigorous approach for deliberately learning from management actions with the intent to improve management policy or practice, conducted in accordance with the Report of Environmental Assessment Appendix B.

Action Level – a predetermined qualitative or quantitative trigger which, if exceeded, requires the Permittee to take appropriate actions.

All Season Road – road, used in all seasons, that conforms to the alignment and material configuration as presented in the Design and Construction Plan and Design Drawings.

Archaeological Impact Assessment – archaeological research as defined by the Prince of Wales Northern Heritage Centre *Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories*.

Archaeological Overview – a study of archaeological sites as defined by the Prince of Wales Northern Heritage Centre *Guidelines for Developers for the Protection of Archaeological Sites in the Northwest Territories.*

Avalanche Professional – a person registered with the Canadian Avalanche Association to practice as an Associate Member, and whose professional field of specialization is appropriate to address the components of the Project at hand.

MV2014F0013 – Canadian Zinc Corporation - All Season Road

¹ Defined terms are capitalized throughout the Permit, including when used in other definitions.

Board – the Mackenzie Valley Land and Water Board established under subsection 99(1) of the *Mackenzie Valley Resource Management Act.*

Borehole – a hole that is made in the surface of the ground by drilling or boring.

Borrow – excavated material including clay, silt, sand, and quarry rock, as described in the approved Borrow Pit Management Plan.

Borrow Pit – an excavation made according to the approved Borrow Pit Management Plan in order to produce Borrow.

Closure Cost Estimate – has the same meaning as that in the Mackenzie Valley Land and Water Board, Government of the Northwest Territories, and Aboriginal Affairs and Northern Development Canada's *Guidelines for Closure and Reclamation Cost Estimates for Mines.*

Closure Criteria – has the same meaning as that in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advance Mineral Exploration and Mine Sites in the Northwest Territories.*

Closure Objectives – has the same meaning as that in the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advance Mineral Exploration and Mine Sites in the Northwest Territories.*

Closure and Reclamation – the process and activities that facilitate the return of areas affected by the Project to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and the surrounding environment.

Closure and Reclamation Plan – a document, developed in accordance with this Permit and the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*, that clearly describes the Closure and Reclamation for the Project.

Concentrate – the product emanating from the processing of ore at the Prairie Creek Mine.

Construction – any activities undertaken during any phase of the Project to construct build any structures, facilities or components of, or associated with, the development of the Project.

Dogleg – the clearing of a line, trail, or right-of-way that is curved sufficiently so that no part of the clearing beyond the curve is visible when approached from either direction.

Drilling Fluids – any liquid mixture of water, sediment, drilling muds, chemical additives or other Wastes that are pumped down hole while drilling and are specifically related to drilling activity.

Drilling Waste – all materials or chemicals, solid or liquid, associated with drilling, including drill cuttings and Drilling Fluids.

Engagement Plan – a document, developed in accordance with the Board's *Engagement and Consultation Policy* and the *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*, that clearly describes how, when, and which engagement activities will occur with an affected party during the life of the Project.

Engineered Structure – any structure or facility related to water use or the deposit of Waste that is designed by a Professional Engineer.

Environmental Assessment – the totality of the Mackenzie Valley Environmental Impact Review Board's Public Registry for Environmental Assessment EA1415-01, including the Report of Environmental Assessment.

Flowing Artesian Well – a well in which water:

- a) Naturally rises above the ground surface or the top of any casing; and
- b) Flows naturally, either intermittently or continuously.

Fuel Storage Container – a container for the storage of petroleum or allied petroleum products with a capacity of less than 230 litres.

Fuel Storage Tank – a closed container for the storage of petroleum or allied petroleum products with a capacity of more than 230 litres.

Geotechnical Investigations – Borehole drilling, geophysics and test pit excavations to evaluate Permafrost, soil and/or rock type and/or condition, carried out by qualified professionals.

Greywater – all liquid Wastes from showers, baths, sinks, kitchens, and domestic washing facilities but not including Toilet Wastes.

Habitat – the area or type of site where a species or an individual of a species of wildlife naturally occurs or on which it depends, directly or indirectly, to carry out its life processes.

Independent Technical Review Panel (Panel) – the expert panel established by the Permittee to fulfill Measure 5-1 of the Report of Environmental Assessment.

Inspector – an Inspector designated by the Minister under the Mackenzie Valley Resource Management Act.

Metal Leaching – the release of metals and metalloids in leachate, Seepage, or drainage from rock or other materials associated with the Project.

Minister – the Minister of Crown-Indigenous Relations and Northern Affairs Canada or the Minister of the Government of the Northwest Territories – Department of Lands, as the case may be.

Non-Typical Winter Road – sections of the Winter Road as documented in the Design and Construction Plan and Design Drawings.

Ordinary High Water Mark – the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land. In flowing waters (rivers, streams) this refers to the "active channel/bank-full level" which is often the 1:2 year flood flow return level. In inland lakes, wetlands, or marine environments, it refers to those parts of the Watercourse bed and banks that are frequently flooded by water so as to leave a mark on the land and where the natural vegetation changes from predominately aquatic vegetation to terrestrial vegetation (excepting water tolerant species). For reservoirs, this refers to normal high operating levels (full supply level).

Permittee – the holder of this Permit.

Permafrost – ground (soil or rock) that remains at or below 0°C for at least two consecutive years.

Potentially Acid Generating (PAG) Rock – any rock that has the potential to produce Acid Rock Drainage.

Phase 1 – activities to support the Construction of the All Season Road in Phase 2, including the Construction and operation of the Winter Road to conduct Geotechnical Investigation and transport equipment and materials to Prairie Creek Mine.

Phase 2 – activities to support the Construction of the All Season Road including the Construction and operation of the Winter Road and of All Season Road Construction.

Phase 3 – activities to support the operation of the All Season Road including transportation of loaded Concentrate, consumable materials and supplies to support mine operations, and road maintenance.

Professional Engineer – a person registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists to practice as a Professional Engineer in the Northwest Territories in accordance with the territorial *Engineering and Geoscience Professions Act*, and whose professional field of specialization is appropriate to address the components of the Project at hand.

Progressive Reclamation – Closure and Reclamation activities conducted during the operating period of the Project.

Project – the undertaking described in Part A, condition 1.

Receiving Environment – the natural environment that, directly or indirectly, receives any deposit of Waste from the Project.

Reclamation Research – has the same meaning as that in the MVLWB/AANDC *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.*

Report of Environmental Assessment (Report of EA) – the Mackenzie Valley Environmental Impact Review Board's Report of Environmental Assessment and Reasons for Decision for the EA1415-01, dated September 12, 2017, and adopted by the Minister of Crown-Indigenous Relations on October 9, 2018.

Safety Data Sheet – a technical document, typically written by the manufacturer or supplier of a chemical, that provides information about the hazards associated with the product, advice about safe handling and storage, and emergency response procedures.

Secondary Containment – containment that prevents liquids that leak from Fuel Storage Tanks or Fuel Storage Containers from reaching outside the containment area and includes double-walled Tanks, piping, liners, and impermeable barriers.

Seepage – any water or Waste that drains, passes through, or escapes from any structure designed to contain, withhold, divert, or retain water or Waste.

Sewage – all Toilet Wastes and Greywater.

Sewage Disposal Facility – Sump(s) and/or Sewage collection tank(s) and/or storage containers designed to hold Sewage.

Spill Contingency Plan – a document, developed in accordance with Aboriginal Affairs and Northern Development Canada's *Guidelines for Spill Contingency Planning*.

Spring Break-up – March 31 each year, for the purpose of this operation.

Sump – a man-made pit or natural depression in the earth's surface used for the purpose of depositing Waste that does not contain Toxic Material, such as non-toxic Drilling Waste or Sewage, therein.

Temporary Closure – a state of care and maintenance, with the intent of resuming activities in the near future.

Toilet Wastes – all human excreta and associated products, not including Greywater.

Traditional Knowledge – the cumulative, collective body of knowledge, experience and values built up by a group of people through generations of living in close contact with nature. It builds upon the historic experiences of a people and adapts to social, economic, environmental, spiritual, and political change.

Toxic Material – any substance that enters or may enter the environment in a quantity or concentration or under conditions such that it:

- a) Has or may have an immediate or long-term harmful effect on the environment or its biological diversity;
- b) Constitutes or may constitute a danger to the environment on which life depends; or
- c) Constitutes or may constitute a danger in Canada to human life or health.

Typical Winter Road – the road alignment, not including the Non-Typical Winter Road, that is constructed with snow and ice.

Unauthorized Discharge – a release or Discharge of any Waters or Waste not authorized under this Permit.

Waste – any garbage, debris, chemical, or Toxic Material to be used, stored, disposed of, or handled on land, and also as defined in section 51 of the *Mackenzie Valley Resource Management Act*.

Waste Management Plan – a document, developed in accordance with the Board's *Guidelines for Developing a Waste Management Plan*, that describes the methods of Waste management from Waste generation to final disposal.

Waste Rock – extracted rock material that is not utilized in construction or reclamation.

Watercourse - a natural body of flowing or standing water or an area occupied by water during part of the year, and includes streams, springs, swamps and gulches but does not include groundwater.

Winter Road – the alignment including both the Typical Winter Road and Non-typical Winter Road sections.

Part C: Conditions Applying to All Activities²

26(1)(a) Location and Area

LOCATION OF ACTIVITIES	The Permittee shall only conduct this land-use operation on lands designated in the application.	1.
PRIVATE PROPERTY SETBACK	The Permittee shall not conduct any part of the land-use operation within 300 metres of any privately owned or leased land or structure, including cabins used for traditional activities, unless otherwise authorized in writing by the Board.	2.
CAMP LOCATION	The Permittee shall locate all Camps according to the approved Structure Description and Construction Plan or the approved Design and Construction Plan.	3.
USE EXISTING CAMP	The Permittee shall use an existing campsite, as described in the complete application.	4.
DRILL LOCATIONS	Prior to the commencement of drilling, the Permittee shall submit the target areas and final drill hole locations on a 1:10,000-scale map with coordinates and map datum to the Board and an Inspector.	5.
SUMP SETBACK	The Permittee shall not locate any Sump within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector.	6.
BORROW PIT SETBACK	The Permittee shall not develop a Borrow Pit operation within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector.	7.
PARALLEL WATERCOURSE SETBACK	The Permittee shall locate all lines, trails, and right-of-ways to be constructed parallel to any Watercourse a minimum of 100 metres from the Ordinary High Water Mark, except at crossings, or as approved in the Design and Construction Plans or Structure Description and Construction Plans.	8.
INSPECT LOCATIONS	Prior to the commencement of the land-use operation, the Permittee shall accompany an Inspector during an inspection of the proposed land use area.	9.
WIDTH RIGHT-OF-WAY	The Permittee shall confine the width of the right-of-way in accordance with the approved Design and Construction Plan or Structure Description and Construction Plans.	10.

Current to: January 16, 2020

 ² Headings correspond to subsection 26(1) of the Mackenzie Valley Land Use Regulations.
 MV2014F0013 – Canadian Zinc Corporation - All Season Road

26(1)(b) Time

WRITTEN NOTIFICATION	A minimum of 10 days prior to the commencement of the Project including Phase 1, 2, and 3, the Permittee shall provide written notification to the Board, a Government of the Northwest Territories (GNWT) Inspector, and a Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Inspector. Notification shall include the commencement date, and the name and contact information for the Project Field Supervisor. Any updates shall be provided to the Board, a GNWT Inspector, and a CIRNAC Inspector in writing as changes occur.	11.
INITIAL NOTIFICATION – CONTACT INSPECTOR	At least ten days prior to the commencement of the land-use operation, the Permittee's Field Supervisor shall contact a GNWT Inspector at (867) 695-2626, and a CIRNAC Inspector at (867) 669-2442.	12.
SEASONAL NOTIFICATION – CONTACT INSPECTOR	At least ten days prior to returning to the worksite following a seasonal shut down period, the Permittee's Field Supervisor shall contact a GNWT Inspector at (867) 695-2626, and a CIRNAC Inspector at (867) 669-2442.	13.
IDENTIFY AGENT	At least 48 hours prior to commencement of the land-use operation, the Permittee shall provide the following information, in writing, to the Board and an Inspector:	14.
	 a) The name(s) of the person(s) in charge of the field operation; b) Alternates; and c) All methods for contacting the above person(s). 	
REPORTS BEFORE SEASONAL REMOVAL	At least ten days prior to a shut down period, the Permittee shall advise an Inspector of:	15.
	 a) The plan for removal or storage of equipment and materials; and b) When cleanup and Progressive Reclamation of the land used will be completed. 	
REPORTS BEFORE FINAL REMOVAL	 At least ten days prior to the completion of the land-use operation, the Permittee shall advise an Inspector of: a) The plan for removal or storage of equipment and materials; b) When final cleanup and reclamation of the land used will be completed; and c) When the final plan will be submitted. 	16.
ANNUAL PERMIT REPORT	Beginning March 31, 2020 and no later than every March 31 thereafter, the Permittee shall submit an Annual Permit Report to the Board and the Inspector, which shall include, but not be limited to, the following information about activities conducted during the previous calendar year:	17.
	 a) A brief summary of Project activities; b) An updated Project schedule; c) A summary of engagement activities conducted in accordance with the approved Engagement Plan; d) A summary of how Traditional Knowledge influenced decision making; e) A summary of Construction activities; f) A summary of repairs and maintenance activities conducted in accordance with this Permit; 	

- g) A summary of activities conducted in accordance with the approved Waste Management Plan, including:
 - i. A summary of approved updates or changes to the process or facilities required for the management of Waste;
 - ii. Monthly and annual quantities, in cubic metres, of all solid Waste discharged, identified by location;
 - iii. Monthly and annual quantities, in cubic metres, of all liquid Waste discharged, identified by location;
 - iv. Monthly and annual quantities, in cubic metres, of hazardous Waste generated and removed;
 - v. Monthly and annual quantities, in cubic metres, of Sewage solids removed from the Sewage Disposal Facilities, identified by disposal location; and
 - vi. A map depicting the location of the Sumps.
- h) A summary of activities conducted in accordance with the approved Sediment and Erosion Control Plan, including:
 - i. A summary of approved updates or changes to the process or facilities required for the management of erosion and sedimentation;
 - ii. A description of any erosion susceptible areas encountered;
 - iii. A summary of activities undertaken to prevent or mitigate erosion;
 - iv. A report of the performance of mitigations applied to each area;
 - v. A summary and interpretation of monitoring results, including any Action Level exceedances; and
 - vi. A description of actions taken in response to any Action Level exceedances.
- i) A summary of activities conducted in accordance with the approved Permafrost Management and Monitoring Plan, including:
 - i. A summary and interpretation of any monitoring results, including Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- j) A summary of activities conducted in accordance with the approved Geochemical Verification Program, including:
 - i. A summary of approved updates or changes to the processes for characterizing and managing Acid Rock Drainage and Metal Leaching material;
 - A comparison of the annual quantities of each type of Waste Rock generated to the quantities predicted in the approved Geochemical Verification Program;
 - A summary and interpretation of results from the geochemical monitoring performed under the approved Geochemical Verification Program;
 - iv. A summary and interpretation of results from Seepage monitoring performed under the approved Geochemical Verification Program, including:
 - a. a site map with Seepage locations;
 - b. comparisons to reference locations;
 - c. an analysis of major trends over the year and since Project inception; and

- d. a summary of recommendations for future Seepage monitoring and/or management actions.
- v. A summary and interpretation of water quality monitoring results for each of the main source areas and how these compare to predicted values;
- vi. A summary of any exceedances of the Action Levels described in the Geochemical Verification Program; and
- vii. A description of actions taken in response to any Action Level exceedances under the Geochemical Verification Program.
- k) A summary of activities conducted in accordance with the approved Borrow Pit Management Plan, including:
 - i. A summary of borrow sources approved through the Borrow Pit Management Plan;
 - ii. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - iii. A list of any Action Level exceedances and a description of actions taken in response to any Action Level exceedances.
- I) A summary of activities conducted in accordance with the approved Explosives Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to any Action Level exceedances.
- m) A summary of activities conducted in accordance with the approved Rare Plant Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- n) A summary of activities conducted in accordance with the approved Invasive Species Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- o) A summary of activities conducted in accordance with the approved Spill Contingency Plan, including:
 - i. A list and description for all Unauthorized Discharges, including the date, NWT spill number, volume, location, summary of the circumstances and follow-up actions taken, and status (i.e. open or closed); and
 - ii. A summary of any spill training carried out.
- p) A summary of any Closure and Reclamation work completed. The Report shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories*.

- q) A summary of activities conducted in accordance with the approved Avalanche Hazard Management Plan, including:
 - i. Reporting of avalanche paths completed by an Avalanche Professional;
 - ii. A summary of measures employed to reduce avalanche risk to vehicles and occupants;
 - iii. A summary and interpretation of any monitoring results, including any Action Level exceedances; and
 - iv. A list of any Action Level exceedances, and a description of actions taken in response to Action Level exceedances.
- r) A summary of activities conducted in accordance with the approved Traffic Control Mitigation and Road Operations and Maintenance Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- s) A summary of activities conducted in accordance with the approved Contaminant Loading Management Plan, including:
 - i. A summary and interpretation of any monitoring results including any Action Level exceedances; and
 - ii. A list of any Action Level exceedances and a description of actions taken in response to Action Level exceedances.
- t) A list of any non-compliance with the conditions of this Permit or any direction from the Board pursuant to the conditions of this Permit;
- u) A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector;
- A table detailing all commitments related to water use and deposit of Waste made during the Environmental Assessment, with descriptions of how each commitment is being or has been met;
- w) Any other details requested by the Board by November 30 of the year being reported.

26(1)(c) Type and Size of Equipment

18.	The Permittee shall only use equipment of a similar type, size, and number to that listed in the complete application.	USE APPROVED EQUIPMENT
19.	The Permittee shall use portable ramps during loading and unloading of aquatic vessels, including ships, boats, and barges.	PORTABLE RAMPS
	26(1)(d) Methods and Techniques	
20.	The Permittee shall ensure that all Engineered Structures are constructed and maintained in accordance with the recommendations of the Professional Engineer responsible for the design, including, but not limited to, recommendations regarding field supervision and inspection requirements.	ENGINEERED STRUCTURES – GENERAL
21.	The Permittee shall ensure that all materials used in Construction of the Project meets the geochemical criteria specified in the approved Geochemical Verification Program.	CONSTRUCTION MATERIAL – GEOCHEMICAL CRITERIA

- 22. The Permittee shall only use material that is clean, non-PAG and free of contaminants and is from a source within an approved area as per the approved Borrow Pit Management Plan, or that has been approved in writing by an Inspector.
- 23. The Permittee shall maintain Construction records and geochemical records of Construction materials for all structures and make them available at the request of the Board or an Inspector.
- 24. The Permittee shall establish and fund an **Independent Technical Review Panel** in accordance with Measure 5-1 of the Report of EA.
- 25. A minimum of 90 days of the prior to the commencement of the Panel's activities, the Permittee shall submit the Panel's **Terms of Reference** to the Board for approval, to fulfill Report of EA Measure 5-1. The Permittee shall submit a revised Terms of Reference 90 days prior to implementation of any changes to the Terms of Reference.
- 26. The Permittee shall comply with the Panel's Terms of Reference, once approved.
- 27. Unless otherwise authorized by an Inspector, a minimum of 90 days prior to the commencement of Construction of all structures, excluding Engineered Structures, intended to contain, withhold, divert, or retain Wastes, the Permittee shall submit to the Board for approval, a **Structure Description and Construction Plan**. The Permittee shall not commence Construction prior to Board approval of the Plan, which shall include but not be limited to the following:
 - a) Information about the design of the facilities:
 - i. A description of the facilities to be constructed;
 - ii. The proposed location(s) of the facilities, with GPS coordinates and a map to scale;
 - iii. Relevant background information for the area beneath the footprint of the containment and runoff control structures, including the results of geotechnical and geochemical investigations; hydrogeological investigations; programs to characterize soil, rock, Groundwater, ground ice, and ground temperature conditions to the depth expected to be affected by the proposed facilities; and any other relevant information;
 - iv. Design specifications and performance parameters; and
 - v. Design analysis and results.
 - b) Information about the Construction of the facilities:
 - i. A Construction schedule, including sequencing information;
 - ii. A description of the materials required for Construction, including, but not limited to:
 - a. sources;
 - b. quantities;
 - c. physical characteristics; and
 - d. geochemical characteristics.

INDEPENDENT TECHNICAL REVIEW PANEL – TERMS OF REFERENCE

CONSTRUCTION MATERIAL – SOURCE

> GEOCHEMICAL RECORDS

INDEPENDENT TECHNICAL REVIEW

ESTABLISHMENT

PANEL -

TERMS OF REFERENCE – COMPLY STRUCTURE DESCRIPTION AND CONSTRUCTION PLAN

- iii. A description of any potential impacts on the Receiving Environment associated with Construction of the facilities;
- iv. A description of any mitigation measures that will be undertaken to minimize the potential impacts identified above;
- v. A description of the Construction monitoring program to demonstrate conformance with design specifications; and
- vi. A description of the operational monitoring program to demonstrate conformance with the design performance.
- c) A description of Adaptive Management processes that systematically link monitoring results to management activities and allow management activities to be developed adaptively, in response to changes in the Receiving Environment.
- 28. A minimum of 90 days prior to the commencement of Construction of any Engineered Structures not reviewed and accepted by the Panel, the Permittee shall submit to the Board for approval, a **Design and Construction Plan**. The Plan shall include but not be limited to the following:

DESIGN AND CONSTRUCTION PLAN

- a) Information about the design of the facilities:
 - i. A description of the facilities to be constructed;
 - ii. The proposed location(s) of the facilities, with GPS coordinates and a map to scale;
 - iii. Relevant background information for the area beneath the footprint of the containment and runoff control structures, including the results of geotechnical and geochemical investigations; hydrogeological investigations; programs to characterize soil, rock, Groundwater, ground ice, and ground temperature conditions to the depth expected to be affected by the proposed facilities; and any other relevant information, as deemed adequate by the Professional Engineer responsible for the design;
 - iv. Design specifications and performance parameters; and
 - v. Stability analysis.
- b) Information about the Construction of the facilities:
 - i. A Construction schedule, including sequencing information;
 - ii. A description of the materials required for Construction, including, but not limited to:
 - a. sources;
 - b. quantities;
 - c. physical characteristics; and
 - d. geochemical characteristics.
 - iii. A description of any potential impacts on the Receiving Environment associated with Construction of the facilities;
 - iv. A description of any mitigation measures that will be undertaken to minimize the potential impacts identified above;
 - v. A description of the Construction monitoring program to demonstrate conformance with design specifications; and
 - vi. A description of the operational monitoring program to demonstrate conformance with the design performance.

- c) A description of Adaptive Management processes that systematically link monitoring results to management activities and allow management activities to be developed adaptively, in response to changes in the Receiving Environment.
- d) A quality control plan stamped by a Professional Engineer, a component of which includes a plan for a Professional Engineer to supervise and field check Construction activities.
- 29. A minimum of 90 days prior to the commencement of Construction of any **DESIGN DRAWINGS** Engineered Structures not reviewed and accepted by the Panel, the Permittee shall submit to the Board, Design Drawings stamped and signed by a Professional Engineer. A minimum of 90 days prior to implementing any proposed changes, the Permittee shall submit revised Design Drawings to the Board.
- 30. A minimum of 45 days prior to the commencement of Construction of any structures reviewed and accepted by the Panel, the Permittee shall submit to the Board the following:
 - a) A **Final Report** from the Panel that indicates their review and acceptance of the Engineered Structures, its Design and Construction Plan, and Design Drawings or any other structures and its Structure Description and Construction Plan;
 - b) A Design and Construction Plan, or Structure Description and Construction Plan, reviewed and accepted by the Panel; and;
 - c) A **Design Drawing** of the Engineered Structure stamped and signed by a Professional Engineer, and reviewed and accepted by the Panel.
- 31. The Permittee may propose revisions at any time to the structures reviewed and accepted by the Panel by submitting to the Board the following:
 - a) A revised Final Report from the Panel that indicates their review and acceptance of the revised Design and Construction Plan and Design Drawings or Structure Description and Construction Plan;
 - b) A revised Design and Construction Plan or Structure Description and Construction Plan reviewed and accepted by the Panel; and
 - c) A revised Design Drawing stamped and signed by a Professional Engineer and reviewed and accepted by the Panel.

Any revision submission shall include a revision history table and a summary of the revisions made. The Permittee shall not implement revisions until approved by the Board.

32. A minimum of ten days prior to the commencement of Construction of any Engineered Structure(s), the Permittee shall provide written notification to the Board and an Inspector. Notification shall include the Construction commencement date, and the name and contact information for the Construction Field Supervisor. Any updates shall be provided to the Board and an Inspector in writing as changes occur.

NOTIFICATION -CONSTRUCTION

INDEPENDENT **TECHNICAL REVIEW PANEL – FINAL REPORT**

TECHNICAL REVIEW PANEL – REVISIONS TO FINAL REPORT

INDEPENDENT

33.	The Permittee shall ensure that all structures, excluding Engineered Structures, are constructed in accordance with the approved Structure Description and Construction Plan(s).	CONSTRUCT AS DESIGNED – STRUCTURES
34.	The Permittee shall ensure that all Engineered Structures are constructed in accordance with the Design Drawings and approved Design and Construction Plans.	CONSTRUCT AS DESIGNED – ENGINEERED STRUCTURES
35.	Within 90 days of the completion of the Construction of each Engineered Structure, the Permittee shall submit to the Board, an As-Built Report stamped and signed by a Professional Engineer, which shall include, but not be limited to, the following information:	AS-BUILT REPORT – ENGINEERED STRUCTURES
	a) Final as-built drawings of the Engineered Structure(s), stamped and signed by	
	 a Professional Engineer; b) Documentation, with rationale, of field decisions that deviate from the Design and Construction Plans and Design Drawings; and c) Any data used to support these decisions. 	
36.	The Permittee shall Dogleg lines, trails and right-of-ways that approach Watercourses or public roads.	DOGLEG APPROACHES
37.	Prior to the movement of any vehicle that exerts pressure on the ground in excess of 35 kPa, the Permittee shall scout proposed lines and routes to select the best location for crossing streams and avoiding terrain obstacles.	DETOURS AND CROSSINGS
38.	As the land-use operation progresses, the Permittee shall refill and restore craters caused by explosives.	REFILL CRATERS
39.	Immediately upon completion of operations at each Borehole, the Permittee shall remove or cut off and seal each drill casing at ground level.	DRILL CASINGS
40.	The Permittee shall construct and maintain the overland portion of Winter Roads, excluding the Non-Typical Winter Road, with a minimum of 10 cm of packed snow and/or ice, at all times during this land-use operation.	WINTER ROADS
41.	The Permittee shall not erect Camps or store material, other than that required for immediate use, on the ice surface of a Watercourse.	STORAGE ON ICE
42.	Prior to the expiry date of this Permit, the Permittee shall replace all excavated material, excluding Borrow Quarry Rock, unless otherwise authorized in writing by an Inspector.	EXCAVATED MATERIAL
	26(1)(e) Type, Location, Capacity, and Operation of All Facilities	
43.	The Permittee shall ensure that the land use area is kept clean at all times.	CLEAN WORK AREA

26(1)(f) Control or Prevention of Ponding of Water, Flooding, Erosion, Slides, and Subsidence of Land

44. The Permittee shall comply with the **Sediment and Erosion Control Plan**, once approved. The Sediment and Erosion Control Plan shall include, but not be limited to the following information for the activities associated with each phase:

a) Inspections on land, including but not limited to:

- i. Short- and long-term inspection methods, locations (provide a map), and parameters;
- ii. Inspection form(s) that denote the items/parameters that will be assessed during inspection;
- iii. Inspection frequency including any criteria that will be used to modify this frequency or discontinue;
- iv. Quality assurance and quality control; and
- v. A mechanism for reporting the findings of inspections.
- b) Monitoring on land, including but not limited to:
 - i. Short- and long-term monitoring (survey, sampling, testing) methods;
 - ii. Monitoring locations and collection methodology including supporting rationale and parameters;
 - iii. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - iv. Quality assurance and quality control;
 - v. A mechanism for reporting and interpretation of the monitoring data;
 - vi. Proposed control and mitigation measures, including specific measures that will be used in riparian areas; and
 - vii. A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - a. a decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
- c) Details specific to the hoverbarge associated structures, including but not limited to:
 - i. Details outlining sedimentation and erosion management during construction of the hoverbarge associated structures;
 - ii. Operational details of the hoverbarge associated structures, including sedimentation and erosion management following construction;
 - iii. Hoverbarge associated structure inspections and monitoring;
 - iv. Proposed sedimentation and erosion control and mitigation measures associated with hoverbarge associated structure operations; and
 - v. A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - a. a decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.

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SEDIMENT AND EROSION CONTROL PLAN

45.	A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Sediment and Erosion Control Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.	SEDIMENT AND EROSION CONTROL PLAN – REVISED
46.	The Permittee shall apply appropriate mitigation at the first sign of erosion.	REPAIR EROSION
47.	The Permittee shall install and maintain culverts such that scouring, undercutting, blockages, and overflow do not occur.	CULVERT SIZE
48.	The Permittee shall comply with the Permafrost Management and Monitoring Plan , once approved. The Permafrost Management and Monitoring Plan shall be in accordance with Report of EA Measure 12-1 Part 4, and shall include, but not be limited to the following for the activities associated with each phase:	PERMAFROST MANAGEMENT AND MONITORING PLAN
	a) Identification of monitoring/survey methods, locations (provide a map), site selection and parameters for Permafrost baseline collection and short/long term monitoring.	
	 b) A summary of findings from baseline collection and how it will be used to inform detailed and final design of the Winter Road, All Season Road, Borrow Pits, and other infrastructure in a way that anticipates and avoids Permafrost degradation and associated impacts on the surrounding environment: 	
	 c) Sampling duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring; d) Quality assurance and quality control measures; 	
	 e) A mechanism for reporting and interpreting the baseline, short- and long-term monitoring data; 	
	 f) Proposed control and mitigation measures; and g) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to: A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program. 	
49.	A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Permafrost Management and Monitoring Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.	PERMAFROST MANAGEMENT AND MONITORING PLAN – REVISED
50.	The Permittee shall insulate the ground surface beneath all structures associated with this land-use operation to prevent:	PERMAFROST PROTECTION
	a) Any vegetation present from being removed;b) The melting of Permafrost; andc) The ground settling and/or eroding.	
51.	The land-use operation shall not cause obstruction to any natural drainage.	NATURAL DRAINAGE

52.	The Permittee shall, where flowing water from a Borehole is encountered:	FLOWING ARTESIAN
	a) Plug the Borehole in such a manner as to permanently prevent any further outflow of water; and	WELL
	b) Immediately report the occurrence to the Board and an Inspector.	
53.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING
54.	The Permittee shall suspend overland travel of equipment or machines the first sign of rutting or gouging.	SUSPEND OVERLAND TRAVEL
55.	The Permittee shall not move any equipment or machines unless the ground surface is in a state capable of fully supporting the equipment or machine without rutting or gouging.	VEHICLE MOVEMENT FREEZE-UP
56.	The Permittee shall only use clean water and snow in the Construction of ice bridges and snow fills.	CONSTRUCT ICE BRIDGES SNOWFILLS
57.	Prior to Spring Break-up or completion of the land-use operation, the Permittee shall clean up and either remove or v-notch all snowfills from stream crossings, unless otherwise authorized in writing by an Inspector.	REMOVE ICE BRIDGES/SNOWFILLS
58.	The Permittee shall minimize approach grades on all Watercourse crossings.	MINIMIZE APPROACH
59.	The Permittee shall not cut any stream bank, unless otherwise authorized in writing by an Inspector.	STREAM BANKS
60.	The Permittee shall use temporary bridges or dry fording when crossing streams.	DRY FORDING
61.	The Permittee shall slope the sides of Waste material piles, excavations, and embankments — except in solid rock — to a minimum ratio of 2:1 vertical, unless otherwise authorized in writing by an Inspector.	EXCAVATION AND EMBANKMENTS
62.	The Permittee shall not remove vegetation or operate heavy equipment within 100 metres of the Ordinary High Water Mark of any Watercourse, except at crossings or as described in the complete application.	EQUIPMENT: WATERCOURSE BUFFER
63.	The Permittee shall not excavate land within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector.	EXCAVATION SETBACK
	26(1)(g) Use, Storage, Handling, and Ultimate Disposal of Any Chemical or Toxic Material	
64.	At least seven days prior to the use of any chemicals that were not identified in the complete application, the Safety Data Sheet must be provided to the Board and an Inspector.	CHEMICALS

65.	The Permittee may deposit Drilling Waste that does not contain Toxic Material in a Sump or natural depression. Any Sumps or natural depressions used to deposit Drilling Waste must be located at least 100 metres from the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector.	DRILLING WASTE
66.	The Permittee shall remove all Drilling Waste containing Toxic Material to an approved disposal facility.	DRILLING WASTE DISPOSAL
67.	The Permittee shall not allow any Drilling Waste to spread to the surrounding lands or Watercourses.	DRILLING WASTE CONTAINMENT
68.	Prior to the expiry date of this Permit or the end of the land-use operation whichever comes first, the Permittee shall backfill and restore all Sumps, or otherwise authorized in writing by an Inspector.	RECLAIM SUMPS
69.	The Permittee shall dispose of all Toxic Material as described in the approved Waste Management Plan.	WASTE CHEMICAL DISPOSAL
70.	The Permittee shall dispose of all Waste petroleum products by removal to an approved disposal facility or by incineration in a device designed for this purpose, as described in the approved Waste Management Plan.	WASTE PETROLEUM DISPOSAL
	26(1)(h) Wildlife and Fish Habitat	
71.	The Permittee shall take all reasonable measures to prevent damage to wildlife and fish Habitat during this land-use operation.	HABITAT DAMAGE
	26(1)(i) Storage, Handling, and Disposal of Refuse or Sewage	
72.	The Permittee shall comply with the Waste Management Plan, once approved.	WASTE MANAGEMENT PLAN
73.	A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Waste Management Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.	WASTE MANAGEMENT PLAN – REVISED
74.	The Permittee shall keep all garbage and debris in a secure container until disposal.	GARBAGE CONTAINER
75.	The Permittee shall dispose of all garbage, Waste, and debris as described in the approved Waste Management Plan, unless otherwise authorized in writing by an Inspector.	REMOVE GARBAGE
76.	The Permittee shall dispose of all Sewage and Greywater as described in the approved Waste Management Plan.	SEWAGE DISPOSAL - PLAN
	26(1)(j) Protection of Historical, Archaeological, and Burial Sites	
77.	The Permittee shall not operate any vehicle or equipment within 30 metres of a known or suspected historical or archaeological site or burial ground.	ARCHAEOLOGICAL BUFFER

78.	The Permittee shall not knowingly remove, disturb, or displace any archaeological specimen or site.	SITE DISTURBANCE
79.	The Permittee shall, where a suspected archaeological or historical site, or burial ground is discovered:	SITE DISCOVERY AND NOTIFICATION
	 a) Immediately suspend operations on the site; and b) Notify the Board at (867) 669-0506 or a GNWT Inspector at (867) 695-2626 and a CIRNAC Inspector at (867) 669-2442, and the Prince of Wales Northern Heritage Centre at 767-9347 ext. 71251 or ext. 71255. 	
80.	Prior to any new land disturbance, the Permittee shall conduct an Archaeological Impact Assessment of the sites where disturbance is planned, to fulfill Report of EA Measure 10-2, and shall submit a summary report to the Board and the Prince of Wales Northern Heritage Centre.	AIA
81.	The Permittee shall comply with the Cultural Heritage Protection Plan , once approved. The Plan shall be informed by the results of all archaeological investigations to date (Archaeological Overview and Archaeological Impact Assessment(s)), and shall include, but not be limited to, the following information for the activities associated with each phase:	CULTURAL HERITAGE PROTECTION PLAN
	 a) An accidental finds protocol; b) A plan to provide training on accidental finds to persons working under the authority of this Permit; and c) A heritage resource booklet including photographs to be provided to persons working under the authority of this Permit. 	
82.	A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a Cultural Heritage Protection Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.	CULTURAL HERITAGE PROTECTION PLAN – REVISED
	26(1)(k) Objects and Places of Recreational, Scenic, and Ecological Value	
83.	The Permittee shall comply with the Rare Plant Management Plan , once approved. The Plan shall be in accordance with Report of EA Measure 11-1, Part 2 and 15-1, and shall include, but not be limited to the following information for the activities associated with each phase:	RARE PLANT MANAGEMENT PLAN
	a) Mitigation measures to be implemented to minimize significant adverse impacts on rare plants or rare plant assemblages;	
	b) Details on how rare plants will be identified and monitored during Construction and operation activities:	
	c) Details on effects monitoring for any identified rare plants or rare plant	
	 d) Identification of actions that will be taken if rare plants are identified during Construction and constraints of the Desiret 	
	 e) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to: A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program. 	

- A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program. 86. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Invasive Species Management Plan. The Permittee shall not commence Phase 1 activities prior to Board approval. 26(1)(I) Security Deposit 87. The Permittee shall deposit with the Minister of the Government of the Northwest Territories – Department of Lands security deposit totaling \$1,335,217 based on the schedule set out below: a) Prior to the commencement of Phase 1 activities, the Permittee shall post and maintain a total security deposit in the amount of \$1,115,309; and b) Prior to the commencement of Phase 2 activities, the Permittee shall post and maintain an additional deposit in the amount of \$219,908, to maintain a total amount of deposit of \$1,335,217. **SECURITY DEPOSIT – IAB** The Permittee shall deposit with the Minister of Crown-Indigenous Relations and Northern Affairs Canada a security deposit totaling \$82,703 based on the schedule set out below: a) Prior to the commencement of Phase 1 activities, the b Permittee shall post and maintain a total security deposit in the amount of \$25,981; and b) Prior to the commencement of Phase 2 activities, the Permittee shall post and maintain an additional deposit in the amount of \$56,722, to maintain a total amount of deposit of \$82,703. 89. All costs to remediate the area under this Permit are the responsibility of the **RESPONSIBILITY FOR REMEDIATION COSTS** Permittee.
- shall include, but not be limited to the following information for the activities associated with each phase: a) Baseline data of the entire right-of-way for the presence of invasive species,
 - focusing on areas with higher likelihood of the establishment of invasive species, that shall inform mitigations;
 - b) Mitigations that will prevent the spread of invasive species;

Board approval.

88.

- c) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
- 85. The Permittee shall comply with the **Invasive Species Management Plan**, once approved. The Plan shall fulfill the Report of EA Measure 11-2, Part 4 and 15-1, and

84. A minimum of 90 days prior to the commencement of Phase 1 activities, the **RARE PLANT** Permittee shall submit to the Board, for approval, a revised Rare Plant **MANAGEMENT PLAN -**REVISED Management Plan. The Permittee shall not commence Phase 1 activities prior to

> **INVASIVE SPECIES** MANAGEMENT PLAN

INVASIVE SPECEIS MANAGEMENT PLAN – REVISED

> **SECURITY DEPOSIT -**TERRITORIAL

26(1)(m) Fuel Storage

90.	The Permittee shall:	CHECK FOR LEAKS
	a) Examine all Fuel Storage Containers and Fuel Storage Tanks for leaks a minimum of once per day; andb) Repair all leaks immediately.	
91.	The Permittee shall not place any Fuel Storage Containers and or Tanks within 100 metres of the Ordinary High Water Mark of any Watercourse, or in a drainage channel, unless otherwise authorized in writing by an Inspector.	FUEL STORAGE SETBACK
92.	The Permittee shall ensure that all fuel caches have adequate Secondary Containment.	FUEL CACHE SECONDARY CONTAINMENT
93.	The Permittee shall set up all refueling points with Secondary Containment.	SECONDARY CONTAINMENT – REFUELING
94.	The Permittee shall not allow petroleum products to spread to surrounding lands or Watercourses.	FUEL CONTAINMENT
95.	The Permittee shall locate mobile fuel facilities on land when the facilities are stationary for more than 12 hours.	FUEL ON LAND
96.	The Permittee shall mark all Fuel Storage Containers and Tanks with the Permittee's name.	MARK CONTAINERS AND TANKS
97.	The Permittee shall mark all stationary fuel caches and fuel storage facilities with flags, posts, or similar devices so that they are at all times plainly visible to local vehicle travel.	MARK FUEL LOCATION
98.	The Permittee shall have a maximum of 353,572 litres of fuel stored on the land use site at any time, unless otherwise authorized in writing by the Board.	MAXIMUM FUEL ON SITE
99.	Within ten days of the establishment of any fuel cache, the Permittee shall report the location and quantity of the cache in writing to the Board and an Inspector.	REPORT FUEL LOCATION
100.	The Permittee shall seal all outlets of Fuel Storage Containers and store the containers on their sides with the outlets located at 3 and 9 o'clock, except for containers currently in use.	SEAL OUTLET
101.	The Permittee shall comply with the Spill Contingency Plan , once approved.	SPILL CONTINGENCY PLAN
102.	A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Spill Contingency Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.	SPILL CONTINGENCY PLAN – REVISED

103.	Prior to commencement of the land-use operation the Permittee shall ensure that spill-response equipment is in place, as identified in the Spill Contingency Plan, to respond to any potential spills.	SPILL RESPONSE
104.	All equipment that may be parked for two hours or more, shall have a haz-mat/drip tray under it or be sufficiently diapered. Leaky equipment shall be repaired immediately.	DRIP TRAYS
105.	The Permittee shall clean up all leaks, spills, and contaminated material immediately.	CLEAN UP SPILLS
106.	If, during the period of this Licence, a spill or an Unauthorized Discharge occurs or is foreseeable, the Permittee shall:	REPORT SPILLS
	 a) Implement the approved Spill Contingency Plan; b) Immediately report it using the NU-NT Spill Report Form by one of the following methods: Telephone: (867) 920-8130 Fax: (867) 873-6924 E-mail: spills@gov.nt.ca 	
	 Online: Spill Reporting and Tracking Database Within 24 hours, notify the Board and an Inspector; and Within 30 days of initially reporting the incident, submit a detailed report, including descriptions of causes, response actions, and any changes to procedures to prevent similar occurrences in the future, to the Board and an Inspector. Any updates to this report shall be provided to the Board and an Inspector in writing as changes occur. 	
	26(1)(n) Methods and Techniques for Debris and Brush Disposal	
107.	Prior to the expiry date of this Permit, the Permittee shall progressively dispose of all brush and trees and shall complete all brush disposal; all disposal shall be completed prior to the end of this land use operation.	BRUSH DISPOSAL/ TIME
108.	The Permittee shall not clear areas larger than identified in the complete application.	MINIMIZE AREA CLEARED
	26(1)(o) Restoration of the Lands	
109.	Within 90 days following the effective date of this Permit, the Permittee shall submit to the Board, for approval, a Closure and Reclamation Plan , to fulfill Report of EA Suggestion 14-1. The Plan shall include, but not be limited to, the following information:	CLOSURE AND RECLAMATION PLAN
	 a) A description of how the Report of EA Suggestion 14-1 is fulfilled; b) A plain language summary of the Plan; c) A description of the overall goals for Closure and Reclamation of the Project, including expected future land use; d) A description of the Closure and Reclamation planning team; 	

- e) A description of engagement related to Closure and Reclamation planning, including a summary of completed and planned engagement, and links to the Engagement Plan;
- f) A list of any other regulatory instruments required for Closure and Reclamation of the Project;
- g) A description of the pre-existing and current Project environment, including, but not limited to:
 - i. Climatic conditions;
 - ii. Physical conditions;
 - iii. Chemical conditions;
 - iv. Biological conditions;
 - v. Physical or chemical assessments of soil, water and Permafrost; and
 - vi. Traditional uses.
- h) A description of the Project, including, but not limited to:
 - i. Site history;
 - ii. Project development;
 - iii. Current state of the Project;
 - iv. Maps delineating all disturbed areas, Borrow locations, site facilities, hydrological features, and elevation contours; and
 - v. Photographs.
- i) A description of each Project component, including but not limited to:
 - ii. Stream crossings;
 - iii. Camp and laydown area;
 - iv. Liard River barge crossing and landing areas;
 - v. Borrow Pits;
 - vi. Areas affected by spills or Unauthorized Discharges; and
 - vii. Other areas affected by Project activities.
- j) For the Project site, a description of Closure and Reclamation plans, including but not limited to:
 - i. Closure Objectives and Closure Criteria;
 - ii. Preferred Closure Reclamation option and method for each Project component;
 - iii. Design drawings, signed and stamped by a Professional Engineer, for any Engineered structures;
 - iv. Water management and restoration of natural drainage;
 - v. Predicted environmental effects during and after Closure and Reclamation activities;
 - vi. Post-closure monitoring, maintenance, and reporting;
 - vii. Description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B;
 - viii. Uncertainties and contingencies;
 - ix. Climate change considerations; and
 - x. Reclamation Research plans.
- k) A description of any planned Progressive Reclamation, including, but not limited to:
 - i. Progressive Reclamation goals and objectives;
 - ii. A description of activities (including timing) and methods (including techniques and materials);
 - iii. Description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B;

- iv. Contingencies; and
- An implementation schedule. v.
- I) A plan for Temporary Closure, including, but not limited to the following information:
 - i. Temporary Closure goals and objectives;
 - A description of activities and methods; ii.
 - A description of monitoring, maintenance, and reporting; iii.
 - iv. A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B;
 - Contingencies; and ٧.
 - vi. An implementation schedule.
- m) An implementation schedule that includes Progressive Reclamation and final Closure and Reclamation activities; and
- n) A Closure Cost Estimate.

CLOSURE AND RECLAMATION PLAN - REVISED	A minimum of 90 days prior to the commencement of Phase 2 activities, or as directed by the Board, the Permittee shall submit to the Board, for approval, a revised Closure and Reclamation Plan.	110.
CLOSURE AND RECLAMATION PLAN - FINAL	. A minimum of two years prior to the end of operations, the Permittee shall submit to the Board, for approval, a final Closure and Reclamation Plan to fulfill Report of EA Suggestion 14-1. The Plan shall include but not be limited to the information in the Closure and Reclamation Plan.	111.
PROGRESSIVE RECLAMATION	. The Permittee shall endeavor to carry out Progressive Reclamation of disturbed areas as soon as it is practical to do so.	112.
PROGRESSIVE RECLAMATION – CARRY OUT AS APPROVED	The Permittee shall conduct Progressive Reclamation in accordance with the most-recently approved Closure and Reclamation Plan, or as otherwise approved by the Board.	113.
PROGRESSIVE RECLAMATION – NOTIFICATION	A minimum of ten days prior to the commencement of any Progressive Reclamation, the Permittee shall provide written notification to the Board and an Inspector. Notification shall include the name and contact information for the Construction Field Supervisor.	114.
CLOSURE AND RECLAMATION COMPLETION REPORT	Within 90 days of completing Closure and Reclamation of any specific component of the Project, the Permittee shall submit to the Board a Closure and Reclamation Completion Report . The Report shall be in accordance with the Mackenzie Valley	115.

- Land and Water Board and Aboriginal Affairs and Northern Development Canada's Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.
- 116. Within four months of completing Closure and Reclamation of any specific ASSESSMENT REPORT component of the Project, the Permittee shall submit to the Board, for approval, a Performance Assessment Report. The Report shall be in accordance with the Mackenzie Valley Land and Water Board and Aboriginal Affairs and Northern Development Canada's Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories. The Permittee shall submit subsequent Report(s) as directed by the Board.

PERFORMANCE

117.	All areas affected by Construction or removal activities shall be stabilized and landscaped to their pre-Construction profiles, unless otherwise authorized in writing by an Inspector.	PRE-CONSTRUCTION PROFILES
118.	The Permittee shall store overburden and use it to recontour the site after operations are complete, unless otherwise authorized in writing by an Inspector.	SAVE AND PLACE ORGANIC SOIL
119.	Prior to the expiry date of this Permit, the Permittee shall level all stockpiles of granular material located within the land use area, or as described in the approved Borrow Pit Management Plan.	LEVEL STOCKPILES
120.	Prior to the expiry date of this Permit, the Permittee shall complete all cleanup and restoration of the lands used.	FINAL CLEANUP AND RESTORATION
121.	The Permittee shall restore any trails impacted by the land-use operation by removing fallen trees and any other obstructions from the trails.	TRAILS RESTORATION
	26(1)(p) Display of Permits and Permit Numbers	
122.	The Permittee shall display a copy of this Permit in each camp established to carry out this land-use operation.	DISPLAY PERMIT
123.	The Permittee shall keep a copy of this Permit on hand at all times during this land- use operation.	COPY OF PERMIT
	26(1)(q) Biological and Physical Protection of the Land	
124.	The Permittee shall ensure all submissions to the Board:	SUBMISSION FORMAT
	 a) are in accordance with the Mackenzie Valley Land and Water Board's <i>Document Submission Standards</i>; and b) include a conformity statement or table which identifies where the pertinent requirements of this Permit, or other direction from the Board, are addressed. 	
125.	The Permittee shall ensure management plans are submitted to the Board in a format consistent with the Mackenzie Valley Land and Water Board's <i>Standard Outline for Management Plans</i> , unless otherwise specified.	MANAGEMENT PLANS – USE STANDARD OUTLINE
126.	The Permittee shall comply with all terms of reference, plans, reports, studies and programs approved as per the conditions of this Permit, including such revisions made as per the conditions of this Permit, and as approved by the Board.	COMPLY WITH SUBMISSIONS AND REVISIONS
127.	The Permittee may propose revisions at any time by submitting a revised terms of reference, plans, reports, and programs to the Board for approval. Unless otherwise specified, a minimum of 90 days prior to implementing any proposed updates or changes in the terms of reference, plans, reports, and programs, the Permittee shall submit all revisions to the Board, for approval. Any revision	REVISIONS

REVISE AND RESUBMIT	B. The Permittee shall revise any submission as per the Board's direction and resubmit it for approval.	128.
REVISE AND RESUBMIT FOR PHASE 1, 2, AND 3	D. The Permittee shall revise management plans, reports, studies, and programs for Phases 1, 2, and 3 to the Board for approval. Unless otherwise specified, a minimum of 90 days prior to commencement of each phase and implementing any proposed updates or changes in the management plans, reports, studies, and programs, the Permittee shall submit all revisions to the Board, for approval. Any revision submission shall include a revision history table and a summary of the revisions made. The Permittee shall not commence activities for each phase or implement revisions until approved by the Board.	129.
ADAPTIVE MANAGEMENT	 The Permittee shall identify how an Adaptive Management framework has been incorporated in each plan and program submitted for Board approval to fulfill the Report of EA Appendix B. 	130.
ENGAGEMENT PLAN	The Permittee shall comply with the Engagement Plan , once approved, to fulfill Measure 15-1, 15-4 and Suggestion 15-4 of the Report of EA.	131.
ENGAGEMENT PLAN - REVISED	2. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Engagement Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.	132.
AVALANCHE HAZARD MANAGEMENT PLAN	 a. The Permittee shall comply with the Avalanche Hazard Management Plan, once approved. The Avalanche Hazard Management Plan shall be in accordance with Report of EA Suggestion 5-1 and shall include, but not be limited to the following information for the activities associated with each phase: a) Revised avalanche hazard maps based on the detailed Winter Road and All Season Road designs; b) All measures employed to reduce avalanche associated risk to vehicles and occupants; c) A linear risk analysis, if required, as determined by the Permittee and the Independent Technical Review Panel. If it is determined that the linear risk analysis is not required, include justification; d) Details of potential impacts of avalanches on crossing structures near avalanche paths; e) Appropriate timing for annual inspection of the avalanche paths; f) Details of snowpack and weather monitoring stations to be used for assessing avalanche conditions, including but not limited to: i. Locations (provide a map); ii. Sampling duration and frequency; and iii. A mechanism for reporting results and interpretation of the data. g) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to: i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program 	133.

- 134. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Avalanche Hazard Management Plan. The Permittee shall not commence any Phase 1 activities prior to Board approval.
- 135. A minimum of once per winter season, avalanche paths shall be observed for avalanche occurrences by an Avalanche Professional as per the approved Avalanche Hazard Management Plan. Within 60 days of completion, the Permittee shall submit the Avalanche Professional's annual avalanche path recommendations to the Board and an Inspector.
- 136. The Permittee shall comply with the **Geochemical Verification Program**, once approved. The Program should include, but not be limited to the following for the activities associated with each phase:
 - a) Identification of monitoring (survey, sampling, testing) methods for geochemical characterization studies (Acid Rock Drainage/Metal Leaching potential) of bedrock, Borrow sources, and overburden, with supporting rationale and parameters;
 - A summary of findings from geochemical characterization studies (Acid Rock Drainage/Metal Leaching potential) on the bedrock, borrow sources, and overburden;
 - c) Monitoring locations (provide a map) for follow-up verification testing, with supporting rationale;
 - d) Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - e) Criteria for defining PAG, non-PAG and Metal Leaching materials with supporting rationale;
 - f) Criteria for defining high, moderate, and low risk Waste Rock, with supporting rationale;
 - g) A mechanism for reporting results and interpretation of the data;
 - h) Quality assurance and quality control measures;
 - i) A contingency plan in the event of increasing trends in Metal Leaching or acid generation potential; and
 - j) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
- 137. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Geochemical Verification Program. The Permittee shall not commence Phase 1 activities prior to Board approval.

AVALANCHE HAZARD MANAGEMENT PLAN – REVISED

AVALANCHE PATHS

GEOCHEMICAL VERIFICATION PROGRAM

GEOCHEMICAL VERIFICATION PROGRAM – REVISED

- 138. The Permittee shall comply with the Borrow Pit Management Plan, once approved. The Permittee shall not develop any Borrow Pit until it is approved in the Borrow Pit Management Plan. The Plan shall include, but not be limited to the following for the activities associated with each phase:
 - a) Details regarding the design of each Borrow Pit, including but not limited to:
 - i. Physical characteristics;
 - ii. Hydrogeological considerations (maintaining natural drainage); and
 - Intended purpose of each Borrow Pit (long-term versus construction iii. only).
 - b) Rationalization for all proposed Borrow Pits, including a consideration of Permafrost conditions at each Borrow Pit;
 - c) A description of efforts to reduce the number of Borrow sources;
 - d) Reference to the results of the Geochemical Verification Program for each Borrow Pit, including an incorporation of any necessary mitigations;
 - e) Erosion and sedimentation control details for each Borrow Pit;
 - f) A schedule, including proposed sequence and timing of Borrow development; and
 - g) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
- 139. A minimum of 90 days prior to the development any Borrow Pit, the Permittee shall submit to the Board, for approval, a Borrow Pit Management Plan. The Permittee shall not develop any Borrow Pit prior to Board approval.
- 140. The Permittee shall comply with the Explosives Management Plan, once approved. The Permittee shall not handle, store, or use explosives until the Board has approved the Explosives Management Plan. The Plan shall include, but not be limited to the following for the activities associated with each phase:
 - a) Mitigation approaches to be deployed in the handling, use, and storage of explosives;
 - b) How the Permittee proposes to minimize nitrogen species loading to the environment:
 - c) A description of the monitoring required to evaluate whether the mitigation approaches for storage, handling, and blasting procedures are effective, with rational.
 - d) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
- 141. A minimum of 90 days prior to handling, using or storing explosives, the Permittee **EXPLOSIVES MANAGEMENT PLAN** shall submit to the Board, for approval, an Explosives Management Plan. The REVISED Permittee shall not handle, use, or store explosives prior to Board approval.

Page 29 of 31

BORROW PIT MANAGEMENT PLAN

BORROW PIT MANAGEMENT PLAN -REVISED

EXPLOSIVES MANAGEMENT PLAN

- 142. The Permittee shall comply with the **Traffic Control Mitigation and Road Operations and Maintenance Plan**, once approved. The plan shall fulfill Report of EA Measure 5-2 and 15-1, and shall include, but not be limited to the following information for the activities associated with each phase:
 - a) Access control mitigations and how they will be managed;
 - b) Information on how mine and non-mine related traffic on the road will be mitigated and managed;
 - c) Mitigations to increase safety on the road with both mine and non-mine related traffic;
 - d) How the Permittee will address seasonal or weather-related closure;
 - e) How the Permittee plans to monitor all non-mine traffic on the road;
 - f) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - i. A decision tree that outlines the path of Adaptive Management decisions based on results of both the short- and long-term monitoring program.
- 143. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Traffic Control Mitigation and Road Operations and Maintenance Plan. The Permittee shall not conduct Phase 1 activities prior to Board approval.
- 144. The Permittee shall comply with the **Contaminant Loading Management Plan**, once approved. The plan shall fulfill Report of EA Measure 15-1 include, but not be limited to the following information for the activities associated with Phase 2 and Phase 3:
 - a) A plan to monitor potential impacts on vegetation and soil from contamination from spills, Concentrate loading, and road dust, including but not limited to:
 - i. Identification of monitoring methods, including parameters to be monitored;
 - Rational for site selection, and final monitoring locations (provide a map);
 - iii. Vegetation and soil contaminant monitoring data from along the right-of-way to establish baseline conditions, collected prior to Phase 2;
 - iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - v. Analytical requirements;
 - vi. Quality assurance and quality control;
 - vii. A mechanism for reporting results and interpretation of the data, including baseline data; and
 - viii. Proposed control and mitigation measures.
 - A plan to monitor dust fall and airborne particulate along the right-of-way, including but not limited to:
 - i. Identification of monitoring methods, including parameters to be monitored;
 - Rational for site selection, and final monitoring locations (provide a map);

TRAFFIC CONTROL MITIGATION AND ROAD OPERATIONS AND MAINTENANCE PLAN

TRAFFIC CONTROL MITIGATION AND ROAD OPERATIONS AND MAINTENANCE PLAN – REVISED

> CONTAMINANT LOADING MANAGEMENT PLAN

right-of-way to establish baseline conditions, collected prior to Phase 2 and compared to appropriate standards; iv. Monitoring duration and frequency including any criteria that will be

Dust fall and airborne particulate monitoring data from along the

- used to modify this frequency or discontinue monitoring;
- Analytical requirements; ν.

iii.

- Quality assurance and quality control; vi.
- A mechanism for reporting results and interpretation of the data, vii. including baseline data; and
- Proposed control and mitigation measures. viii.
- c) A plan to monitor road watering and use of calcium chloride along the rightof-way, including but not limited to:
 - i. Specification of where calcium chloride will be used for dust suppressant, and what the setback distance from Watercourses will be to prevent the runoff of calcium chloride into Watercourses;
 - ii. Identification of monitoring methods;
 - iii. Description of how monitoring locations will be chosen;
 - iv. Monitoring duration and frequency including any criteria that will be used to modify this frequency or discontinue monitoring;
 - v. Analytical requirements;
 - vi. Quality assurance and quality control;
 - vii. A mechanism for reporting results and interpretation of the data; and viii. Proposed control and mitigation measures.
- d) A description of an Adaptive Management framework that satisfies the requirements of Report of EA Appendix B, including but not limited to:
 - A decision tree that outlines the path of Adaptive Management i. decisions based on results of both the short- and long- term monitoring program.
- 145. A minimum of 90 days prior to the commencement of Phase 2 activities, the Permittee shall submit to the Board, for approval, a Contaminant Loading MANAGEMENT PLAN Management Plan. The Permittee shall not conduct Phase 2 activities prior to Board approval.
- 146. In conducting its activities under this Permit, the Permittee shall make every reasonable effort to consider and incorporate any scientific information and Traditional Knowledge that is made available to the Permittee.
- **IDENTIFY TRADITIONAL** 147. In each submission required by this Permit or any directive from the Board, the **KNOWLEDGE** Permittee shall identify all recommendations based on Traditional Knowledge received, describe how the recommendations were incorporated into the submission, and provide justification for any recommendation not adopted, to fulfill Report of EA Measures 10-1, 15-1, 15-4, and Suggestion 15-4.

CONTAMINANT LOADING

INCORPORATE TRADITIONAL

KNOWLEDGE