

Memo



To: Usman Mirza, Project Manager, GN-CGS
From: Sarah Collins, Dillon Consulting Ltd.
Date: October 31, 2024
Subject: Regulatory Submissions Supporting Documentation
Our File: 24-7464

Dear Usman,

Dillon Consulting Limited (Dillon) is pleased to provide the enclosed package to support the regulatory submission to the Nunavut Water Board (NWB) for the amendment and renewal of Water Licence 3BM-ARC1924. The following information has been included within this package, and summarized in table 1:

1. Drawings:
 - a. Site layout showing fuel and waste tanks distance from water source
 - b. Intake profile
 - c. Fish screen
 - d. Construction plans for reservoir expansion and WTP, including:
 - i. Heavy equipment uses and how it will be fueled
 - ii. Protection of water during expansion
 - iii. Estimated granular quantities
2. Estimate of wastewater generated by WTP per capita, per year.
3. Total annual withdrawal from Marcil Lake at year 20 (2047).
4. Maximum daily withdrawal from Marcil Lake at year 20 (2047).
5. Treated water storage capacity.
6. Wastewater storage capacity.
7. Fuel tank storage capacity.

Table 1: Regulatory Information Summary

Minimum distance of new infrastructure (WTP, fuel storage, and wastewater storage to waters edge)	30.1 m, shown on C-2
Heavy equipment	Medium Excavator – CAT 317 or Equal Tandem Axel Dump Truck (X2) 10T Vibratory Roller Rubber Tire Front End Loader Pickup Trucks Small Diesel Plate Tampers
Refuel plan	Equipment to be refueled on temporary pad, shown 81.6 m from water edge on drawing C-2
Fish Screen	See C-5

Estimated granular quantities	4,100 m ³
Estimate of annual wastewater generated by WTP per capita (est. population 1418) at year 20 (2047)	6.4 m ³ /capita/year
Total annual water drawn from Marcil Lake at year 20 (2047)	71,200 m ³
Maximum daily withdrawal from Marcil Lake at year 20 (2047)	299 m ³ /day
Treated water storage capacity (including dead volume)	550 m ³
Wastewater storage capacity (including dead volume)	239 m ³
Fuel tank storage capacity	25,000 L

The following amendment to water withdrawal is required for 3BM-ARC1924:

Table 2: Water Withdrawal Amendments

	3BM-ARC1924	Amendment Requested
Total annual withdrawal from Marcil Lake	59,900 m ³	75,000 m ³
Daily withdrawal from Marcil Lake	299 m ³ /day	299 m ³ /day

Should you have any questions or require further clarification on the information provided, please do not hesitate to contact Sarah Collins at scollins@dillon.ca, 902-385-0470.

Sincerely,

DILLON CONSULTING LIMITED



Sarah Collins, P.Eng.
Water, Wastewater Engineer