# MEMO

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|---|---|
| **From** | Chris LeGoffe, Superintendent, Environment, B2Gold Nunavut |
| **To** | Ali Shaikh, Technical Advisor, Nunavut Water Board (NWB) |
| **Cc** | Richard Dwyer, Manager of Licensing<br>Karén Kharatyan, Director of Technical Services |
| **Ref.** | 2AM-BRP1831 |
| **Date** | 23 February 2026 |
| **Subject** | **Notice of modification under Part G of 2AM-BRP1831 and related Schedule A Update** |

## 1. INTRODUCTION

B2Gold Nunavut (B2Gold) is planning to replace the existing Marine Laydown Area (MLA) pacto toilet-based system with conventional toilet facilities and a Sewage Treatment Plant (STP), similar to that currently in use at the Back River Project's Goose Mine Site. This will mitigate the need to incinerate sewage generated from the current Pacto system, provide more comfortable facilities for Project personnel, and reduce the need to directly handle raw sewage.

This modification meets the requirements outlined in Part G "Conditions applying to modifications" of Type A Water Licence 2AM-BRP1831 (the Licence) with the minor Schedule changes. Per the following:

- B2Gold is providing this notification at least 60 days prior to beginning the modifications;
- The modifications do not place B2Gold in contravention of the Licence or the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;
- The modifications are consistent with the applicable terms and conditions of the NIRB Project Certificate No. 007; and
- There is no material impact on security required under the Licence as a result of this modification.

Further information on the existing facilities, new STP, alignment with Part G of the Licence, and the proposed Schedule changes are detailed below.

## 2. EXISTING FACILITIES

The MLA is a shipping and transportation hub and the main resupply point for the Back River Gold District (Attachment A, Figure 1). The MLA is located at the southern end of Bathurst Inlet and is an essential piece of infrastructure for the Back River Project, ensuring that essential goods and materials can be delivered to support operations at the Goose Mine.

MLA camp wastewater has been managed as separate streams. Greywater, i.e. water from the kitchen, sinks, showers, and laundry is discharged to the tundra, with treatment as necessary for oil and grease

removal (e.g. a grease trap in the kitchen). Blackwater, i.e. human waste and toilet paper, is deposited in Pacto toilet facilities, collected, and incinerated. Pacto toilets look similar to typical toilets, but the interior of the bowl is lined with soft clear plastic in which the waste is collected, progressively filling a long clear soft plastic tube. The filled tubes of raw sewage must be removed regularly and subsequently are fed into the MLA incinerator for incineration.

Although Pactos are routinely used in Nunavut at the early exploration stages, such facilities tend to be unappealing to camp personnel (who need to be instructed in their use) at more established facilities. The daily manual handling of the clear plastic tubes of raw sewage (removing them from the Pacto units and feeding them into the incinerator) is also unpleasant, difficult to staff, and presents an elevated biohazard exposure risk. Incineration of this very wet waste also requires substantial resources (fuel, burn time, and the staggering of incineration to obtain an appropriate waste composition mix for each batch).

# 3. PLANNED MODIFICATIONS

## 3.1 FACILITY DESCRIPTION AND DESIGN

B2Gold Nunavut is planning to replace the MLA's current Pacto toilet system with a Sewage Treatment Plant (STP) and standard low-flow flushing toilets. This system will also be capable of receiving and effectively treating the MLA's greywater, providing centralised treatment of domestic wastewater generated by the MLA camp and accommodation facilities. The flexibility to continue using a Pacto system and discharging greywater separately will be maintained as an option during this transition or as needed during operations, or when activities are reduced during closure or post closure.

The MLA STP will be a modular, containerized system similar in overall configuration and performance to the STP currently operating at the Goose Mine. The MLA STP will use a biological treatment process with membrane filtration, as is the case at Goose and consistent with modern containerized sewage treatment systems used in remote northern environments. The treatment process will include:

- preliminary screening to remove large solids;
- flow equalization to buffer variations in wastewater flow and strength;
- aerobic biological treatment to reduce organic matter and nutrients membrane filtration to separate treated effluent from suspended solids; and
- final disinfection prior to discharge.

This treatment approach produces a high-quality effluent suitable for discharge to land and is resilient to variable loading conditions typical of seasonal and remote camp operations. The treated effluent will be discharged to land in the same manner that it is at Goose Mine and would have its own unique sampling identifier, which is proposed to be "BRP-17-02", with the exact location determined in consultation with the Inspector, as has been the case for all monitoring stations established. The MLA STP has been designed to meet the same effluent quality discharge criteria approved for the Goose Mine STP, which is aligned with, but more constrained than, the discharge criteria for the MLA greywater discharge (BRP-42). As the current greywater management system consists solely of an oil and grease separator, the proposed MLA STP is anticipated to result in overall improved treated effluent quality compared to the

existing MLA greywater discharge, with lower concentrations for key parameters including $BOD_5$, total suspended solids, and fecal coliforms at the downslope monitoring point.

In alignment with Part F, Condition 5 of the Licence, all sludge from the STP would be directed to "*the Incinerator, the Landfarms as a soil enhancement, or as otherwise approved by the Board in writing*".

A preliminary layout drawing of the proposed MLA STP is attached for illustrative purposes (Attachment B). An Operation and Maintenance Manual for MLA Sewage Treatment Plant will be submitted to the Nunavut Water Board (NWB) at least sixty (90) days prior to installation, in accordance with Part F, Condition 7 of the Licence.

## 3.2 LOCATION

The STP will be located within the existing MLA boundaries (Attachment A, Figure 2). The facility is approximately 40' X 40' (12.19 m X 12.19 m) in size, comprised of five 8' X 40' (2.44 m X 12.19 m) modified seacans.

As a contingency measure, an additional 40,000 L wastewater storage containment capacity will be available at the MLA in the form of temporary bladders, tanks, or berms which may be used in the event of off-specification effluent during upset or maintenance conditions.

## 3.3 IDENTIFICATION OF POTENTIAL IMPACTS TO THE RECEIVING ENVIRONMENT

The modification is not anticipated to result in any significant impacts to the environment and may represent a marginal net environmental and social benefit.

The STP effluent is anticipated to be of overall improved quality compared to the existing MLA greywater discharge. The Licence criteria for STP effluent discharge to the environment that the MLA STP effluent will need to meet (per Part F, Condition 4) is also significantly more stringent that than for discharge of MLA greywater (Part F, Condition 6). So, although the addition of low flow flushing toilets may increase cumulative wastewater discharged by approximately 10% (approximately 30 L per person per day), the quality of this water will be much better than what is currently discharged. It is also noted that the downslope receiving environment at the MLA is, and will remain, Bathurst Inlet, and that there is no potential for effects on the freshwater environment or for sedimentation or erosion.

This modification also does not alter the amount of water already assessed by the Nunavut Impact Review Board (NIRB) and permitted for use under the Licence.

Finally, this modification will significantly reduce the need to incinerate sewage. Incineration of raw pacto sewage currently represents approximately a third of all waste incinerated, and incinerator emissions produced, at the MLA.

## 3.4 MONITORING

The existing License criteria for sewage treatment plan waste monitoring will also apply to the MLA STP, including application of the discharge criteria and monitoring outlined in Part F, Condition 4, Part I,

Condition 8 g., and in Schedule I and the requirements regarding sludge monitoring outlined in Part I, Condition 8 h.

B2Gold Nunavut will also apply relevant management, mitigation and monitoring measures outlined in the Projects various management plans. The management, mitigation, and monitoring approaches currently approved will also be applied to the MLA STP. Minor edits to these plans to reflect the MLA STP will be submitted to the NWB at least 60 days in advance of the implementation of the modification, in alignment with Part B, Condition 9 of the Licence.

## 3.5 PROPOSED SCHEDULE FOR INSTALLATION

B2Gold Nunavut plans for the STP to be shipped to site during the 2026 shipping season and installed in late summer/fall of 2026 before freeze-up.

# 4. REQUESTED SCHEDULE REVISIONS

B2Gold Nunavut requests that the Board update the Licence Schedules to reflect this modification, as permitted under Part B, Condition 19 of the Licence. The requested Schedule updates are:

1. In Schedule A "Definitions" modify two terms as follows:
    a. "Sewage Treatment Plant" means the package sewage treatment plants ~~located at the Goose Property Plant Site~~ as described in the ~~Application document entitled~~ Landfill and Waste Management Plan;
    b. "MLA Wastewater Treatment Facilities" means facilities at the MLA designed reduce the TSS of greywater prior to discharge to land as generally described in the application and the MLA Sewage Treatment Plant. ~~No sewage is treated at the MLA~~;
2. In Schedule I:

| Monitoring Program Station | Monitoring Type | Description | Mine Phase | Group Code | Frequency |
|---|---|---|---|---|---|
| BRP-17-01 to TBD | Regulated Monitoring | ~~Goose Property~~ Sewage Treatment Plant (treated sewage discharge/drainage immediately prior to the point of entry into the freshwater or marine receiving environment) | Operations to Closure* | A, F | Monthly |

## 4.2 COMMUNITY ENGAGEMENT AND TRADITIONAL KNOWLEDGE

B2Gold Nunavut undertook community engagement activities and reviewed relevant Traditional Knowledge to confirm that the proposed construction and operation of the MLA STP modification does not introduce new or unanticipated concerns.

### 4.2.1 COMMUNITY ENGAGEMENT

Community engagement activities were conducted in the fall of 2024 in accordance with B2Gold Nunavut's *Guidance for Incorporating Community Perspectives and Traditional Knowledge in the Back River Project's Monitoring Programs*.

Between September 23–27, 2024, the B2Gold team visited Gjoa Haven, Taloyoak, Kugaaruk, and Kugluktuk and provided a presentation including updates on the Goose Project, project monitoring, and MLA Enhancements. Information regarding the MLA STP was included as part of the discussion on MLA modifications.

A planned community visit to Cambridge Bay was cancelled due to poor weather. B2Gold Nunavut also provided updates on the proposed MLA modification at the Kitikmeot Regional Mayors Forum in October 2024, of which there was no received opposition to this proposed upgrade.

### 4.2.2 TRADITIONAL KNOWLEDGE

The MLA was included in the study area for Traditional Knowledge studies previously completed for the Project. Historic Inuit travel and harvesting in and around the MLA were noted in earlier studies; however, the MLA was not identified as a major camp or key harvesting location. Land use patterns in the MLA area were consistent with those documented elsewhere in the broader study area.

Ongoing Project monitoring has not identified substantial Inuit harvesting activity at the MLA, and no grievances related to subsistence use at the MLA have been filed with B2Gold Nunavut to date.

## 5. CLOSING

We trust that this information meets the requirements for a Modification Notice under Part G of the Licence and look forward to the NWB's response. Please do not hesitate to contact the undersigned should you have any questions or comments

Sincerely,

Macoura Kone

Digitally signed by Macoura Kone
DN: cn=Macoura Kone, email=macoura.kone@b2gold.com
Date: 2026.02.23 16:33:17 -07'00'

**Macoura Kone**
Manager, Environment
B2Gold Nunavut

Att: Attachment A Figures

Attachment B Preliminary Drawing STP

# ATTACHMENT A – FIGURES

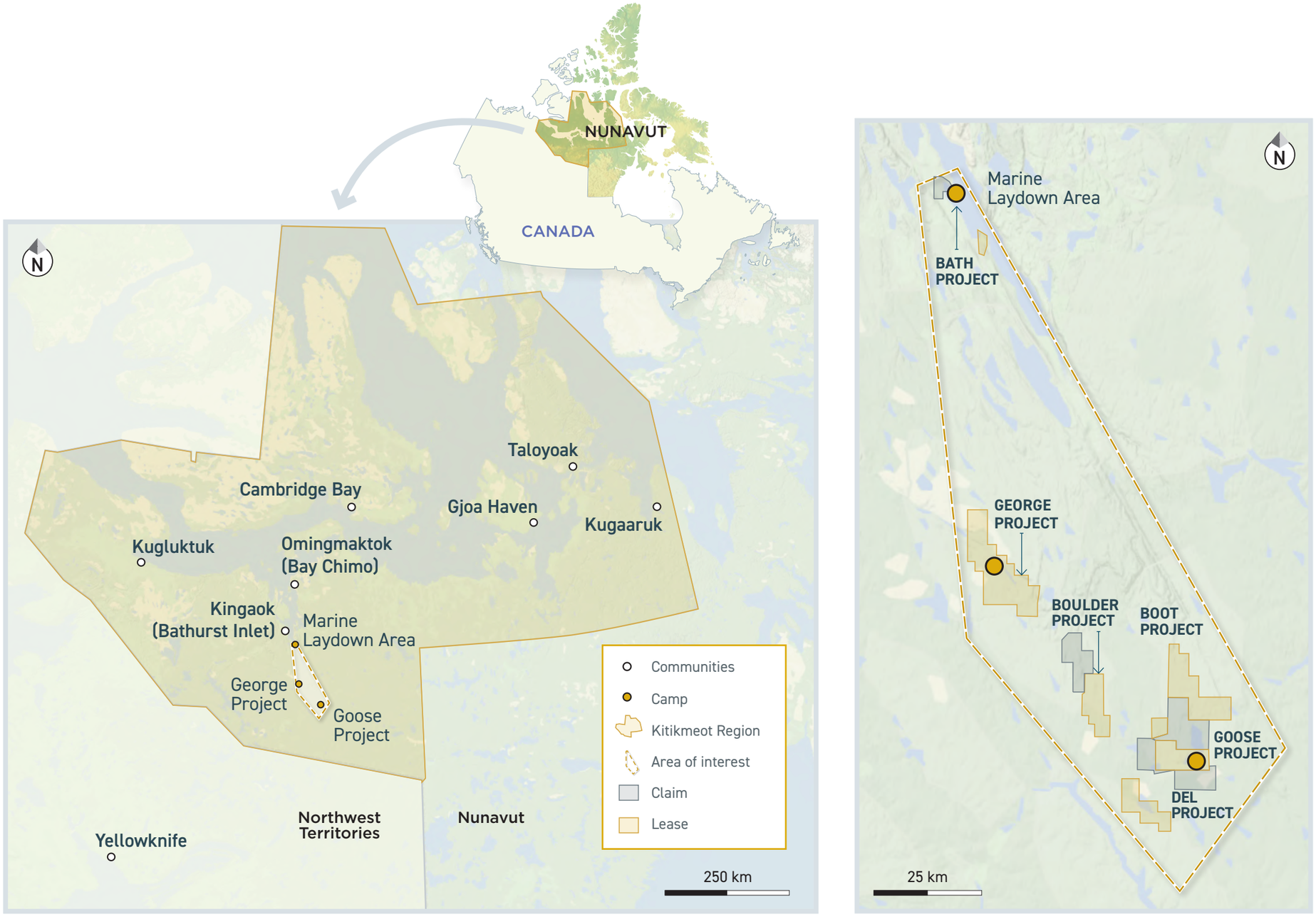



**Figure 1: Back River Gold District**


| # | AREA |
|---|---|
| 1 | MAIN CAMP |
| 2 | MAINTENANCE |
| 3 | AIRSTRIP |
| 4 | LOWER LAYDOWN |
| 5 | DOCK |
| 6 | TRUCK SHOP AND STAGING AREA |
| 7 | TANK FARM |
| 8 | QUARRY |
| 9 | FUEL TRANSFER ROAD |
| 10 | FUEL TRANSER AREA |

## GENERAL NOTES

1. ALL MEASUREMENTS IN METRES UNLESS OTHERWISE NOTED
2. COORDINATE SYSTEM IS NAD83(CSRS) / UTM ZONE 13N

## REVISIONS

| REV# | DATE | BY | COMMENTS | APP. BY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

## LEGEND

| | |
|---|---|
| BRP-42 | SAMPLE LOCATION |


B2GOLD

1800 – 555 BURRARD ST. BOX 220
VANCOUVER, BC
V7X 1M9
T:604.998.4175

SRE TECHNICAL LTD.

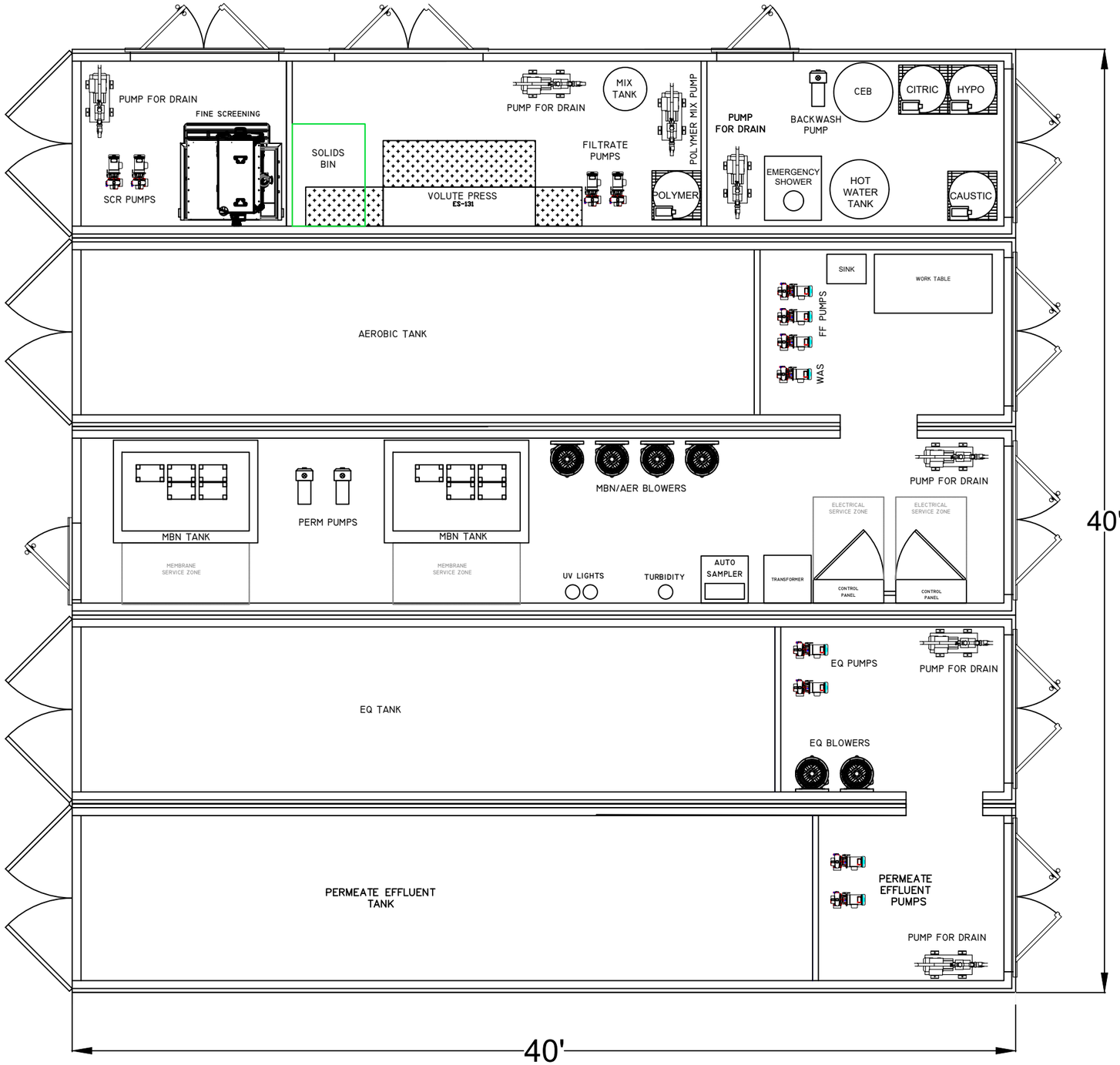
38 LANDSBURG RD.
BEDFORD, NS
B4A 1L3
T:902.410.7097


# B2 GOLD BACK RIVER PROJECT

**FIGURE 2:** MARINE LAYDOWN AREA
SITE MAP
WITH SAMPLE LOCATIONS

| SRE TECHNICAL PROJECT NUMBER: | DRAWN BY: | SCALE: |
|---|---|---|
| 2025-002 | J.MILLS | 1:7500 |
| **CLIENT PROJECT NUMBER:** | **CHECKED BY:** | **PUBLISH DATE:** |
| ----- | C.LEGOFFE | 2026-02-21 |
| **DRAWING NAME:** | **SHEET NUMBER:** | **REV:** |
| 2025-002 MLA BASE MAP(250823).dwg | 01 OF 01 | 00 |

# ATTACHMENT B – PRELIMINARY LAYOUT STP




DRY LOAD FOR MEMBRANE AND SCREEN/ VOLUTE PRESS/ CHEMICAL DOSING SYSTEM: 28,700 LBS

OPERATING WEIGHT FOR MEMBRANE AND SCREEN/ SLUDGE TANK/ CHEMICAL DOSING SYSTEM: 75,850 LBS

DRY LOAD FOR STAINLESS STEEL TANKS CONTAINER: 35,750 LBS

OERATIONAL WEIGHT FOR STAINLESS STEEL TANKS CONTAINER: 160,200 LBS

NOTES

SUPPLY BY NEWTERRA
INSTALL BY NEWTERRA (CONTAINERIZED)


newterra

PHONE:
(800) 420-4056

www.newterra.com


| LEVEL | REVISION | DATE (yyyy-mm-dd) | BY |
|---|---|---|---|
| R1 | PRELIMINARY FOR QUOTE | 2025-11-14 | TN |
| R0 | PRELIMINARY FOR QUOTE | 2025-10-06 | TN |

PROJECT NUMBER: 2509152

TITLE AND LOCATION: PRELIMINARY LAYOUT
Bathrust Inlet - 350 person WWTP

CUSTOMER: Nahanni Construction

| DRAWN BY | DATE | SHEET | SHEETS |
|---|---|---|---|
| | | 1 | 1 |