

# 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:		Sahtu Land and Water Board:	
	Wek'èezhii Land and Water Board:		Gwich'in Land and Water Board:	X

To complete this form, please refer to the MVLWB [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 MVLWB guidance for formatting your Application Package:

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

If applicable, provide the existing or current Water Licence number:	G15L8-002		
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

Applicant's Name:	Patrick McLaughlin		
Position:	Marine Manager, North		
Company Name:	Government of the Northwest Territories Department of Infrastructure		
Mailing Address:	PO Box 2038		
Community:	Inuvik	Telephone:	867-777-7163

Prov/Terr:	NT	Email:	Patrick_McLaughlin@gov.nt.ca
Postal Code:	XOE 0T0	Other:	

## 2. NAME AND CONTACT INFORMATION – APPLICANT’S HEAD OFFICE

Include a Certificate of Corporate Registration from the Government of the Northwest Territories to 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: Tsiigehtchic, Mackenzie River, Arctic Red River

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 MVLWB [Geospatial Data Submission Standards](#) for providing geographic information.

Minimum latitude:	67°26'41.11"N	Maximum latitude:	133°45'29.77"W
Minimum longitude:	67°27'28.18"N	Maximum longitude:	133°45'32.89"W

NTS Map Sheet No.: Provide the map sheet number: 106N05

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

Free Hold/ Private:		Commissioner’s/ Territorial Lands:	<b>X</b>	Federal Land:		Municipal Land:	
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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 water licence is a renewal of water licence G15L8-002. This licence will allow for the hauling and depositing of shale and/or pit run gravel on the ferry landing areas. The type of material to be used is

locally sourced pit run from Frog Creek Quarry near Km 126 on NWT Highway #8. The size of the material is 60mm, with 5% oversized and 35% passing through a No. 5 screen.

The fill is placed on the ferry landings using a loader and end-dump, 25-30 metres below embankment high point and leveled with a bulldozer front end loader. A maximum of 500m<sup>3</sup> per landing/per year of aggregate will be used.

The process of building landings and removing materials from landings is a continuous process based on the River water fluctuations. Depending on the spring water level, if high water is present the existing granular material is pushed or placed on top of the existing landing to be packed down.

If there is low water level, the certified material is pushed and placed from the existing edge into the River, building the landing out and up to meet the required height so the Ferry landing ramps when lowered are level and secured.

Granular materials that are utilized are reused, as granular materials placed throughout the season are recovered in the fall and during periods of low water. Over the years there have been numerous granular material additions that have been constantly mixed in with the working stock piled materials. In effort not to only introduce new material every season INF mixes the new fresh material with the stockpiled used materials and blend them. When it gets to the point of the materials not meeting the Clean Gravel Criteria INF stops using it for landing mix and uses it for the approaches to fill and road building. INF has also have gifted large amounts to the Hamlets for landfill capping and road covering.

No dredging has occurred as the definition of dredging is to clean out the bed of a harbour, river, or other area of water by scooping out mud, weeds, and rubbish with a dredge. The Department of Infrastructures process of depositing and recovering materials on all 5 Landings is done with an Excavator, Loader and Bulldozer and does not go to the bed of the River. The material is all certified and sourced from Frog Creek. The material removed and re-used meets the Clean Gravel Criteria, and when it no longer meets the criteria we stop using it on the landings.

Since the process of building landings and removing materials from landings is a continuous process based on the River water fluctuations, it is almost impossible for the Department to anticipate a maximum allowable removal volume. In addition to being unable to estimate, the Department does not always remove more material than is placed in a season, for example the 2020 season on the Peel River there was more material placed than removed.

## 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	<b>X</b>	(describe): Deposit of waste of maintenance of existing ferry landings

### 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	<b>X</b>		
Flood control			
To divert water			
To alter the flow of, or store, water			
To deposit waste	<b>X</b>		
Other			(describe):

### 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	
N/A					Water quantity affected cannot be estimated or calculated

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.

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

**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 MVLWB [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. Please 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 MVLWB [Water and Effluent Quality Management Policy](#) and MVLWB/GNWT [Guidelines for Effluent Mixing Zones](#). Please refer to the MVLWB/GNWT [Guidelines for Effluent Mixing Zones](#) when mixing zones are being considered. Please refer to the MVLWB/GNWT [Guidelines for Aquatic Effects Monitoring Programs](#) for more information regarding the development of AEMP programs.

The Department of Infrastructure will use locally sourced pit run from Frog Creek Quarry near Km 126 on NWT Highway #8. The size of the material is 60mm, with 5% oversized and 35% passing through a No. 5 screen. Up to 500m3 of material per landing/per year will be used to construct and maintain the ferry landings. The attached annual gravel deposit table gives an accurate accounting of the average gravel balance. Some of the material placed is washed into the river by natural river hydrology and scoured by ice movement during spring break up. In general terms, the total gravel loss is less than 500m3 in the Mackenzie River each ferry season, though in years of high water additional granular materials may be required. There is a program in place to minimize use of new granular material and to use suitable equipment to adjust landings accordingly in order to help control any sedimentary issues. The program consists of reusing the granular materials that are currently utilized. This is achieved by staged gravel recovery in the fall and during periods of low waters to retrieve as much aggregate as possible.

Please see attached waste management plan for further details on methods for all types of waste generated under the licence.

**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:	Throughout the years of operating the ferry landings, the department has heard concerns from some community members about the deposition of granular material to the ferry landings and the effects this may have on their traditional fisheries. Additionally, there are some cabin owners on the south side who fish at the landing site who are affected by the operations. Please see attached table with comments and concerns from ongoing dialog throughout the previous water licence term. A community meeting was held December 14, 2021 and the minutes have been attached. In addition to the community meeting, written engagement has occurred. Please see the attached engagement record for more details and list of parties identified for engagement.
Community:	
Province/Territory:	
Describe Engagement Completed:	

**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.

The water licence for the Ferry Landings will not require preliminary screening as it has previously been licenced and screened, with the most current licence issued G15L8-002.

The department has heard concerns from the community about potential impacts to the land and water. As a result, INF has undertaken studies to address the concerns and is confident in the results of the studies. The studies which are reference below and summarized in section 12 of the application have also been provided to the GLWB throughout the licencing of the ferry landings.

During the term of the current water licence, G15L8-002, LAMP 2.1 was approved and completed by Wilfrid Laurier University. This study utilized both Traditional Knowledge and Western Scientific Work, and there were two main components to the monitoring plan that included water monitoring

program measuring total suspended solids in the water, and fish harvest data and traditional knowledge collection. Based on the scientific work, they were not able to detect alterations in turbidity, total suspended solids, or bed load sediments downstream as a result of the granular material placed for the landings. The collection of Traditional Knowledge showed that knowledge holders in both communities expressed concerns that gravel from the ferry landings was contributing to changes on the rivers, but they also acknowledged large climate-driven sediment inputs upstream. The overall results suggest that downstream movement of materials from the ferry landings is having little impact on the Peel and Mackenzie rivers. However, the study also found that ferry operations have had some impact on Gwich'in traditional use areas on the Mackenzie, have generated concerns about pollution, and have impacted some community members' sense of well-being. The study has been provided to the Communities and can also be found included in the renewal application.

The Department has undertaken mitigations as a result of ongoing concerns from the community which further reduce the impacts of the ferry on the river. It is important to note that department is responsible for impacts created as a result of operations pertaining to the operations and maintenance on the ferry landings and cannot be held responsible for any other impacts. The mitigations measures the department has introduced include:

- 1) Recovering deposited material during low water events;
- 2) Storing supplies and equipment at least 30 meters about the normal high water mark;
- 3) Utilizing granular material that are already in place;
- 4) Staged gravel recovery in the fall and during periods of low waters to retrieve as much aggregate as possible;
- 5) Washing ferry decks when moored only;
- 6) Washing off vehicles in designated areas away from the river; and
- 7) Spill kits on or near the heavy equipment being used for Ferry Maintenance

IMPACT	MITIGATION
Fish Population/Health Changes	<ul style="list-style-type: none"> <li>• Recovering deposited material during low water events.</li> <li>• Storing supplies and equipment at least 30 meters about the normal high water mark.</li> <li>• Completing studies using Traditional Knowledge to look at local the local fishery including fish population and health.</li> </ul>
Toxins/heavy metals	<ul style="list-style-type: none"> <li>• Washing ferry decks when moored only.</li> <li>• Washing off vehicles in designated areas away from the river.</li> <li>• Spill kits on or near the heavy equipment being used for Ferry Maintenance.</li> <li>• A spill contingency plan</li> </ul>

Resource Depletion	<ul style="list-style-type: none"> <li>Utilizing granular materials that are already in place.</li> <li>Staged gravel recovery in the fall and during periods of low waters to retrieve as much aggregate as possible.</li> </ul>
<p>Supporting information already obtained by the GLWB:</p> <ul style="list-style-type: none"> <li>Geo North Aquatic Effects Study for the Ferry Crossing near Tsiigehtchic and Fort McPherson, NT, 2002-2003;</li> <li>Structural Alternatives Study; DOT's Water Licence; Peel River (G99L8-001) and Mackenzie River (G99L8-002) 2003;</li> <li>Local Area Monitoring Program (LAMP) report, 2010-2015; and</li> <li>Local Area Monitoring Program 2.0, 2021</li> </ul>	

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.

Potential Impacts <i>Use an "X" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <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	N/A as the ferry landing operations have already been preliminary screened
Soil compaction		
Destabilization/erosion		
Change in soil structure		
Inability to support vegetation		
Other		
<b>Water</b>		
<b>Groundwater</b>		



<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>
Water table alteration		
Infiltration changes		
Changes in water quality		
Temperature changes		
Other		
<b>Permafrost</b>		
Loss or change in extent		
Changes in seasonal fluctuations		
Change in persistence		
Other		
<b>Surface Water</b>		
Water flow or level changes (permanent, temporary, seasonal)		
Drainage pattern changes		
Temperature changes		
Changes in water quality		
Wetland impairment		
Changes to aquatic habitat (see Biotic section below)		
Other		
<b>Air</b>		
Changes in air quality		
Harm to living things		
Increased greenhouse gases		
Other		
<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		
<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		

<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>
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		
<b>Aquatic Habitat</b>		
Breeding disturbances		
Change in species diversity		
Effects on health (toxins, metals, sediment, etc.)		
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		
<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		
<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		

<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>
Changes to the use of the area by other non-Indigenous people (e.g., trappers, outfitters, residents, hunters, forest harvesters, other authorized projects)		
Other		

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](#).

Please see attached Spill Contingency Plan

### 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:	Contractor information will be provided once contract is awarded March 25, 2022		
Responsibilities:			
Company Name:			
Mailing Address:			
Community:		Telephone:	
Prov/Terr:		Email:	
Postal Code:		Other:	

Use an "X" to indicate that contractor and/or subcontractor information is not available at this time.

### 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.

Since the Department has required a Water Licence for the Ferry Landings a number of studies have been completed and provided with the previous applications.

An aquatic effects study completed in 2002-2003 by GeoNorth-AMEC-Ross titled Geo North Aquatic Effects Study for the Ferry Crossings near Tsiigehtchic and Fort McPherson, NT, demonstrates low environmental impacts to the Peel River associated with this water use. The Study provides information and background with regards to traditional use, cabins, and traditional fishing focusing

on the areas mainly surrounding the ferry landings. The general findings of the report are that the ferry landing operations are not having a significant impact on fish populations and siltation impacts are comparable to natural processes. The report, which was also submitted with the previous renewal application, is available on request.

Structural Alternatives Study; DOT's Water Licence; Peel River (G99L8-001) and Mackenzie River (G99L8-002) 2003. The purpose of this study was to investigate alternatives to the current ferry landing construction practices at the ferry crossings near Tsiigehtchic and Fort McPherson. The intent was to identify suitable alternatives that may eliminate the need to continuously build up the ferry landing with gravel. The study found that as a result of unique geological and hydrological features in the area including permafrost, extreme debris and ice flows, cold temperatures, and rapidly fluctuating water levels the feasibility of other construction options are limited.

In 2010 DOT was asked to carry out a 5 year monitoring program to further try and identify effects on the River and the community fisheries created by the ferry landings. The program, called the Local Area Monitoring Program (LAMP), involved taking depth readings from a boat twice a year once in the summer and once in the fall, and also involves gathering traditional fishing information from community members in the form of a survey; twice annually as well. All data is gathered with, and would not be possible without, assistance from the community members and the local Renewable Resource Council (RRC). The data gathered has shown the continued existence of a strong, healthy and resilient fishery capable of adapting to naturally occurring changes to the River, such as low and high water events. There was no evidence that was gathered during the 5 years of the LAMP which indicates the ferry landings are having negative effects as described above. The LAMP reports can be found on the Public Registry under G99L8-002 and is available on request.

During the term of the current water licence, G15L8-002, LAMP 2.1 was approved and completed by Wilfrid Laurier University. This study utilized both Traditional Knowledge and Western Scientific Work, and there were two main components to the monitoring plan that included water monitoring program measuring total suspended solids in the water, and fish harvest data and traditional knowledge collection. Based on the scientific work, they were not able to detect alterations in turbidity, total suspended solids, or bed load sediments downstream as a result of the granular material placed for the landings. The collection of Traditional Knowledge showed that knowledge holders in both communities expressed concerns that gravel from the ferry landings was contributing to changes on the rivers, but they also acknowledged large climate-driven sediment inputs upstream. The overall results suggest that downstream movement of materials from the ferry landings is having little impact on the Peel and Mackenzie rivers. However, the study also found that ferry operations have had some impact on Gwich'in traditional use areas on the Mackenzie, have generated concerns about pollution, and have impacted some community members' sense of well-being. The study has been provided to the Communities and can also be found included in the renewal application.

**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:	March 31, 2022	Completion Date:	March 31, 2032
<p>The department is looking to be issued a 10 year licence as there are no anticipated changes to the ferry landing operations and operations have had little change over the last 10 years. The department will always be open to suggestions that could improve operations and communications, and amendments to the licence are always a possible option.</p> <p>Seasonal shut downs occur during the winter months, and usually start late October with operations resuming in late May</p>			
Term of Licence Requested:	10 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 MVLWB [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 Tłjchq Government to discuss conformity with the relevant Land Use Plan(s). Include a Land Use Plan Conformity Table in your Application Package, demonstrating how the project meets the requirements of the Land Use Plan, if applicable.

Traditional (Environmental) Knowledge (TEK/TK): Provision of TEK/TK is mandatory for Applications to the Sahtu Land and Water Board. Other applicants are strongly encouraged to include TEK/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. Please also refer to the MVLWB/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](#).

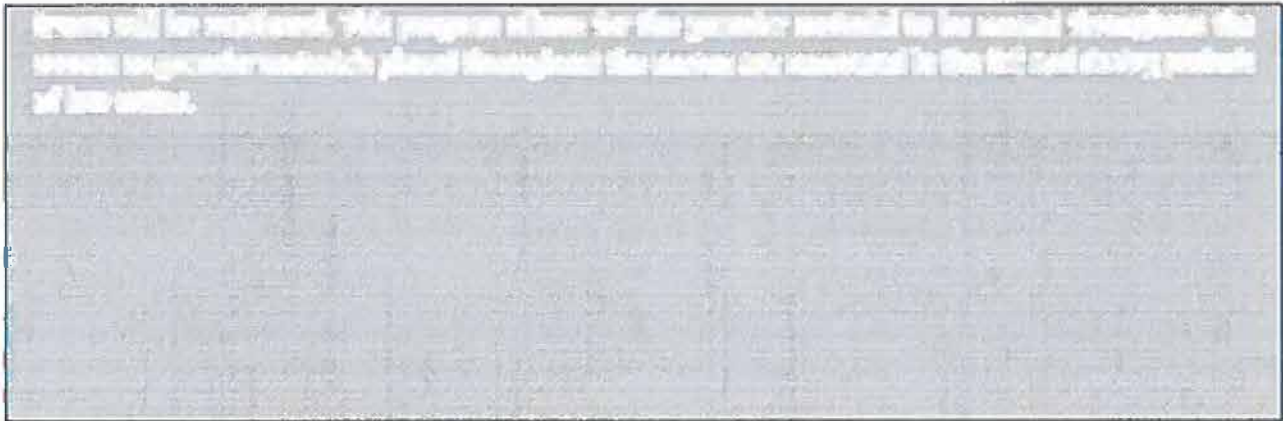
Closure Cost Estimate: Prepare a Closure Cost Estimate and include it in your Application Package. Applicants are encouraged to contact Board staff, prior to applying, to determine which closure-cost-estimate template is most suited to the project activities being applied for. Guidance is provided in section 2.2 of the MVLWB/AANDC/GNWT [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 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 record for engagement completed to date.

The ferry landing operations are included in the Gwich'in land use plan, and it is our understanding we are in conformity with the land use plan as the Department has coordinated and conducted studies to address community concerns about the long term effects on fish and water resources.

There is no closure plan for the ferry landings as they will always be required to operate the ferry and connect the highway system. The ongoing program in place to minimize use of new granular material and to use suitable equipment to adjust landings accordingly in order to help control any sedimentary issues will be continued. This program allows for the granular material to be reused throughout the season as granular materials placed throughout the season are recovered in the fall and during periods of low water.

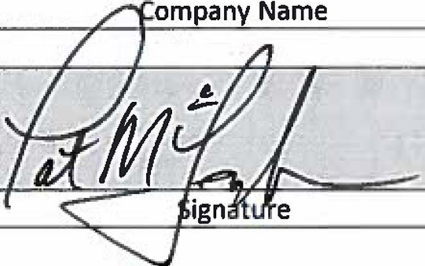


**15. FEES**

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:	\$

**16. SIGNATURE**

Patrick McLaughlin Government of the Northwest Territories Department of Infrastructure	Marine manager - North
Applicant's Name (print) or Company Name	Position (print)
	15/03/22
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)).

<b>2016 Mackenzie River Pit Run - Combined Inuvik Landing, Tsiigehtchic Landing, and Ft. MacPherson Landing</b>											
Inuvik Landing				Tsiigehtchic Landing				McPherson Landing			
All Material From Frog Creek (m <sup>3</sup> )				All Material From Frog Creek (m <sup>3</sup> )				All Material From Frog Creek (m <sup>3</sup> )			
Date	Place ment (m <sup>3</sup> )	Date	Withdr awal (m <sup>3</sup> )	Date	Place ment (m <sup>3</sup> )	Date	Withdr awal (m <sup>3</sup> )	Date	Place ment (m <sup>3</sup> )	Date	Withdr awal (m <sup>3</sup> )
5/31/2016	0		400	6/1/2016	0		300		0		1000
Total	0	Total	400	Total	0	Total	300	Total	0	Total	1000
		<b>Balan ce:</b>	<b>-400</b>			<b>Balan ce:</b>	<b>-300</b>			<b>Balan ce:</b>	<b>-1000</b>
Total Gravel Balance (m <sup>3</sup> ) for G15L8-002 Type B Water Licence for the Operation and Maintenance of the Mackenzie River and Arctic Red River Ferry Landings:											<b>-1700</b>

<b>2018 Mackenzie River Pit Run - Combined Inuvik Landing, Tsiigehtchic Landing, and Ft. MacPherson Landing</b>											
Inuvik Landing				Tsiigehtchic Landing				McPherson Landing			
All Material From Frog Creek (m <sup>3</sup> )				All Material From Frog Creek (m <sup>3</sup> )				All Material From Frog Creek (m <sup>3</sup> )			
Date	Placem ent (m <sup>3</sup> )	Date	Withdra wal (m <sup>3</sup> )	Date	Placem ent (m <sup>3</sup> )	Date	Withdra wal (m <sup>3</sup> )	Date	Placem ent (m <sup>3</sup> )	Date	Withdra wal (m <sup>3</sup> )
August 2018	120		500	June 2018	70		500	June 2018	100		500
Total	120	Total	500	Total	70	Total	500	Total	100	Total	500
		<b>Balan ce:</b>	<b>-380</b>			<b>Balan ce:</b>	<b>-430</b>			<b>Balan ce:</b>	<b>-400</b>
Total Gravel Balance (m <sup>3</sup> ) for G15L8-002 Type B Water Licence for the Operation and Maintenance of the Mackenzie River and Arctic Red River Ferry Landings:											<b>-1210</b>

#### 2020 Material

East Landing (McPherson side)					West Landing (Inuvik side)				
All material from frog creek (m <sup>3</sup> )									
Date	Placement	Date	Withdrawal	Type	Date	Placement	Date	Withdrawal	Type
Jun 1	200m <sup>3</sup>	Aug 20	200m <sup>3</sup>	Pit run	Jun 1	400m <sup>3</sup>	Aug 20	400m <sup>3</sup>	Pit run
Jun 20	200m <sup>3</sup>	Oct 20	100m <sup>3</sup>	6">Rock	Jun 20	200m <sup>3</sup>	Oct 20	200m <sup>3</sup>	6">Rock
Jul 20	300m <sup>3</sup>	Oct 20	300m <sup>3</sup>	Shale	Jun 20	300m <sup>3</sup>	Oct 20	600m <sup>3</sup>	Shale
Jul	300m <sup>3</sup>	Oct 20	200m <sup>3</sup>	Combo			Oct 20	800m <sup>3</sup>	Combo



20									
Total	1000m3	Total	800m3		Total	900m3	Total	2000m3	
		Balance	200m3				Balance	-1100m3	
East Landing (Tsiigehtchic side)									
All material from frog creek (m3)									
Date	Placement	Date	Withdrawal	Type					
Jun 1	500m3	Aug 20	100m3	Pit run					
Jun 20	400m3	Oct 20		6"> Rock					
Jul 20	600m3	Oct 20	100m3	Shale					
Jun 20	400m3	Oct 20	400m3	Combo					
		Oct 20	500m3	Mud/Silt					
Total	1900m3	Total	1100m3						
		Balance	800m3						

**2019 Mackenzie River Ferry Landing - Granular Materials Placed and Withdrew**

<b><u>Tsiigehtchic Landing</u></b>					
<b>Date</b>	<b>Placement</b>		<b>Date</b>	<b>Withdrawal</b>	
Jun-18	100		Oct-19	200	
07-Sep	60		Oct-19	200	
<b>Total</b>	160			400	<b>Balance</b> -240

<b><u>Inuvik Landing</u></b>					
<b>Date</b>	<b>Placement</b>		<b>Date</b>	<b>Withdrawal</b>	
Aug-18	72		Oct-18	400	
05-Jun	60		Oct-18		
<b>Total</b>	132			400	<b>Balance</b> -368

<b><u>McPherson Landing</u></b>					
<b>Date</b>	<b>Placement</b>		<b>Date</b>	<b>Withdrawal</b>	
*Sep-19	100		Sep-19	300	
			10-Oct	100	
<b>Total</b>	100			400	<b>Balance</b> -400

\*All materials are from Frog Creek (m3).