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Section 1

Introductory Letter



BEHDZI' AHDA FIRST NATION
P.O. Box 53, Colville Lake, N.T. X0E 1L0
Ph: (867)709-2200 FAX: (867)709-2202

October 16, 2023

Sahtu Valley Land and Water Board
Sahtu Land and Water Board
P.O. Box 1
Fort Good Hope NT X0E 0H0

Attention: Bonnie Bergsma, Regulatory Coordinator-Specialist

Dear Bonnie:

Re: Behdzi Ahda First Nation Municipal Water Licence Application

Please find enclosed an application and supporting documentation for a new Municipal Water Licence for Colville Lake, Sahtu Region, Northwest Territories. As the application notes, the Behdzi Ahda First Nation's (BAFN) approach to water treatment (of withdrawn Colville Lake water) is currently in-truck chlorination (with circulating pump) followed by home delivery while awaiting replacement of their water treatment system. BAFN understands the need to provide additional details when known.

As a municipality, Colville Lake is exempt from Water Licence Application Fees. Please direct any questions or concerns regarding this application to the attention of the undersigned at 867-709-2200 or josephkochon@behdziahda.ca or to Margot Ferguson at 403-921-6001 or margot.ferguson@envirosearch.ca.

Sincerely,
Behdzi Ahda First Nation

Joseph Kochon
Senior Administrative Officer

Cc: Jenna Grandjambe – SLWB
Fatima Youssef – SLWB
Margot Ferguson – EnviroSearch Ltd.

Enclosures

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Section 2

Municipal Water Licence Application

Land and Water Boards of the Mackenzie Valley



APPLICATION FOR LICENCE, AMENDMENT OF LICENCE, OR RENEWAL OF LICENCE IN NON-FEDERAL AREAS

Subsection 5(1) and Schedule C of the [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:	X
	Wek'èezhìi Land and Water Board:		Gwich'in Land and Water Board:	

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:			
Use an "X" to indicate if this Application is accompanied by another Application for a Water Licence in a federal area and/or a Land Use Permit.	Water Licence:		
	Land Use Permit:		

1. NAME AND CONTACT INFORMATION – APPLICANT

Applicant's Name:	Joseph Kochon, Behdzi Ahda ¹ First Nation		
Position:	Senior Administrative Officer		
Company Name:	Colville Lake (Designated Authority)		
Mailing Address:	Box 53		
Community:	Colville Lake	Telephone:	(867) 709-2200
Prov/Terr:	NT	Email:	josephkochon@behdziahda.ca
Postal Code:	X0E 1L0	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:		X	
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:

K'áhbanjítúé

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:	67.0157623	Maximum latitude:	67.0345024
Minimum longitude:	-126.032575	Maximum longitude:	-126.145373

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

096M, 096N, 096K, 096L

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:	X	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.

Components to be licenced are: 1) current water treatment approach, 2) Solid Waste Disposal Facility (SWDF), 3) Sewage Disposal Facilities (SDF or Sewage Lagoon), and 4) Spill Contingency Plan (SCP).

- The existing water treatment plant is damaged; the current approach uses in-situ truck treatment for community use. Water is withdrawn from Colville Lake into the water treatment truck where 12% sodium hypochlorite is added, mixed via truck recirculation pump and delivered to community home tanks. Replacement of the existing water treatment plant (damaged) is planned within two years and the water licence will be updated at that time as part of the construction/commissioning process. Four truckloads (18,676 litres

per truck) of treated water are delivered to community homes daily.

- Community household solid waste is segregated from reusable, recyclable, or material identified for shipment out of the community. The SWDF has sorted areas for vehicles/trucks/skidoos, metal, wood, tires, and appliances. Daily household waste is collected and disposed at the adjacent community landfill although the SWDF is fully available for community use. The small community (169 people) has instituted training for all on proper sorting and segregation/handling. Petroleum products are drummed and stored with secondary containment at the community garage for reuse or shipping for proper disposal. BAFN is part of, and has contributed financially to, the regional plan for collection and proper off-site disposal of non-landfillable material. Four Surveillance Network Program wells are present at the SWDF.

- Sewage is currently disposed in the engineered Sewage Lagoon, constructed in 2013, located approximately 4.7 kilometres southeast from Colville Lake and east of the solid waste landfill. An all-season road has been constructed to the sewage lagoon site. In November-January 2012/2013 the Band Council completed upgrades to the community sewage infrastructure. Sewage pipes were installed in homes and other community buildings. The wastewater is collected in holding tanks inside or underneath the buildings and pumped out by a sewage truck on a weekly basis with smaller (0-1800L) holding tanks collected 3-4 times per week while larger (>1800L) collected 5-7 times per week. Excepting snow melt conditions, and due to low population, only a portion of the lagoon base is typically covered by sewage. Use of evening honeybags is preferred by a small group of community members with outhouses. Honeybags are disposed at a designated honeybag trench west of the landfill at the Solid Waste Disposal Facility.

The Spill Contingency Plan template has been completed and contains materials identification and management for non-hazardous and hazardous items, and other requested items such as spill kits, and training. Safety Data Sheets are included for materials used at the community.

5. TYPE OF UNDERTAKING

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

1	Industrial	
2	Mining and milling	
3	Municipal	X
4	Power	
5	Agriculture	
6	Conservation	
7	Recreation	
8	Miscellaneous	(describe):

6. WATER LICENSING CRITERIA

Refer to Schedules D to H of the [Waters Regulations](#). Use an "X" to indicate which criteria apply:

	Type B	Type A
To obtain water	X	
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	X	
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	
Municipal water supply	Colville Lake (freshwater, inland)	Anderson watershed	67.0474	-126.0983	37,500 m ³ /year

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
Colville Lake	439 km ²	None	Average depth is unknown. Colville Lake is a large lake and, based on area, has more than ample 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.

Colville Lake is a small, remote community. The Municipal Water Licence Questionnaire (version 2016) and Operations and Maintenance Templates are attached to this application for the Water Treatment Plant, Solid Waste Disposal Facility, Sewage Disposal Facilities, and Spill Contingency Plan. Figures 1 through 5 are also attached that show the Overall Site Plan, and plan views of the Water Treatment Plant area, Solid Waste Disposal Facility, Sewage Lagoon, and Spill Contingency Plan Community Detail.

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:	None
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 existing Water Treatment Plant (WTP) is damaged and will be replaced with an updated system within the next several years; the Water Licence will be amended. Currently, water is withdrawn from Colville Lake via the existing pump house to a water delivery truck. Disinfection takes place by adding 12% sodium hypochlorite to each water truckload and mixed by the truck circulating pump. This approach will be replaced by the new plant when commissioned. The pump house (with raw water intake pump 500 L/min maximum flow rate) and large diameter piping will be maintained and used both now and in the new WTP. The existing buildings and contents will be removed with viable equipment maintained for reuse, depending on condition and functionality. Buildings are expected to be replaced. SLWB and/or their appointed representatives, will be consulted during the design and construction process for the new Water Treatment Plant.

Day-to-day community operation uses the existing Sewage Lagoon and adjacent wetland (Sewage Disposal Facilities template), and the existing waste sorting area, landfill, honeybag trench, and hazardous material storage for haul off (proper disposal) (Solid Waste Disposal Facility). Actions detailed in the Spill Contingency Plan Operation and Maintenance Template are also part of community operations.

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>
ABIOTIC COMPONENTS		
Land		
Soil contamination	X	<p>There is the potential, during demolition of the existing WTP for soil contamination via contact with 12% sodium hypochlorite (NaOCl) on the floor of both the treatment area and the supply room. The demolition contractor will be required to provide a procedure/plan for personnel and equipment movement and removal that does not track NaOCl into adjacent ground and vegetation. The dirt road surface will be inspected and contaminated material properly managed and replaced if needed.</p> <p>The new WTP will contain an appropriate storage area with secondary containment for NaOCl. Spills in storage locations or transfer will be managed according to the revised SCP.</p> <p>Removal of petroleum products (gas and oil) for junked cars, trucks and skidoos will take place either in the community garage or with protective drain pans with appropriate handling and drum-based disposal in the garage. Reused petroleum products will also be removed with this approach, placed in plastic containers for reuse. Drips or spills will be managed according to the SCP.</p>
Soil compaction	X	<p>New, larger treated water tank for the replaced WTP will most likely require a concrete support pad requiring compaction as part of construction; the footprint will be kept to load and access-required dimensions. Construction of new plant will seek to stage in existing cleared or compacted areas. Replacement WTP footprint to be in the same location as existing plant.</p> <p>Soil compaction is anticipated in the repair of the SDF berm.</p>
Destabilization/erosion	X	Sewage Disposal Facility (SDF) lagoon berm and exterior side walls and interior slopes are damaged due to erosion will be

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>
		repaired.
Change in soil structure		
Inability to support vegetation	X	Restoration of vegetated areas post WTP construction will be included in the construction scope of work.
Other		
Water		
Groundwater		
Water table alteration	X	It is not anticipated the water removed from Colville Lake will have an effect on the water table. The amount of water removed is estimated at a maximum of 37,500 m ³ /year (rounded) from a lake with an area of 439 km ² .
Infiltration changes		
Changes in water quality		
Temperature changes		
Other		
Permafrost		
Loss or change in extent	X	A larger treated water tank is being considered for the updated plant design and may affect the extent of existing permafrost. Efforts will be made to size footprint to design-only related requirements.
Changes in seasonal fluctuations		
Change in persistence		
Other		
Surface Water		
Water flow or level changes (permanent, temporary, seasonal)		
Drainage pattern changes		
Temperature changes		
Changes in water quality		
Wetland impairment	X	With a low population, evaporation, and with a very low permeability barrier (geosynthetic clay liner), the amount of sewage discharged to the lagoon is far lower than design maximum. It is not expected to impair the wetland that is part of the treatment facility. Surveillance Network Program well locations are proposed in the SDF Template.
Changes to aquatic habitat (see Biotic section below)		
Other		
Air		
Changes in air quality		
Harm to living things		
Increased greenhouse gases		
Other		
BIOTIC COMPONENTS		

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>
Vegetation		
Direct loss of vegetation	X	See Land section, above.
Loss of Species at Risk or may-be-at-risk plants	X	Based on Environmental Protection Plan and Species at Risk (SAR) evaluation on a recent project adjacent to Colville Lake, no impact to SAR is anticipated with this scope of work.
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		
Terrestrial Wildlife Habitat		
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		
Aquatic Habitat		
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		
CULTURAL COMPONENTS		
Wildlife Harvesting		
Loss or reduction in game species populations		
Effects on traditional land use, subsistence, and		

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>
harvesting rights		
Other		
Cultural Integrity and Heritage Resources		
Change to or loss of cultural integrity		
Change to or loss of traditional lifestyle		
Change to or loss of heritage resource		
Other		
Social and Economic Well-being		
Increased human health hazard and risk		
Economic opportunities or losses (employment, training)	X	Economic opportunities are associated with training an employment of a team of water treatment operators and potentially with the sale of treated water to companies working in the area.
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)		
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](#).

The completed Spill Contingency Plan template is attached to the application.

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:	Contractors for Sewage Lagoon Repairs and for WTP design and construction
Responsibilities:	have yet to be determined

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.
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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.

<p>The current process to disinfect water is in this application. Water Treatment Plant will be replaced in the future and the water licence amended. The Sewage Lagoon and Solid Waste Disposal Facility are constructed and have been operational for some time.</p> <p>Studies may be necessary associated with the design and replacement of the water treatment plant. The SLWB, and other agencies they deem appropriate, will be consulted as part of design and construction process.</p>

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:	To be determined	Completion Date:	To be determined
<p>The exact dates are dependent on the SLWB-determined process for this privately funded design and construction. Design and construction phases of the project are anticipated to be, at a minimum, 12 – 18 months and are dependent on winter road access for large equipment transport and subsequent construction.</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 Tłıchǫ 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 5(2) of the [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 your 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 paragraph 26(5)(d) of the [Waters Act](#). Please note this information will be required by the Board prior to issuance.

The Municipal Water Licence is covered by the municipal budget.

15. FEES

Refer to the Guide for assistance with determining applicable fees.

Type of Fee	Amount (\$)
Application fee (if applicable):	\$0.00
Water use fee deposit:	\$
Total Fees:	\$

16. SIGNATURE

Joseph Kochon	S.A.O.
Applicant's Name (print) or Company Name	Position (print)
<i>David Cefi for Joseph Kochon</i>	<i>October 16, 2023</i>
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, www.wlwb.ca, www.slwb.com, www.glwb.com).