



ENVIRONMENT AND CLIMATE CHANGE CANADA'S FINAL WRITTEN SUBMISSION TO THE NUNAVUT WATER BOARD

RESPECTING THE TYPE A WATER LICENCE
RENEWAL APPLICATION FOR THE HAMLET OF
CORAL HARBOUR

FEBERUARY 7, 2022



Executive Summary

The Hamlet of Coral Harbour (the Proponent) is proposing to renew and amend their Municipal Water License (WL) for a term of 10 years. The scope of the new Type A Water License will include upgrading the current Type B Water License (3BM-COR1521) to a Type A Water License (3AM-COR----). This change is to reflect the use of a raw water reservoir that must be resupplied annually at a water-pumping rate of 2,000 cubic meters/day during the open water season, which exceeds the limitations under a Type B Water License. All other license requirements will remain the same.

Environment and Climate Change Canada (ECCC) has participated in the WL process to date, providing a completeness check and technical comments to the Nunavut Water Board (NWB). ECCC has also attended the Technical Meeting and Pre-Hearing Conference held via teleconference on December 7-8, 2021. ECCC provides technical, science-based information and knowledge to the NWB pursuant to the Nunavut Agreement.

This submission summarizes the results of ECCC's technical review of information provided in the Proponent's application, as well as information and commitments provided by the Proponent throughout the review process thus far. The comments and recommendations provided relate to ECCC's mandate in the context of the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*, and are intended for consideration by the NWB.

ECCC's outstanding concerns are in regards to sampling methods in the Quality Assurance and Quality Control (QA/QC) program such as the lack of field blanks and replicate/split samples.

List of Acronyms

CEPA	<i>Canadian Environmental Protection Act</i>
ECCC	Environment and Climate Change Canada
NWB	Nunavut Water Board
QA/QC	Quality Assurance/Quality Control
SNP	Surveillance Network Program
SWDF	Solid Waste Disposal Facility
WL	Water License

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1.0 Introduction

The Hamlet of Coral Harbour (the Proponent) is proposing to renew and amend their Municipal Water License (WL) for a term of 10 years. The scope of the new Type A WL process will include upgrading the current Type B WL (3BM-COR1521) to a Type A WL (3AM-COR----). This change reflects the use of a raw water reservoir that must be resupplied annually at a water-pumping rate of 2,000 cubic meters/day during the open water season, which exceeds the limitations under a Type B WL. All other license requirements will remain the same.

The amendment application was received by the Nunavut Water Board (NWB) in May 2021. Environment and Climate Change Canada (ECCC) has participated in all phases of the review thus far and has provided comments on the preliminary technical assessment-completeness check and has undertaken a full technical review of the application. ECCC participated in a Technical Meeting and Pre-Hearing Conference held via teleconference on December 7 and 8, 2021, respectively. ECCC provides science-based information and knowledge based on its mandate pursuant to the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

ECCC is continuing its participation in this WL process by way of this final written submission to the NWB, which summarizes ECCC's technical review of the information provided in the WL review process. ECCC has identified outstanding concerns and provides recommendations for consideration by the NWB. These outstanding concerns are related to sampling methods in the Quality Assurance and Quality Control (QA/QC) program such as the lack of field blanks and replicate/split samples.

2.0 ECCC's Mandate, Roles, and Responsibilities

The mandate of Environment and Climate Change Canada is determined by the statutes and regulations under the responsibility of the Minister of Environment and Climate Change. In delivering this mandate, ECCC is responsible for the development and implementation of policies, guidelines, codes of practice, inter-jurisdictional and international agreements, and related programs.

ECCC's specialist advice for this review has been provided pursuant to the *Canadian Environmental Protection Act* (CEPA) and the pollution prevention provisions of the *Fisheries Act*. ECCC regulates the use of toxic chemicals, develops and implements environmental quality guidelines pursuant to CEPA and administers the pollution prevention provisions of the *Fisheries Act*, which prohibits the deposit of a deleterious substance into fish-bearing waters.

Additional information on ECCC's mandate can be found at: <https://www.canada.ca/en/environment-climate-change/corporate/mandate.html>.

3.0 ECCC's Technical Review Comments

Prior to the Technical Meeting and Pre-Hearing Conference, ECCC raised concerns regarding sludge management, the Wetland Assessment Study, reporting of monitoring results, drainage from the Solid Waste Disposal Facility (SWDF), the open burning of waste, and the remaining capacity of the SWDF. The Proponent's response to these recommendations were addressed to the satisfaction of ECCC and are considered resolved.

This final written submission summarizes ECCC's outstanding comments from the department's technical review of documents pertaining to this WL, as well as additional information provided during a Technical Meeting and Pre-Hearing Conference held via teleconference on December 7-8, 2021.

The comments and recommendations provided are based on ECCC's mandate in the context of the *CEPA*, and the pollution prevention provisions of the *Fisheries Act*.

3.1 ECCC# 1 – Commitment 2: Monitoring Ambient Conditions

References

- Environmental Monitoring Program and Quality Assurance/Quality Control Plan (April 2021)

ECCC's Conclusion:

ECCC notes that it is important to record ambient conditions as well as any notable conditions that occur at the time of sampling, in order to support the interpretation of Surveillance Network Program (SNP) monitoring results. ECCC recommended measuring and recording the ambient conditions (including precipitation, wind speed and direction, air temperature, and pH and temperature of receiving waterbody) and any other notable conditions (such as algal growth) at the time of SNP sampling, and use this information to support the interpretation of monitoring data. Field measurements should be set out in the monitoring plan(s) and results provided in annual water licence reports.

Proponent's Response:

In their response to technical comments, the Proponent stated that the Quality Assurance/Quality Control (QA/QC) Plan will be updated to reflect this recommendation. During the Technical Meeting held on December 7-8, 2021, the Proponent stated they would trial the proposed changes in the 2022 sampling season, and incorporate the changes in 2023 if they were deemed valuable and necessary.

ECCC Recommendation(s):

ECCC considers this recommendation resolved. If after the trial the Proponent decides not to adopt the recommendation, then sufficient rationale should be provided to justify that decision.

3.2 ECCC# 2 – Commitment 3: Inclusion of field and travel blanks

References:

- Environmental Monitoring Program and Quality Assurance/Quality Control Plan (April 2021)

ECCC's Conclusion:

Section 4.2 of the QA/QC Plan describes field blanks as samples used to identify any environmental impacts caused during sample collection or sample transportation. ECCC notes that this definition is not entirely accurate. Field blanks are quality control (QC) samples that monitor for contaminant sources related to the field sampling procedure; whereas travel/trip blanks are used to detect contaminant sources enroute between sampling site(s) and the laboratory. Incorporating both field blanks and travel/trip blanks into the QA/QC Plan would allow the Proponent to distinguish between sampling-related and travel-related contaminant sources. The following definitions available at <https://pubs.usgs.gov/wdr/2005/wdr-il-05/misc/qcofpl.htm> may assist in updating the QA/QC Plan:

Field blank - a blank solution subjected to all aspects of sample collection, field-processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank - a blank solution put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

ECCC recommended the QA/QC Plan be updated to: (1) Define field blanks and travel blanks, in consultation with the analytical laboratory; (2) Incorporate at least one travel blank per sampling event; and (3) Ensure that the QA/QC samples represent at least 10% of the total samples collected.

Proponent's Conclusion:

In their response to technical comments, the Proponent stated that the QA/QC Plan will be updated to reflect this recommendation. During the Technical Meeting held on December 7-8, 2021, the Proponent noted that historically, field and trip blanks were damaged during transportation to the laboratory. The Proponent stated they would trial the proposed changes in the 2022 sampling season, and incorporate the changes in 2023 if they were deemed feasible and necessary.

ECCC Recommendation(s):

Acknowledging the potential difficulties with sample transportation issues, ECCC notes that QA/QC sampling is an essential practice and considers this recommendation unresolved. ECCC reiterates their recommendation that the QA/QC Plan be updated to: (1) Define field blanks and travel blanks, in consultation with the analytical laboratory; (2) Incorporate at least one travel blank per sampling event; and (3) Ensure that the QA/QC samples represent at least 10% of the total samples collected.

4.0 Acknowledgements

ECCC acknowledges and appreciates the effort that the Proponent has taken to provide information and to address concerns brought forward by parties throughout the Type A Water License renewal process. ECCC would like to thank the Nunavut Water Board for this opportunity to provide input to the Hamlet of Coral Harbour – Type A Water License Amendment and Renewal Application and looks forward to continuing its participation in this process.

ECCC's technical review comments and recommendations are not to be interpreted as any type of acknowledgement, compliance, permission, approval, authorization, or release of liability related to any requirements to comply with federal or territorial statutes and regulations.