

# Land and Water Boards of the Mackenzie Valley



## APPLICATION FOR LICENCE, AMENDMENT OF LICENCE, OR RENEWAL OF LICENCE IN FEDERAL AREAS

Subsection 6(1) and Schedule III of the [Mackenzie Valley Federal Areas Waters Regulations](#)

Use an "X" to indicate which Board the Application is being made to:	Mackenzie Valley Land and Water Board:	<b>X</b>	Sahtu Land and Water Board:	
	Wek'èezhìi Land and Water Board:		Gwich'in Land and Water Board:	

To complete this form, please refer to the LWB [Guide to the Water Licensing Process](#) (Guide) and fill in the grey fields; attach additional pages, as necessary. Indicate N/A in the grey fields for Items or parts of Items that are not applicable. An application package checklist is provided in the Guide. Review the following LWB guidance for formatting your Application Package:

- [Document Submission Standards](#)
- [Standard Outline for Management Plans](#)



Received: January 26, 2024

File #: MV2024L8-0003

Copied to: TM / Registry

If applicable, provide the existing or current Water Licence number:			
Use an "X" to indicate if this Application is accompanied by another Application for a Water Licence in a non-federal area and/or a Land Use Permit.	Water Licence:		
	Land Use Permit:		

### 1. NAME AND CONTACT INFORMATION – APPLICANT

Project Name:	Rehabilitation of Highway 4 - Km 7.94 to Km 10.18		
Applicant's Name:	Muhammad Abu Bakar		
Position:	Senior Project Officer		
Company Name:	Government of the Northwest Territories, Department of Infrastructure		
Mailing Address:	PO Box 1320		
Community:	Yellowknife	Telephone:	867-767-9086 ext. 31118
Prov/Terr:	NT	Email:	Muhammad_abu_bakar@gov.nt.ca

Postal Code:	X1A 2L9	Other:	
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## 2. NAME AND CONTACT INFORMATION – APPLICANT’S HEAD OFFICE

Include a Certificate of Corporate Registration from the Government of the Northwest Territories in your Application Package.

Use an “X” to indicate this information is the same as Item 1 above:	<b>X</b>		
Name:			
Position:			
Company Name:			
Mailing Address:			
Community:		Telephone:	
Prov/Terr:		Email:	
Postal Code:		Other:	

## 3. LOCATION OF PROJECT

Use the grey fields below to provide or reference the following information:

Traditional Place Name:

Maps and Geographic Information System (GIS) Data: Include a map in your Application Package, identifying local geographic features, watercourses and water sources, project structures, and location(s) of any proposed waste deposits. Provide geographic coordinates (latitude and longitude) of project features, and the maximum and minimum project boundary in degrees, minutes, seconds, or decimal degrees. Include GIS data in your Application Package, if applicable. Refer to the LWB [Geospatial Data Submission Standards](#) for providing geographic information.

Minimum latitude:	62.516587°	Maximum latitude:	-114.313106°
Minimum longitude:	62.509835°	Maximum longitude:	-114.305800°

NTS Map Sheet No.: Provide the map sheet number:

GIS Data: Use an “X” to indicate if GIS data is attached. Attached:  Not Available:

Land Types: Use an “X” to indicate the type(s) of land on which the activities are proposed:

Free Hold/ Private:	<input type="checkbox"/>	Commissioner’s/ Territorial Lands:	<input checked="" type="checkbox"/>	Federal Land:	<input type="checkbox"/>	Municipal Land:	<input type="checkbox"/>
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## 4. DESCRIPTION OF PROJECT

Describe the proposed activities in the grey field provided below and contact Board staff to determine whether additional information will be required. For proposed amendments to authorized activities, specify: the nature of the amendment, the condition(s) to be amended, and the rationale for the amendment.

The Government of the Northwest Territories, Department of Infrastructure (GNWT-INF) will be placing approximately 2868.75 m3 of fill within the highwater mark between Km 7.94 to km 10.18 on NWT Highway 4 (Ingraham Trail). The fill will be sourced from the quarry at Km 11.3 on NWT Highway

4 and be placed in the highway right of way. This quarry material has been tested for ML/ARD and the results confirmed there are no environmental concerns with the material.

Attached to the application is a description of the location of the fill and amount. Erosion and sediment control measures will be implemented and maintained until all disturbed ground has been stabilized, disturbed sediment has settled and quality of runoff water from site is at acceptable levels; such measures will include but not limited to the installation of silt fences and silt curtains. These measures will be inspected regularly to make sure they are working well.

The contractor will be following DFO's Working Near Water Manual, as well as installing and maintaining erosion and sediment control measures during the project timeline to protect the water quality. The Departments Erosion and Sediment Control Manual will be followed to plan and maintain the control measures.

[https://www.inf.gov.nt.ca/sites/inf/files/resources/dot\\_erosion\\_and\\_sediment\\_control\\_manual\\_-\\_mar\\_31\\_16.pdf](https://www.inf.gov.nt.ca/sites/inf/files/resources/dot_erosion_and_sediment_control_manual_-_mar_31_16.pdf)

### 5. TYPE OF UNDERTAKING

Refer to Schedule II of the [Mackenzie Valley Federal Areas Waters Regulations](#). Use an "X" to indicate which one type of undertaking applies:

1	Industrial		
2	Mining and milling		
3	Municipal		
4	Power		
5	Agriculture		
6	Conservation		
7	Recreation		
8	Miscellaneous	X	(describe): Placement of more than 100m3 of fill into the highwater mark within the highway right of way.

### 6. WATER LICENSING CRITERIA

Refer to Schedules IV to VIII of the [Mackenzie Valley Federal Areas Waters Regulations](#). Use an "X" to indicate which criteria apply:

	Type B	Type A
To obtain water		
To cross a watercourse		
To modify the bed or bank of a watercourse		

Flood control			
To divert water			
To alter the flow of, or store, water			
To deposit waste			
Other	X		(describe): Rock fill will be going into water or wetland within the highway right of way in order to widen/reconstruct the embankment of the Highway.

### 7. PROPOSED QUANTITY OF WATER INVOLVED

Describe the purpose of each proposed water use, name, and type (e.g., lake, river) of the water source, the location, and the quantity of water that would be used in the grey fields below. Add more rows as needed.

Purpose of Water Use	Name and Type of Water Source	Location	Geographic Coordinates		Proposed Water Use Volume/Rate, including units
			Latitude	Longitude	
No water will be used					

For each water source identified in the table above, provide a comparison of total proposed water use to the available capacity. Add more rows as needed. For more information about determining winter water source capacity, refer to the LWB/GNWT [Method for Determining Winter Water Source Capacity for Small-Scale Projects](#).

Water Source	Capacity of Water Source, including units	Other Users of the Water Source	Comparison of Total Proposed Water Use to Available Capacity
N/A			

### 8. PROPOSED WASTE MANAGEMENT METHODS

Use the grey field below to provide or reference the following information:

**Waste Management Plan:** Include a Waste Management Plan in your Application Package, if applicable, or for small-scale activities, describe proposed waste management activities in the grey field provided below. A template for the Plan is available in the LWB [Guidelines for Developing a Waste Management Plan](#).

If waste is proposed to be disposed of off-site within the NWT, written confirmation (e.g., an email, letter, etc.) from the facility/facilities indicating they will accept the waste is required. Include it/these in your

Application Package. Please note this information will be required by the Board prior to commencement of activities.

**Municipalities:** Complete the relevant Operations and Maintenance Plans using the available [Templates](#) and include them in your Application Package. Refer to Sections 4-8 of Environment and Climate Change Canada's [Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document](#).

**EQC and AEMP:** For activities that involve the deposit of waste into water, provide proposed effluent quality criteria (EQC) in accordance with the LWB [Waste and Wastewater Management Policy](#) and [Standard Process for Setting EQC](https://mvlwb.com/sites/default/files/images/Guidelines/Guidelines%20for%20Effluent%20Mixing%20Zones%20-%20Final%20Draft%20-%20June%202017%20EDIT9.pdf)<https://mvlwb.com/sites/default/files/images/Guidelines/Guidelines for Effluent Mixing Zones - Final Draft - June 2017 EDIT9.pdf>. Refer to the LWB/GNWT [Guidelines for Effluent Mixing Zones](#) when mixing zones are being considered. Refer to the LWB/GNWT [Guidelines for Aquatic Effects Monitoring Programs](#) for more information regarding the development of AEMP programs.

Please see attached Waste Management Plan. Waste generated will be minimal and domestic, and will be disposed of as per the land use permit waste management plan (MV2017X0008) at the approved Yellowknife Solid Waste Facility.

### 9. EXISTING WATER USERS AFFECTED BY THIS PROJECT

Describe pre-Application engagement efforts with any existing water users and associated possible claims for water compensation or compensation agreements. Include the names and locations of existing water users (e.g., persons or organizations) in the grey fields below. An additional table should be added for each water user.

Name:	
Community:	
Province/Territory:	
Describe Engagement Completed:	Please see attached engagement plan. No water users were identified

### 10. POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROJECT AND PROPOSED MITIGATIONS

If the proposed project, or parts of the proposed project, may be exempt from preliminary screening, describe the rationale for the exemption in the grey field below. Include the date of the most recent screening, and/or the environmental assessment or impact review number.

Potential Environmental Impacts have been previously screened under land use permit MV2017X0008. Additional potential environmental impacts have been identified below and can be mitigated through the water licence and land use permit terms and conditions, as well as associated management plans.

Unless the project could be exempt from preliminary screening, using the Impact-Mitigation Table below, or the more detailed Table in Appendix F of the [Guide](#), identify all potential impacts and possible mitigations that are relevant to the proposed project, and indicate whether any of the mitigation measures have been developed as a result of input from affected parties. Applicants for type A water licences must use the detailed Table in the Guide; other applicants may choose either the Table below or the Table in the Guide. Possible potential impacts are listed below; however, these lists are not exhaustive and may not apply to all projects. All information provided should reflect the size, scale, and nature of the proposed project. Cumulative impacts and climate change must be considered. Attach additional pages if needed. Use landscape orientation if preferred.

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
<b>ABIOTIC COMPONENTS</b>		
<b>Land</b>		
Soil contamination	X	Soil contamination could occur if a piece of equipment leaks while working in the area. The spill contingency plan outlines the proposed mitigation measures and actions if a spill should occur.
Soil compaction		
Destabilization/erosion	X	Mitigation measure to avoid erosion and sediment control are outlined in the Departments Erosion and Sediment control (ESC) manual as well as the ESC plan.
Change in soil structure		
Inability to support vegetation		
Other		
<b>Water</b>		
<b>Groundwater</b>		
Water table alteration		
Infiltration changes		
Changes in water quality		
Temperature changes		
Other	X	No impacts to groundwater are anticipated
<b>Permafrost</b>		
Loss or change in extent		
Changes in seasonal fluctuations		
Change in persistence		
Other	X	No impacts to permafrost are anticipated
<b>Surface Water</b>		
Water flow or level changes (permanent, temporary, seasonal)		

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Drainage pattern changes		
Temperature changes		
Changes in water quality		
Wetland impairment		
Changes to aquatic habitat (see Biotic section below)		
Other	X	Impacts to surface water are not anticipated but could occur with the culvert installation and placing granular material below the high water mark. During these works erosion and sediment control measures will be in place and the departments' erosion and sediment control manual will be followed.
<b>Air</b>		
Changes in air quality		
Harm to living things		
Increased greenhouse gases		
Other	X	No impacts to the air are anticipated
<b>BIOTIC COMPONENTS</b>		
<b>Vegetation</b>		
Direct loss of vegetation		
Loss of Species at Risk or may-be-at-risk plants		
Change in species composition		
Introduction of non-native (invasive) species		
Effects on plant health (dust, metals, toxins)		
Increased risk of fire		
Compaction of vegetation		
Other	X	No impacts to vegetation are anticipated
<b>Terrestrial Wildlife Habitat</b>		
Direct loss or removal of habitat, dens, or nests		
Loss or removal of keystone species and/or Species at Risk habitat		
Fragmentation of wildlife corridor		
Direct injury or mortality		
Disturbances to key lifecycle stages: breeding, feeding, nesting, staging		
Effects on population abundance		
Change in species diversity		
Effects on wildlife health (toxins, metals, etc.)		
Changes to migratory movement patterns		
Changes to predator-prey relationships		
Human-wildlife conflicts		
Other	X	No impacts to wildlife or wildlife habitat are anticipated.

<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
		All works will take place in the pre-disturbed highway right of way.
<b>Aquatic Habitat</b>		
Breeding disturbances		
Change in species diversity		
Effects on health (toxins, metals, sediment, etc.)	X	There is potential for equipment to leak during the work. The spill contingency plan will be followed and includes mitigations. There is potential for sediment to enter the waterbodies, however erosion and sediment control measures will be in place and the departments erosion and sediment control manual will be followed.
Changes to migratory movement patterns		
Changes to predator-prey relationships		
Effects on population abundance		
Change in species diversity		
Other		
<b>CULTURAL COMPONENTS</b>		
<b>Wildlife Harvesting</b>		
Loss or reduction in game species populations		
Effects on traditional land use, subsistence, and harvesting rights		
Other	X	No impacts to wildlife harvesting are anticipated
<b>Cultural Integrity and Heritage Resources</b>		
Change to or loss of cultural integrity		
Change to or loss of traditional lifestyle		
Change to or loss of heritage resource		
Other	X	No impacts to cultural integrity and heritage resources are anticipated
<b>Social and Economic Well-being</b>		
Increased human health hazard and risk		
Economic opportunities or losses (employment, training)		
Change in ecological, cultural, social, or economic values identified for protection in approved Land Use Plans		
Impairment of the recreational or traditional uses of the land or water		
Impairment of the aesthetic quality of the land or water		
Changes to the use of the area by other non-Indigenous people (e.g., trappers, outfitters, residents, hunters, forest harvesters, other authorized projects)		



<b>Potential Impacts</b> <i>Use an "X" to indicate which apply</i>	<b>X</b>	<b>Potential Project Impacts and Proposed Mitigations</b> <i>Describe the potential impact(s) and the proposed measure(s) to reduce each of these impacts.</i>
Other	X	There are no anticipated impacts to social and economic well-being. The works are being completed to upgrade the safety of the road

**Spill Contingency Plan:** Include a Spill Contingency Plan in your Application Package, if applicable, or for small-scale activities, provide relevant details in the grey field provided below. An example of this Plan can be found in the INAC [Guidelines for Spill Contingency Planning](#).

**11. NAME AND CONTACT INFORMATION – CONTRACTORS AND SUB-CONTRACTORS**

Include relevant names, responsibilities, and contact information in the grey fields below. An additional table should be added for each contractor and sub-contractor.

Name:			
Responsibilities:			
Company Name:			
Mailing Address:			
Community:		Telephone:	
Prov/Terr:		Email:	
Postal Code:		Other:	

X	Use an "X" to indicate that contractor and/or subcontractor information is not available at this time.
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**12. STUDIES UNDERTAKEN TO DATE**

In the grey field below list any relevant studies that support the proposed activities and include them in your Application Package.

No studies have been undertaken.

### 13. PROPOSED PROJECT SCHEDULE AND TERM

Indicate the proposed project start and completion dates, and the time of year the project activities are planned to occur. Describe any anticipated temporary closure(s) or seasonal shutdowns. Indicate the term requested.

Start Date:	April 1, 2024	Completion Date:	October 15, 2027
Work is anticipated to start April 1, 2024 with an end date of October 15, 2027.			
Term of Licence Requested:	5 years		

### 14. ADDITIONAL SUPPORTING INFORMATION

Use the grey field below to provide or reference the following information:

**Engagement:** Conduct engagement, prepare an Engagement Record and Engagement Plan in accordance with the LWB [Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits](#), and include them in your Application Package. Templates are provided in the Guidelines. Please also refer to [Information for Proponents on MVLWB's Engagement Requirements](#).

**Eligibility:** Contact Indigenous, federal, and territorial governments, and other parties to ensure all appropriate authorizations have been obtained or are in the process of being obtained. Obtain permission from the landowner(s), if necessary (e.g., obtain and reference licences of occupation, leases, access authorizations, etc.) and attach it/them to the Application.

**Land Use Plans:** Contact the applicable Land Use Planning Board or the Tłı̨ch̨ Government for assistance in interpreting the requirements of the relevant Land Use Plan(s). Include a Land Use Plan Conformity Table, or if applicable, written confirmation of conformity from the Tłı̨ch̨ Government, in your Application Package, demonstrating how the project meets the requirements of the Land Use Plan, if applicable.

**Traditional Knowledge (TK):** Provision of TK is mandatory for Applications to the Sahtu Land and Water Board. Other applicants are strongly encouraged to include TK.

**Facilities:** Include the supporting information required under subsection 6(2) of the [Mackenzie Valley Federal Areas Waters Regulations](#) if the project includes the following: dam(s); storage reservoir(s); watercourse crossing(s); camp(s) or lodge(s); use of water for industrial use or mining and milling; deposit of waste; or handling or storage of petroleum products or hazardous materials.

**Closure and Reclamation:** Include a Closure and Reclamation Plan in the Application Package, or for small-scale activities, describe the proposed closure and reclamation activities in the grey field provided below. Describe any temporary closure(s) and seasonal shutdowns. Refer to the LWB/AANDC [Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories](#) and

Environment and Climate Change Canada’s [Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document](#).

**Closure Cost Estimate:** Prepare a Closure Cost Estimate and include it in your Application Package. Applicants are encouraged to contact Board staff, prior to applying, to determine which closure-cost-estimate template is most suited to the project activities being applied for. Guidance is provided in sections 1.3 and 2.1 of the LWB/GNWT/CIRNAC [Guidelines for Closure and Reclamation Cost Estimates for Mines](#). If your Application is submitted concurrently with a Land Use Permit Application, the estimate should include a breakdown of water- and land-related activities and liabilities.

**Financial Capacity:** Provide information relating to your financial capacity, as outlined in paragraph 72.03(5)(d) of the [Mackenzie Valley Resource Management Act](#). Please note this information will be required by the Board prior to issuance.

Please see attached engagement log. The closure of the project will be when the work is completed and there will be no reclamation as the work is done for the upgrade and safety of the highway. Any waste produced from the site will be removed as per the waste management plan.

## 15. FEES

Refer to the Guide for assistance with determining applicable fees.


Type of Fee	Amount (\$)
Application fee (if applicable):	\$30.00
Water use fee deposit:	\$
Total Fees:	\$

If fees are submitted separately, indicate how and when they will be delivered to the Board’s office.

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**16. SIGNATURE**

Muhammad Abu Bakar	Senior Project Officer
Applicant's Name (print) or Company Name	Position (print)

	January 22, 2024
Signature	Date

Review the application package checklist provided in the Guide, and submit completed applications to the Regulatory Manager or Executive Director identified on the "Contact Us" pages of the respective Land and Water Board ([www.mvlwb.com](http://www.mvlwb.com), [www.wlwb.ca](http://www.wlwb.ca), [www.slwb.com](http://www.slwb.com), [www.glwb.com](http://www.glwb.com)).

**Approximate volume and area occupied by rock going into wetland/water - km 7.94 to km 10.180**

Fill Locations (km)			Length (m)	Average depth of fill (m)	Average width of fill (cu-m)	Area of the fill (m <sup>2</sup> )	Volume of rock (cu-m)	Location of fill with respect to direction of travel
S. No.	Start	End						
1	8+310	8+430	120	1.50	5.00	600	900	Southbound lane
2	8+320	8+395	75	1.50	3.00	225	337.5	Northbound lane
3	8+600	8+675	75	1.50	4.00	300	450	Southbound lane
4	8+680	8+725	45	1.50	6.50	292.5	438.75	Northbound lane
5	9+120	9+185	65	1.50	3.00	195	292.5	Southbound lane
6	9+280	9+370	90	1.00	5.00	450	450	Northbound lane
Total						2062.5	2868.75	

Fill Locations	Latitude	Longitude
1	62.516587°	-114.313106°
2	62.516489°	-114.313714°
3	62.514786°	-114.309920°
4	62.514166°	-114.309603°
5	62.510383°	-114.305946°
6	62.509835°	-114.305800°

Installations of Culverts		
S.No. 1	Latitude	Longitude
Culvert 1	62.513345°	-114.308361°
Culvert 2	62.510099°	-114.305668°

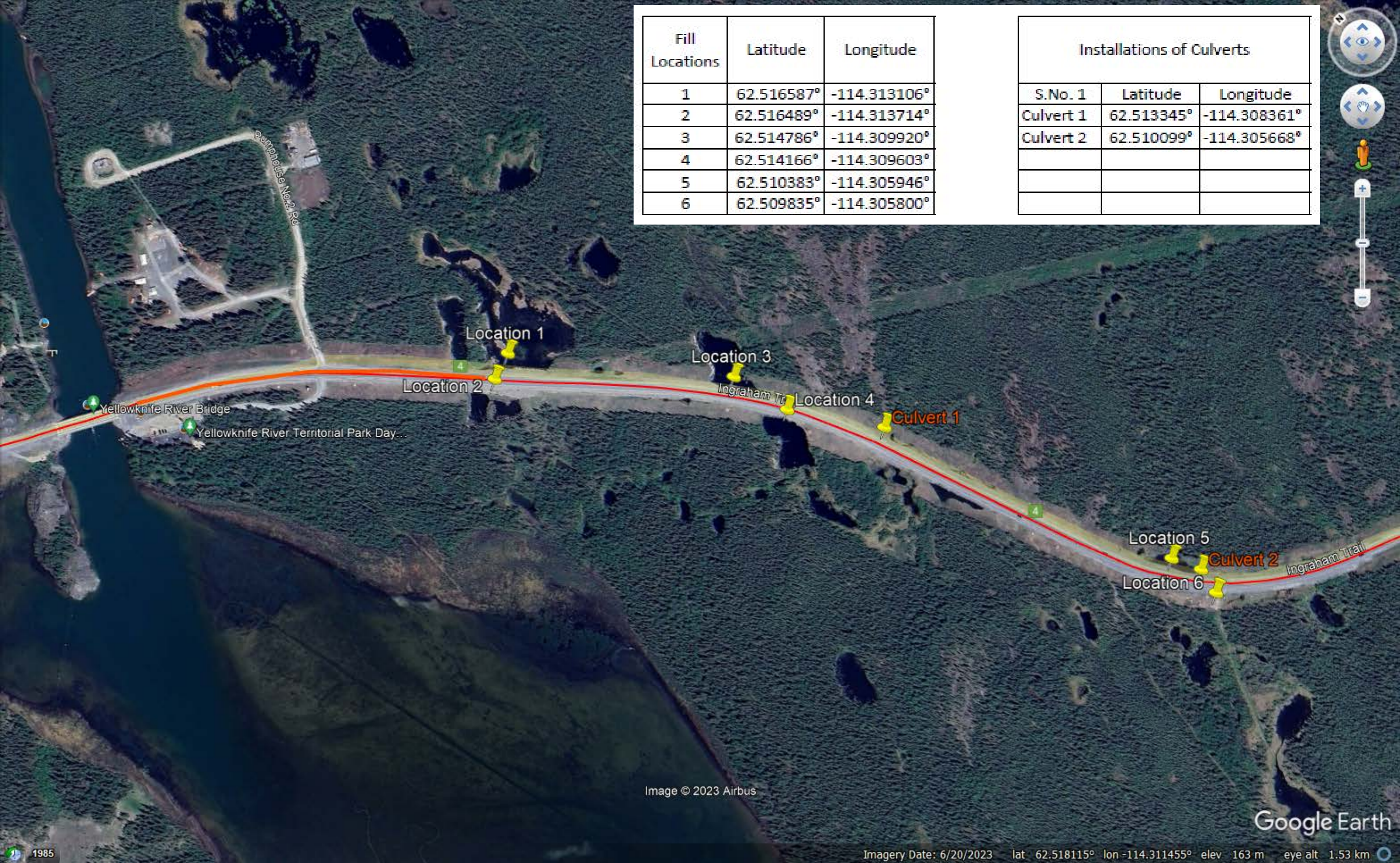


Image © 2023 Airbus

Google Earth

Imagery Date: 6/20/2023 lat 62.518115° lon -114.311455° elev 163 m eye alt 1.53 km

1985



085J10

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Yellowknife Yellowknife

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