

# Application MV2018L3-0001: June 5<sup>th</sup> Submission

## Updated Application Documents

File Name	Description
UPDATED O&M Plan - Solid Waste Facility (SWF)	Plan updated in response to reviewer comments
UPDATED O&M Plan - Wastewater (Sewage) Treatment System (WWTS)	Plan updated to include new estimates of community sewage production and respond to reviewer comments
UPDATED SKFN Water License Application Form_text	Updated with new estimates of water use and sewage disposal
UPDATED_O&M Plan - Water Treatment Plant (WTP)	Plan updated to include new estimates of community water use
UPDATED_Operation and Maintenance Plan - Spill Contingency Plan	Plan updated to address reviewer comments/concerns

## Briefing Notes

File Name	Description
SKFN Community Water Use Estimates	Document explaining estimated levels of SKFN community water use. Different methods of estimating water use are described.
SKFN Soil Remediation Notes	Document explaining the operations and regulatory context of SKFN soil remediation activities

## Studies and Figures

File Name	Description
2007 Trout Lake Sewage and Solid Waste Investigation Report	2007 Dillon report discussing SKFN sewage and solid waste facilities and identifying potential sites for a new lagoon/landfill
Sewage Lagoon Decant	Rough sketch of the path of water when the SKFN Lagoon is decanted
SKFN Landfill photo 1, SKFN Landfill photo 2	Recent photos of the SKFN solid waste site
TLK O&M Manual	Operations and Maintenance Manual for Trout Lake Water Treatment Plant
Trout Lake Final Commissioning Package	Final Commissioning Package for Trout Lake Water Treatment Plant. <b>Includes as built drawings</b>
Updated Lagoon Photo	Photo of SKFN sewage lagoon with further labels added for clarity

Updated Spill Response Flowchart	Updated version of the flowchart included in the SKFN Spill Contingency Plan
UPDATED_SKFN-Water License Map	SKFN Water license map updated to include locations of bulk fuel storage facility and community garage
TroutLake-Hazardous Waste Final Report. March 31, 2017	Report discussing site assessment of the Sambaa K'e Landfill and 2017 hazardous waste removal from the site

## Water Sampling Results

File name	Description
Results_NWT Drinking Water Database	Trout Lake Treated Water Test results from Northwest Territories Drinking Water Quality Database
Trout Lake Bacteriological Study_2004	Results of bacteriological testing performed in Trout Lake in 2004
NWT-Wide Community-Based Water Quality Monitoring Program_SKFN	Mackenzie Data Stream NWT-Wide Community-based Water Quality Monitoring report for sampling locations around Sambaa K'e
SKFN-MACA Sampling Locations	Map of MACA water sampling Locations near the community of Sambaa K'e
110478 - Aug 5, 2011_Trout Lake drum and bog sampling report	Testing results from groundwater samples taken on August 5 <sup>th</sup> , 2011
110788 - Oct 15, 2011_Sewage Lagoon Sampling Report	Testing results from lagoon samples taken on October 15, 2011
110804 - Oct 24, 2011_Decant Sampling Report	Testing results from lagoon decant samples taken on October 24, 2011
120422 - June 29, 2012_Trout Lake Sampling Report	Testing results from Trout Lake samples taken on June 29, 2012
170194 - April 18, 2017_Lagoon Sampling Report	Testing results from lagoon samples taken on April 18, 2017
170194 - Aug 18, 2017_Trout Lake Sampling Results	Testing results (but not full report) from Trout Lake samples taken on August 18, 2017
290255 - Jun 11, 2009_Trout Lake Sampling Report_potable water, freshwater, and sewage	Testing results from lagoon, lake, and potable water samples taken on June 11, 2009

# Sambaa K'e First Nation Soil Remediation

In 2008, Northland Utilities had a major spill in Sambaa K'e. It is SKFN's understanding that the company remediated all contaminated soil to an acceptable standard for use as landfill cover. SKFN requested that a small portion of the lined soil remediation cell be left in place after the Northland Utilities Cleanup. This cell is used for contaminated soil from small residential fuel leaks/spills in the community of Sambaa K'e. SKFN will not accept contaminated soil from large scale or industrial spills, which are the responsibility of the offending company.

The SKFN soil cell is approximately 17m x 18m and contains 11.25m<sup>3</sup> of soil. SKFN turns the soil regularly and a sample will be sent for testing at a Canadian Association of Environmental Analytical Laboratories accredited facility after it is next turned. Sampling will be carried out in accordance with procedures in the Inspector's Field Sampling Manual from Environment Canada<sup>i</sup>. This will involve the soil cell being divided into a grid, with sample taken from each intersection to a depth of up to 15cm. Sampling equipment and storage containers will be sterilized before use. Soil from the SKFN cell will not be used for landfill cover unless laboratory analysis confirms that it meets the remediation criteria for petroleum hydrocarbons detailed in the Guideline for Contaminated Site Remediation<sup>ii</sup>. As per regulations, SKFN will forward a site closure report to ENR when soil is considered remediated and will not remove soil from the cell until ENR has issued an official letter advising that no further remediation action is required<sup>ii</sup>.

The SKFN soil cell is currently full. Any newly contaminated soil from the community will be placed in the local landfill for shipment. In the summer of 2016 there were 37 drums of contaminated soil at the landfill site. However, 15 drums of soil were shipped out of the community in March, 2017. There are now only 22 drums left on site. SKFN will report any spill of 100L or more to ENR as per NWT guidelines<sup>iii</sup>.

## Regulatory context

The amount of contaminated soil in the SKFN cell is 11.25m<sup>3</sup> or 11,250L. This, along with the few remaining barrels of contaminated soil, is under the 500,000L threshold that would require SKFN to register the site as a hazardous waste storage facility<sup>iv</sup>. The mass of soil removed from residential contaminated sites has not been recorded; although the precise weight is not known, we would estimate that the soil cell exceeds 500kg, the small quantity threshold for hazardous waste for contaminated soil in the NWT<sup>iv</sup>.

SKFN would appreciate any guidance that the MVLWB can offer in terms of small-scale soil remediation, appropriate to and feasible for NWT's small communities.

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<sup>i</sup> Environment Canada. 2005. The Inspector's Field Sampling Manual, Second Edition. Available online at <http://publications.gc.ca/collections/Collection-R/En40-498-2005-1E.pdf>. Accessed on June 5, 2018

<sup>ii</sup> Mackenzie Valley Land and Water Board. 2003. Guideline for Contaminated Site Remediation. Available online at <https://mvlwb.com/sites/default/files/documents/Environmental-Guideline-for-Contaminated-Site-Remediation.pdf>. Accessed on May 30, 2018

<sup>iii</sup> ENR. Reportable Quantities for NWT Spills. <http://www.enr.gov.nt.ca/en/services/spills/reporting-spills>. Accessed on May 30, 2018

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<sup>iv</sup> GNWT Environment and Natural Resources. 2017. NWT Guidelines for Hazardous Waste Management. Available online at [http://www.enr.gov.nt.ca/sites/enr/files/resources/128-hazardous\\_waste-interactive\\_web.pdf](http://www.enr.gov.nt.ca/sites/enr/files/resources/128-hazardous_waste-interactive_web.pdf). Accessed on May 30, 2018