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:

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. David Harpley</td>
<td>XXX</td>
</tr>
</tbody>
</table>

**Type of Land Use Operation**

Road

**Location**

Prairie Creek All Season Road

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

**Dated at** _XX_ this _XX_ day of _XX_ , _XX_

<table>
<thead>
<tr>
<th>Signature Chair</th>
<th>Signature Witness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mavis Cli-Michaud</td>
<td>Amanda Gauthier</td>
</tr>
</tbody>
</table>

**Effective Date:**

XXX, 2019

**Expiry Date:**

XXX, 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.
**Legend for Reviewers:**

**Green Highlighting** reflects items to be determined through the regulatory proceeding; seeking reviewer input.

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Emergency Response Plan
Avalanche Hazard Management Plan
Geochemical Verification Program
Borrow Pit Management Plan
Explosives Management Plan
Roads Operations and Traffic Control Mitigation and Maintenance Plan
Part A: Scope

1. This Permit entitles the Permittee to conduct the following land-use operation:
   a) [enter a list of activities];
   b) Construction, operation, and maintenance of a Winter Road and All Season Road, including the Construction, operation, and maintenance of a temporary Winter Road;
   c) Development and operation of Borrow Pits;
   d) Operation of Construction Camps, including equipment, fuel and material storage areas;
   e) Construction, operation and maintenance of access roads;
   f) Construction of bridges and culverts;
   g) Use of explosives;
   h) Use of self-propelled earth moving equipment and equipment over 10 tons;
   i) Use and storage of fuel;
   j) Use of machinery for moving earth and clearing land; and
   k) 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, Tłı̨chǫ, or Municipal laws.

Part B: Definitions

1. Defined terms are capitalized throughout the Permit, including when used in other definitions.
**Artesian Aquifer** – a Water-bearing rock stratum which, when encountered during drilling operations, produces a pressurized flow of groundwater that reaches an elevation above the Water table or above the ground surface.

**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.

**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.

**Durable Land** – land that is able to withstand repeated use, such as gravel or sand with minimal vegetative cover.

**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, including but not limited to the All Season Road, Non-Typical Winter Road, Hoverbarge Landings, Stream Crossing, Culvert, Bridge, Camp, Staging Area, [enter list of structures/facilities].

**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 of drainage or other materials associated with the Project.

Minister – the Minister of Indian Affairs and Northern Development 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 commencement 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.

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

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.

Professional Geoscientist – a person registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists to practice as a Professional Geoscientist 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.

**RECLAIM** – the Government of the Northwest Territories’ model for estimating Closure and Reclamation costs.

**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.

**Remediation** – the removal, reduction or neutralization of substances, Wastes or hazardous materials from a site in order to prevent or minimize any adverse effects on the environment and public safety now or in the future.


**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** – the area and structures designated to contain and treat Sewage.

**Shut Down Period** – the period of time between [DATE and DATE] each year during Phase 1 and Phase 2, for the purpose of this operation.

**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/April 15] 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:

1. Has or may have an immediate or long-term harmful effect on the environment or its biological diversity;
2. Constitutes or may constitute a danger to the environment on which life depends; or
3. 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 for winter use only.

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 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 Winter Road alignment including both the Typical and Non-typical Winter Road sections.
Part C: Conditions Applying to All Activities

26(1)(a) Location and Area

1. The Permittee shall only conduct this land-use operation on lands designated in the application.

2. The Permittee shall not conduct any part of the land-use operation within 5 metres of any privately owned or leased land or structure, including cabins used for traditional activities, unless otherwise authorized in writing by an Inspector or the Board.

3. The Permittee shall locate all Camps on Durable Land or previously cleared areas, and a minimum of 100 metres from the Ordinary High Water Mark.

4. The Permittee shall use an existing campsite, as described in the complete application.

5. 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.

6. 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.

7. The Permittee shall not conduct a Borrow Pit operation within 100 metres of the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector.

8. 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, unless otherwise authorized in writing by an Inspector.

9. Prior to the commencement of the land-use operation, the Permittee shall accompany an Inspector during an inspection of the proposed land use area.

10. The Permittee shall confine the width of the right-of-way to a maximum of 30 metres.

26(1)(b) Time

11. 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.

Commented [KM1]: Board staff are seeking a coordinated response from federal and non-federal Inspectors regarding this condition.

Commented [KM2]: Board staff are seeking a coordinated response from federal and non-federal Inspectors regarding this condition.

Heads correspond to subsection 26(1) of the Mackenzie Valley Land Use Regulations.
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.

12. 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.

13. 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.

14. 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:
   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).

15. At least ten days prior to the Shut Down Period, the Permittee shall advise an Inspector of:
   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.

16. 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.

17. 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:
   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 [enter facility name], identified by disposal location;
vi. Monthly elevations in metres of the [enter facility name]; and
vii. 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;
ii. A comparison of the annual quantities of each type of Waste Rock generated to the quantities predicted in the approved Geochemical Verification Program;
iii. 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.

l) 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 Road Operations and Traffic Control 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.

s) 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;

t) A summary of actions taken to address concerns, non-conformances, or deficiencies in any reports filed by an Inspector;

u) Any other details requested by the Board by [enter date] of the year being reported.

18. The Permittee shall not operate Phase 1 for more than two consecutive years.

**DURATION OF PHASE 1**

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

19. The Permittee shall only use equipment of a similar type, size, and number to that listed in the complete application.

20. The Permittee shall use portable ramps during loading and unloading of aquatic vessels, including ships, boats, and barges.

**USE APPROVED EQUIPMENT**

**PORTABLE RAMPS**

26(1)(d) Methods and Techniques

21. 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.

22. The Permittee shall ensure that all materials used in Construction of the Project meets the geochemical criteria specified in the approved Geochemical Verification Program.

23. 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.

24. 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.

**ENGINEERED STRUCTURES – GENERAL**

**CONSTRUCTION MATERIAL – GEOCHEMICAL CRITERIA**

**CONSTRUCTION MATERIAL – SOURCE**

**GEOCHEMICAL RECORDS**

Commented [KMS]: Board staff are seeking input as to which construction conditions are necessary for the Permit.


26. 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 Environmental Assessment 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.

27. The Permittee shall comply with the Panel’s Terms of Reference, once approved.

28. 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, withheld, 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.
   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.

29. 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:

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.

30. 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, **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.

31. A minimum of 45 days prior to the commencement of Construction of any Engineered 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 final road design, Design and Construction Plan, and Design Drawings to fulfill Report of Environmental Assessment Measure S-1;
   b) a **Design and Construction Plan** and;
   c) a **Design Drawing** stamped and signed by a Professional Engineer; and reviewed and accepted by the Panel.

32. The Permittee may propose revisions at any time to the Engineered 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;
   b) A revised **Design 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.

33. 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.

34. The Permittee shall ensure that all structures, excluding Engineered Structures, are constructed in accordance with the approved Structure Description and Construction Plan(s).

35. The Permittee shall ensure that all Engineered Structures are constructed in accordance with the Design Drawings and approved Design and Construction Plans.

36. 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:
   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.

37. The Permittee shall comply with the Road Construction and Management Plan, once approved.

38. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Road Construction and Management Plan. The Permittee shall not commence any Phase 1 activities prior to Board approval.

39. The Permittee shall Dogleg lines, trails and right-of-ways that approach Watercourses or public roads.

40. 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.

41. As the land-use operation progresses, the Permittee shall refill and restore craters caused by explosives.

42. Immediately upon completion of operations at each Borehole, the Permittee shall remove or cut off and seal each drill casing at ground level.

43. 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.

44. The Permittee shall not erect Camps or store material, other than that required for immediate use, on the ice surface of a Watercourse.

45. 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.

46. The Permittee shall leave a buffer strip of undisturbed vegetation at least 30 metres in width at the junction of the All Season Road and the Liard Highway.

26(1)(e) Type, Location, Capacity, and Operation of All Facilities

47. The Permittee shall ensure that the land use area is kept clean at all times.

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

48. The Permittee shall comply with the Sediment and Erosion Control Monitoring Plan, once approved. The Sediment and Erosion Control Monitoring 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 Environmental Assessment Appendix B, including but not limited to:
      a. a decision tree which 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, including but not limited to:
   i. Details outlining sedimentation and erosion management during construction of the hoverbarge;
   ii. Operational details of the hoverbarge, including sedimentation and erosion management following construction;
   iii. Hoverbarge associated inspections and monitoring;
   iv. Proposed sedimentation and erosion control and mitigation measures associated with hoverbarge operations; and
   v. A description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B, including but not limited to:
      a. a decision tree which outlines the path of adaptive management decisions based on results of both the short- and long-term monitoring program.

d) Insert items

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 Sediment and Erosion Control Plan. 

Sediment and Erosion Control Plan
Erosion Control Monitoring Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.

50. The Permittee shall apply appropriate mitigation at the first sign of erosion.

51. The Permittee shall install and maintain culverts such that scouring does not occur.

52. 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 Environmental Assessment Measure 12-1 Part 4, and shall include, but not be limited to the following for the activities associated with each phase:
   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;
   g) A description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B, including but not limited to:
      i. A decision tree which outlines the path of adaptive management decisions based on results of both the short- and long-term monitoring program.
   h) Insert items

53. 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.

54. The Permittee shall insulate the ground surface beneath all structures associated with this land-use operation to prevent:
   a) Any vegetation present from being removed;
   b) The melting of Permafrost; and
   c) The ground settling and/or eroding.

55. The land-use operation shall not cause obstruction to any natural drainage.

56. The Permittee shall, where flowing water from a Borehole is encountered:
a) Plug the Borehole in such a manner as to permanently prevent any further outflow of water; and
b) Immediately report the occurrence to the Board and an Inspector.

57. The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.

58. The Permittee shall suspend overland travel of equipment or machines the first sign of rutting or gouging.

59. 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.

60. The Permittee shall only use clean water and snow in the Construction of ice bridges and snow fills.

61. Prior to Spring Break-up or completion of the land-use operation, the Permittee shall clean up and either remove or v-notch all snowfils from stream crossings, unless otherwise authorized in writing by an Inspector.

62. The Permittee shall minimize approach grades on all Watercourse crossings.

63. The Permittee shall not cut any stream bank, unless otherwise authorized in writing by an Inspector.

64. The Permittee shall use temporary bridges or dry fording when crossing streams.

65. 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.

66. 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 application.

67. 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.

26(1)(g) Use, Storage, Handling, and Ultimate Disposal of Any Chemical or Toxic Material

68. 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.

69. 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.

70. The Permittee shall remove all Drilling Waste containing Toxic Material to an approved disposal facility.

71. The Permittee shall not allow any Drilling Waste to spread to the surrounding lands or Watercourses.

72. 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.

73. The Permittee shall dispose of all Toxic Material as described in the approved Waste Management Plan.

74. 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.

26(1)(h) Wildlife and Fish Habitat

75. The Permittee shall take all reasonable measures to prevent damage to wildlife and fish Habitat during this land-use operation.

26(1)(i) Storage, Handling, and Disposal of Refuse or Sewage

76. The Permittee shall comply with the Waste Management Plan, once approved.

77. 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.

78. The Permittee shall keep all garbage and debris in a secure container until disposal.

79. 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.

80. The Permittee shall dispose of all Sewage and Greywater into a Sump at least 100 metres from the Ordinary High Water Mark of any Watercourse, unless otherwise authorized in writing by an Inspector.

81. The Permittee shall dispose of all Sewage and Greywater as described in the approved Waste Management Plan.
26(1)(j) Protection of Historical, Archaeological, and Burial Sites

82. The Permittee shall not operate any vehicle or equipment within 30 metres of a known or suspected historical or archaeological site or burial ground.

83. The Permittee shall not knowingly remove, disturb, or displace any archaeological specimen or site.

84. The Permittee shall, where a suspected archaeological or historical site, or burial ground is discovered:
   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. 71250 or ext. 71251.

85. 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 Environmental Assessment Measure 10-2, and shall submit a summary report to the Board and the Prince of Wales Northern Heritage Centre.

26(1)(k) Objects and Places of Recreational, Scenic, and Ecological Value

86. The Permittee shall comply with the Rare Plant Management Plan, once approved. The Plan shall be in accordance with Report of Environmental Assessment 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:
   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 assemblages; and
   d) Identification of actions that will be taken if rare plants are identified during Construction and operation of the Project.
   e) A description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B, including but not limited to:
      i. A decision tree which outlines the path of adaptive management decisions based on results of both the short- and long-term monitoring program.

87. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised Rare Plant Management Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.

88. The Permittee shall comply with the Invasive Species Management Plan, once approved. The Plan shall fulfill the Report of Environmental Assessment Measure
11-2, Part 4 and 15-1, and 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;
   c) A description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B, including but not limited to:
      i. a decision tree which outlines the path of adaptive management decisions based on results of both the short- and long-term monitoring program.

89. 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)(l) Security Deposit

90. The Permittee shall deposit with the Minister security deposit totaling $_____, 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 $_____, and
   b) Prior to the commencement of Phase 2 activities, the Permittee shall post and maintain an additional deposit in the amount of $_____, to maintain a total amount of deposit of $_____.

91. All costs to remediate the area under this Permit are the responsibility of the Permittee.

26(1)(m) Fuel Storage

92. The Permittee shall:
   a) Examine all Fuel Storage Containers and Fuel Storage Tanks for leaks a minimum of once per day; and
   b) Repair all leaks immediately.

93. 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.

94. The Permittee shall ensure that all fuel caches have adequate Secondary Containment.

95. The Permittee shall set up all refueling points with Secondary Containment.
96. The Permittee shall not allow petroleum products to spread to surrounding lands or Watercourses.

97. The Permittee shall locate mobile fuel facilities on land when the facilities are stationary for more than 12 hours.

98. The Permittee shall mark all Fuel Storage Containers and Tanks with the Permittee's name.

99. 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.

100. The Permittee shall have a maximum of 1,082,765 litres of fuel stored on the land use site at any time, unless otherwise authorized in writing by the Board.

101. 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.

102. 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.

103. The Permittee shall comply with the Spill Contingency Plan, once approved.

104. 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.

105. 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.

106. 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.

107. The Permittee shall clean up all leaks, spills, and contaminated material immediately.

108. If, during the period of this Licence, a spill or an Unauthorized Discharge occurs or is foreseeable, the Permittee shall:
   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
c) Within 24 hours, notify the Board and an Inspector; and
d) 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

109. 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.

110. The Permittee shall not clear areas larger than identified in the complete
Application.

26(1)(o) Restoration of the Lands

111. A minimum of 90 days prior to the commencement of Phase 1 activities, the
Permittee shall submit to the Board, for approval, a Closure and Reclamation
Plan to fulfill Report of Environmental Assessment Suggestion 14-1. The Plan
shall include, but not be limited to, the following information:
a) A plain language summary of the Plan;
b) A description of the overall goals for Closure and Reclamation of the Project,
including expected future land use;
c) A description of the Closure and Reclamation planning team;
d) A description of engagement related to Closure and Reclamation planning,
including a summary of completed and planned engagement, and links to the
Engagement Plan;
e) A list of any other regulatory instruments required for Closure and
Reclamation of the Project;
f) 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.
g) 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.
h) 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.

i) For the Project site, a description of Closure and Reclamation plans, including but not limited to:
   i. Closure Objectives and Criteria;
   ii. Preferred Closure Reclamation option and method for 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 Environmental Assessment Appendix B;
   viii. Uncertainties and contingencies;
   ix. Climate change considerations; and
   x. Reclamation Research plans.

j) 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 Environmental Assessment Appendix B;
   iv. Contingencies; and
   v. An implementation schedule.

k) A plan for Temporary Closure, including, but not limited to the following information:
   i. Temporary Closure goals and objectives;
   ii. A description of activities and methods;
   iii. A description of monitoring, maintenance, and reporting;
   iv. A description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B;
   v. Contingencies; and
   vi. An implementation schedule.

l) The plan for post-closure and reclamation monitoring and maintenance, including but not limited to the following information:

m) An implementation schedule that includes Progressive Reclamation and final Closure and Reclamation activities; and

n) A Closure Cost Estimate.
112. 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.

113. Three years prior to the expiration of this Permit, or a minimum of two years prior to the end of operations, whichever occurs first, the Permittee shall submit to the Board, for approval, a final Closure and Reclamation Plan to fulfill Report of Environmental Assessment Suggestion 14-1. The Plan shall include but not be limited to the information in the Closure and Reclamation Plan.

114. One year prior to Closure and Reclamation of any specific component of the Project, and until a final Closure and Reclamation Plan is approved, the Permittee shall submit to the Board, for approval, a component-specific Closure and Reclamation Plan. The Plan shall include, but not be limited to the following:
   a) A plain language summary of the Plan;
   b) A description of the overall goals for closure and Reclamation of the Project, including expected future land use;
   c) A description of engagement related to Closure and Reclamation planning for the Project component, including a summary of completed and planned engagement, and links to the Engagement Plan;
   d) A description of the pre-existing and current Project environment as it relates to the Project component, 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.
   e) A description of the Project, including, but not limited to:
      i. Site history;
      ii. Project development; and
      iii. Current status of the Project.
   f) A description of the Project component being closed, including, but not limited to:
      i. Purpose, development, history, and current status;
      ii. Maps and elevation contours;
      iii. Photographs;
      iv. A summary of inspections and any other assessments;
      v. A summary of monitoring results; and
      vi. A summary of non-compliance events.
   g) For the Project component being closed, a description of Closure and Reclamation plans, including, but not limited to:
      i. Closure Objectives and Criteria;
      ii. Closure and Reclamation options and selected closure activity;
      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;
vi. Uncertainties and contingencies;
vii. Climate change considerations;
ix. Closure and Reclamation Research Plans; and
x. A description of how Closure and Reclamation of the component relates to the Closure and Reclamation Plan for the Project.
h) The plan for post-closure and reclamation monitoring and maintenance, including but not limited to the following information:
   i. Insert Menu
   ii. An implementation schedule; and
   iii. A revised/updated Closure Cost Estimate.

115. The Permittee shall endeavor to carry out Progressive Reclamation of disturbed areas as soon as it is practical to do so.

116. The Permittee shall conduct Progressive Reclamation in accordance with the most-recently approved Closure and Reclamation Plan, or as otherwise approved by the Board.

117. 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.

118. Within X 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 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.

119. Within X days of completing Closure and Reclamation of any specific 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.

120. 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.

121. The Permittee shall store overburden and use it to recontour the site after operations are complete, unless otherwise authorized in writing by an Inspector.

122. 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.
123. Prior to the expiry date of this Permit, the Permittee shall complete all cleanup and restoration of the lands used.

124. The Permittee shall restore any trails impacted by the land-use operation by removing fallen trees and any other obstructions from the trails.

26(1)(p) Display of Permits and Permit Numbers

125. The Permittee shall display a copy of this Permit in each camp established to carry out this land-use operation.

126. The Permittee shall keep a copy of this Permit on hand at all times during this land-use operation.

26(1)(q) Biological and Physical Protection of the Land

127. The Permittee shall ensure all submissions to the Board:
   a) are in accordance with the Mackenzie Valley Land and Water Board’s Document Submission Standards; 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.

128. The Permittee shall ensure management plans are submitted to the Board in a format consistent with the Mackenzie Valley Land and Water Board’s Standard Outline for Management Plans, unless otherwise specified.

129. 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.

130. 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 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.

131. The Permittee shall revise any submission as per the Board’s direction and resubmit it for approval.

132. 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. 

133. The Permittee shall identify an adaptive management framework in each plan and program submitted for Board approval to fulfill the Report of Environmental Assessment Appendix B.

134. 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 Environmental Assessment.

135. 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.

136. The Permittee shall comply with the Emergency Response Plan, once approved.

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 Emergency Response Plan. The Permittee shall not commence Phase 1 activities prior to Board approval.

138. The Permittee shall comply with the Avalanche Hazard Management Plan, once approved. The Avalanche Hazard Management Plan shall be in accordance with Report of Environmental Assessment 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) 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.
   f) a description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B, including but not limited to:
      i. a decision tree which 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 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.

140. A minimum of once per winter season, avalanche paths shall be observed for avalanche occurrences by an Avalanche Professional. Within [60 or 90] days of completion, the Permittee shall submit the Avalanche Professional's annual avalanche path recommendations to the Board and an Inspector.

141. 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;
   b) 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 Environmental Assessment Appendix B, including but not limited to:
      i. a decision tree which outlines the path of adaptive management decisions based on results of both the short- and long-term monitoring program.
   k) [Insert Items]

142. 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.

143. 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
   iii. Intended purpose of each Borrow Pit (long-term versus construction 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 Environmental Assessment Appendix B, including
   but not limited to:

   i. A decision tree which outlines the path of adaptive management
      decisions based on results of both the short- and long-term
      monitoring program.

h) [Insert items]

144. A minimum of 90 days prior to the commencement of Phase 1 activities, the
   Permittee shall submit to the Board, for approval, a Borrow Pit Management
   Plan. The Permittee shall not conduct Phase 1 activities prior to Board approval.

145. The Permittee shall comply with the Explosives Management Plan, once
   approved. The Permittee shall not commence Construction of any explosives
   storage or handling areas 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 an adaptive management framework that satisfies the
      requirements of Report of Environmental Assessment Appendix B, including
      but not limited to:

      i. A decision tree which outlines the path of adaptive management
         decisions based on results of both the short- and long-term
         monitoring program.

   d) A description of the monitoring required to evaluate whether the mitigation
      approaches for storage, handling, and blasting procedures are effective, with
      rational.

146. A minimum of 90 days prior to the commencement of Phase 1 activities, the
   Permittee shall submit to the Board, for approval, an Explosives Management
   Plan. The Permittee shall not conduct Phase 1 activities prior to Board approval.
147. A minimum of 90 days prior to the commencement of Phase 2, the Permittee shall submit to the Board vegetation and soil contaminant monitoring data from along the right-of-way to establish baseline conditions.

148. The Permittee shall comply with the **Road Operations and Traffic Control Mitigation and Maintenance Plan**, once approved. The plan shall fulfill Report of Environmental Assessment 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; the revised Plan for Phase 2 activities include completed vegetation and soil contaminant monitoring along the right-of-way to establish baseline conditions for contaminant levels;
   f) A plan to monitor and manage potential impacts on vegetation and soil from contamination from spills, Concentrate loading, and road dust, considering the baseline data results;
   g) Specify 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; and
   h) A description of an adaptive management framework that satisfies the requirements of Report of Environmental Assessment Appendix B, including but not limited to:
      i. a decision tree which outlines the path of adaptive management decisions based on results of both the short- and long-term monitoring program.

149. A minimum of 90 days prior to the commencement of Phase 1 activities, the Permittee shall submit to the Board, for approval, a revised **Road Operations and Traffic Control Mitigation and Maintenance Plan**. The Permittee shall not conduct Phase 1 activities prior to Board approval.

150. 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.

151. In each submission required by this Permit or any directive from the Board, the 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 Environmental Assessment Measures 10-1, 15-1, 15-4, and Suggestion 15-4.