



Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1L0

Dear Sergey,

The Hamlet of Coral Harbour is pleased to submit this additional information for the 3BMCOR-1521 renewal application.

1. The 2020 Annual Report provides two different water consumption numbers: 35,730m3 at COR-1 and 39,973 m3 in Section (e), which states the following:

*Reservoir refill was completed between August 24th and September 16th. A volume of 39,973 m3 was pumped into the reservoirs during this time.*

**Could you please clarify the reason for this discrepancy? Additionally, what is the expected population growth for the next 10 years? Will 45,000m<sup>3</sup> of fresh water be sufficient for annual consumption considering this growth factor?**

The 39,973 m<sup>3</sup> volume is the inland water that was withdrawn from Post River to fill the reservoir during the annual resupply, as authorized under this licence. The 35,730 m<sup>3</sup> volume is annual water consumption of treated water that was drawn from the reservoir, based on billing data.

For the population projections, please see the table below:

Parameter	Value
2016 Population*	891
Growth rate since 2011 (%)*	6.83
Growth rate per year (%)	1.37
Projected 2031 Population (Exponential Growth)	1092
Projected 2031 Population (Linear Growth)	1062
Consumption Rate (L/day/capita)**	110
2031 Consumption (m <sup>3</sup> )***	43,844

\*Statistics Canada

\*\*Government of the Northwest Territories for trucked water delivery

\*\*\*Using exponential growth

It is expected that 45,000 m<sup>3</sup> will be sufficient to supply the municipality in 2031.

2. **Section 24** of the Application Form states that no construction is planned during the term of the Licence. However, the Executive Summary indicates that *the Municipality is in the process of upgrading the fencing around the Solid Waste Facility*. Additionally, the 2020 Annual Report states the following:

*CGS is seeking funding to develop a business case for upgrades to the current wastewater treatment facility. This business case would evaluate design option to develop an impermeable lagoon to hold 10-12 month of sewage. It would also include a comprehensive study of the wetland treatment area and the receiving environment to recommend effluent treatment parameters that are appropriate for this type of wastewater treatment system.*

If the upgrades to the current Wastewater Treatment Facility are anticipated within the next 5-10 years, and some fencing work will be done around the Solid Waste Facility, it would be beneficial to include these activity within the scope of the Application (you can just confirm this with your response to this email).

The upgrade to the solid waste fencing is a maintenance activity and not a construction project. Fencing at the solid waste site is separate from the potential wastewater treatment facility upgrade project. Funding for a potential wastewater facility upgrade has not yet been identified or secured.

3. In the Plan for Compliance provided with the Application, Line B-1-h, as well as Lines F-1, F-3, F-2, F-4, and H-13, state the following:

*CGS will submit updated and revised Water Supply OM plan, Sewage Waste OM plan, Solid Waste OM plan, Spill Contingency plan, and QA/QC Plans to NWB by June 30, 2021.*

Could you please confirm that these Plans will be provided by June 30th? If this is the case, it

would probably be more feasible to send the Application for a public review once all updated Plans are submitted.

The Plans will be submitted by June 30, 2021, or earlier.

4. **Line D-2** of the Plan for Compliance states that the GN-CGS will preserve the current effluent limits and *will apply for an amendment to the current effluent limits when appropriate*. However, the 2020 Annual Report states the following:

*The Licensee plans to submit an application for an amendment to the current 30/30 mg/L*

*BOD/TSS effluent parameter limits for the COR-5 sampling point. The effluent results do not consistently meet these treatment objectives.*

**Please clarify if such amendments are requested under this Application?**

The amendment will not be requested at this time. Once funding is identified for an upgraded sewage treatment facility, the planning phase of the project will review the effluent parameters based on the new design and an assessment of the wetland treatment area. A recommendation of appropriate effluent parameters will be an outcome of this study and an amendment application will be submitted at that time. The COR-5 sampling results that do not meet the current effluent parameters appear to be outliers. CGS will continue to monitor the results at each of the monitoring stations as identified in the water licence.

5. **Line D-5** is marked as "*in compliance*". However, the 2018 and 2019 CIRNA Inspection Reports indicated that there was a seepage occurring through the berm of the Sewage Disposal Facility (SDF) and requested to *improve the berm wall directly adjacent to monitoring station COR-3 to preserve structural integrity of the SDF*. Could you please clarify whether this issue has been resolved or provide an explanation with a proposed timeline for the repairs?

The lagoon in Coral Harbour was constructed as a permeable lagoon. Upon thaw, effluent passively exfiltrates the lagoon each spring. Please see the excerpt below from the Coral Harbour Natural Tundra Wetland Sewage Treatment Area Design - Schematic Design Report (2007):

*"The Hamlet of Coral Harbour has been discharging sewage effluent in the same location since at least 1984 and likely for a longer period. Effluent was originally discharged directly onto the tundra and allowed to flow through a natural tundra wetland before eventually reaching the marine environment. A detention cell, designed to function as an annual storage lagoon, was constructed in 2003; however, its berms are not impermeable and other than retention of solids, the detention cell does not provide sewage treatment. Effluent leaches from the detention cell and flows over the tundra as it has done in the past. The treatment performance of the Natural Tundra Wetland Sewage Treatment Area has been subject to numerous studies since 1994. All investigations concluded that the wetland was effectively*

*treating the sewage effluent and could continue to do so in the future. Review of analytical data from samples collected annually throughout the wetland since 2004 confirms that the wetland is currently treating sewage effluent to effluent quality standards contained in the Hamlet's current Water Licence."*

It is no longer best practice to construct permeable lagoons and any that are newly constructed are designed to hold effluent until for 10-12 months until the controlled annual decant takes place.

6. **Line E-4** of the Plan for Compliance states that the **GN-CGS will submit the as-built drawings for the new water treatment facility as part of the renewal application**. The Application package includes the As-Built drawings, dated November 23, 2016 and the Executive Summary states that the Water Treatment Plant was commissioned in 2016. However, the 2018 and 2019 Annual Reports state the following:

***The new Water Treatment Plant was substantially completed December 2016 and warranty work is still being completed (Regional CGS Project Management Office). Repairs to the chlorine system were completed during 2018; more work is to come in this regard in 2019.***

**Could you please clarify when this work was actually completed and when the most up-to-date As-Built drawings will be submitted? Additionally, the Board would like to remind the Applicant that the As-Built drawings should be supplemented by the Contruction Summary Report (or Completion Report).**

The repairs that were completed in 2018 did not make any modifications to the water treatment process. The As-built drawings remain representative of the system. The work that was mentioned for 2019, a reconfiguration of the chlorination system, was postponed. It is expected to take place in 2022 and be part of a larger project that will include the construction of a treated water storage tank. New as-built drawings and a completion report will be submitted to NWB once construction is complete. The chlorine system issues that need to be addressed are minor; the facility is substantially complete and has been operational since 2016.

7. **Line F-5** is requesting that the Municipal Engineer's recommendations pertaining to all engineered facilities can be summarized in the Annual Reports. The NWB would like to remind the GN-CGS that this provision allowing Municipal Engineers to complete and summarize such annual inspections within the Annual Reports was already included into the Licence at the request of the GN-CGS (Megan Lusty (GN-CGS) to Brady MacCarl (NWB), dated January 16, 2014; and pp. xvi-xvii of the Licence).

F-5: "An inspection of all engineered facilities related to the management of Water and Waste shall be carried out a minimum of once annually, in July or August, by an Engineer. The Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan to address each of the Engineer's recommendations."

The annual report is submitted to NWB by March of the following year once all of data is collected, which is more than 60 days after the inspection takes place. CGS is requesting that the 60-day submission requirement be removed and replaced with language that indicates that the Engineer's report summary may be included in the annual report, such that Licensee may remain in compliance.

8. **The Board understands that the 2015 CIRNAC Inspection took place on August 11, 2015, as per the 2015 Annual Report, and that there is still no record of this inspection, according to Line G-3 of the Plan for Compliance. It is also unclear if the inspection of the second Solid Waste Disposal Facility near the Hamlet Airport took place during the 2015 CIRNAC Inspection. However, the Board would like to remind the GN-CGS about their recommendation made during the previous Licence renewal process (Megan Lusty (GN-CGS) to Brady MacCarl (NWB), dated March 2, 2015):**

***Because of the uncertainty surrounding the second storage site identified, we are recommending that this area is included in the 2015 AANDC Municipal Inspection and that the Hamlet of Coral Harbour, CGS, AANDC, and the NWB work together to determine the best plan of action regarding the findings of this inspection.***

**The Board is of understanding that a representative of the GN-CGS participated in the 2015 CIRNAC Inspection and requests the Applicant to provide more clarity with respect to the findings of that inspection and any future plans for the abandoned facility.**

CIRNAC has indicated that they may be including the remediation of this legacy site in their Northern Contaminated Sites Program in 2021. CGS has not received confirmation at the time of this submission but will update NWB once the information is available. If the site is not included in this program and because the GN-CGS representative that participated in the 2015 inspection is not available to provide continuity of information, CGS is proposing to include an inspection of this site in the 2021 CIRNAC inspection and to provide NWB with an update in the 2021 annual report.

Thank you for your consideration. Please do not hesitate to contact me with any questions or concerns.

Regards,

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Community and Government Services  
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