



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

## RESPECTING THE TYPE A MUNICIPAL WATER LICENCE APPLICATION FOR HAMLET OF ARVIAT

APRIL 28, 2022



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## Executive Summary

Government of Nunavut Community and Government Services (GN-CGS) on behalf of the Hamlet of Arviat (the Proponent) is applying to renew and amendment their Type A Municipal Water Licence (WL; 3AM-ARV1016). The purpose of the submission is to renew the WL for 10 years and to change several conditions of the original licence.

In Nunavut, Environment and Climate Change Canada (ECCC) provides specialist expert information or knowledge to the Nunavut Water Board (NWB) in accordance with the expertise that ECCC has available as required under Article 13 of the *Nunavut Agreement*. ECCC has participated in all phases of the Water Licence process for the Project thus far and is continuing its participation through the submission of this Final Written Submission to the NWB for consideration.

This Final Written Submission provides ECCC's technical, science-based information and knowledge on the Proponent's proposed project and identifies outstanding concerns and recommendations for consideration by NWB.

ECCC is providing technical, science-based information and knowledge based on our mandate pursuant to the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*. These comments are intended to inform the assessment of this project's potential effects in the receiving environment and on valued ecosystem components. Any comments received from ECCC in this context does not relieve the Proponent of its obligations to respect all applicable federal legislation.

ECCC's comments and recommendations are now resolved. These comments and recommendations were with respect to:

- ARV-4 Monitoring Location
- Workplan and Timelines for Proposed Updates
- Removal of Conditions Related to Abandonment and Restoration
- Sludge Management
- Sewage Lagoon Monitoring Locations; and
- Replicate or Duplicate Samples.

## List of Acronyms

CEPA	Canadian Environmental Protection Act
ECCC	Environment and Climate Change Canada
GN-CGS	Government of Nunavut Community Government Services
MBCA	Migratory Birds Convention Act
NWB	Nunavut Water Board
SARA	Species at Risk Act
WL	Water Licence

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## 1.0 Introduction

Government of Nunavut Community and Government Services (GN-CGS) on behalf of the Hamlet of Arviat (the Proponent) is proposing to renew and amendment their Type A Municipal Water Licence (WL; 3AM-ARV1016). The purpose of the submission is to renew the WL for 10 years and to change several conditions of the original WL. Changes from the previous licence include a new water treatment plant, a third raw water reservoir, and increasing the annual pumping volume from Wolf River to the raw water reservoirs. There are also near future plans to expand the currently operating sewage lagoon, and future plans to expand or move the solid waste disposal facility.

The Proponent submitted a Type A Water Licence (WL; 3AM-1016) Application for Renewal and Amendment to the Nunavut Water Board (NWB) for the Project on September 16, 2020. The application was considered complete and the technical review period commenced on December 10, 2021. Technical comments on the application were provided by January 21, 2022, the Technical Meeting was held on February 22, 2022, and the Pre-hearing Conference was held on February 23, 2022.

In Nunavut, Environment and Climate Change Canada (ECCC) provides specialist expert information or knowledge to the Nunavut Water Board (NWB) in accordance with the expertise that ECCC has available as required under Article 13 of the *Nunavut Agreement*. ECCC has participated in all phases of the review process for the Project thus far and is continuing its participation through the submission of this Final Written Submission to the NWB for consideration.

The comments and recommendations provided are based on ECCC's mandate in the context of the *Canadian Environmental Protection Act* (CEPA), the pollution prevention provisions of the *Fisheries Act*, the *Species at Risk Act* (SARA) and the *Migratory Birds Convention Act* (MBCA).

A summary of ECCC's mandate and legislation is provided in Section 2.0. ECCC's technical review comments and recommendations are provided in Section 3.0 and Acknowledgments are provided in Section 4.0.

ECCC's comments and recommendations are currently considered resolved. These comments and recommendations were with with respect to:

- ARV-4 Monitoring Location
- Worplan and Timelines for Proposed Updates
- Removal of Conditions Related to Abandonment and Restoration
- Sludge Management
- Sewage Lagoon Monitoring Locations; and
- Replicate or Duplicate Samples.

## **2.0 Environment and Climate Change Canada's Mandate, Roles, and Responsibilities**

The mandate of ECCC is determined by the statutes and regulations under the responsibility of the Minister of Environment and Climate Change. ECCC's mandate covers matters such as the preservation and enhancement of the quality of the natural environment (including water, air and soil quality, and the coordination of the relevant policies and programs of the Government of Canada), renewable resources (including migratory birds and other non-domestic flora and fauna), meteorology, and the enforcement of rules and regulations. ECCC's specialist advice is provided in the context of the CEPA, the pollution prevention provisions of the *Fisheries Act*, SARA, and the MBCA.

ECCC administers the pollution prevention provisions of the *Fisheries Act*, which prohibits the deposit of a deleterious substance into fish-bearing waters. ECCC also participates in the regulation of toxic chemicals and the development and implementation of environmental quality guidelines pursuant to CEPA.

ECCC is responsible for protecting and conserving migratory bird populations and individuals under the MBCA. ECCC also administers SARA in cooperation with Fisheries and Oceans Canada, and the Parks Canada Agency to prevent wildlife species from becoming extirpated or extinct, provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming threatened, endangered or extirpated.

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

### **3.0 Environment and Climate Change Canada's Technical Review Comments**

This Final Written Submission summarizes the results of ECCC's technical review of the outstanding issues and the additional information provided by the Proponent following the Technical Meeting held February 22, 2022.

Subsection 36(3) of the federal *Fisheries Act*, administered by ECCC prohibits the discharge of deleterious substances to waters frequented by fish, or to a place where those substances might enter such waters.

ECCC's participation in the Technical Meeting led to resolution and planned paths forward on all issues identified in our technical review. Technical comments ECCC-02 and ECCC-05 were resolved through responses by GN-CGS to ECCC's technical comments and through discussion at the technical meetings. Technical comments ECCC-01, ECCC-03, ECCC-04 and ECCC-06 are resolved, pending the fulfillment of commitments for additional future information and/or submissions. These commitments for future information may be captured within the licence conditions to ensure clarity on submission timelines and expectations.

#### **3.1 ECCC-01 – ARV-4 Monitoring Location**

##### **References**

- Technical Review Comments Applicant Response – February 3, 2022
- GN-CGS Timeline Memo – April 5, 2022

##### **ECCC's Comments**

The application had noted that the hydraulics of the wetland treatment area might change due to the new lagoon. ECCC noted that there are potential uncertainties since the lagoon outlet location and effluent flow path had not yet been identified. During discussions at the technical meeting, ECCC recommended a flow study and wetland assessment be completed to reduce uncertainty and increase understanding of the flow of effluent through the wetland and overall treatment capacity. The April 5, 2022 submission states, "the design brief and 100% design documents are expected to be complete by March 2023. This will include a wetland assessment." However, it is unclear whether the wetland flow study can be completed during this time period unless it is currently underway and being completed in the 2022 field season.

##### **ECCC Recommendation(s):**

ECCC recommends that further clarification on the proposed timing of the wetland flow study be provided. ECCC considers ECCC-01 resolved pending this clarification.



## **3.2 ECCC-02 – Workplan and Timelines for Proposed Updates**

### **References**

- Technical Review Comments Applicant Response – February 3, 2022
- GN-CGS Timeline Memo – April 5, 2022

### **ECCC's Comments**

On April 5, 2022 GN-CGS provided estimated timelines for the proposed work and studies to be completed for the new wastewater facility. This submission includes planned timelines and associated studies for the upgrading and expansion of the lagoon, as well as for the solid waste disposal facility improvements, and remediation of the abandoned lagoon cells.

### **ECCC Recommendation(s):**

ECCC considers ECCC-02 resolved.

## **3.3 ECCC-03 – Removal of Conditions Related to Abandonment and Restoration**

### **References**

- Technical Review Comments Applicant Response – February 3, 2022
- Pre-hearing Conference Decision Report – Appendix D – March 25, 2022

### **ECCC's Comments**

GN-CGS had previously requested deletion of all conditions relating to closure and reclamation, stating the cost and relevance of completing the plans now when plans would change by the time of closure. ECCC had recommended retention of the licence closure conditions as they function as interim planning measures for closure and any progressive reclamation. GN-CGS has agreed to retention of closure requirements, and to outline timing prior to closure for submission of a detailed plan, noting that a detailed plan is not expected at this time. ECCC agrees with this proposed approach, however GN-CGS is to outline the steps to get to closure and at what point plans would be submitted (due May 16<sup>th</sup> as per commitment 6, Appendix D, Prehearing Conference Decision Report).

### **ECCC Recommendation(s):**

ECCC considers ECCC-03 resolved pending fulfillment of commitment 6.

### **3.4 ECCC-04 – Sludge Management**

#### **References**

- Technical Review Comments Applicant Response – February 3, 2022
- Pre-hearing Conference Decision Report – Appendix D – March 25, 2022

#### **ECCC's Comments**

It was confirmed by GN-CGS that the new lagoon will have the capacity to hold 20 years of sludge, therefore the potential need for sludge management is low. Incorporation of this design substantially resolves ECCC's comment related to sludge management. However, GN-CGS has also committed to managing sludge in the event that it accumulates more quickly than predicted or if the lagoon service life is extended. De-sludging practices will be included in the future operations and maintenance plan for the new lagoon, which will be submitted upon commissioning of the new sewage lagoon as per commitment 2 (estimated at the technical meeting to be provided in 2025).

#### **ECCC Recommendation(s):**

ECCC considers ECCC-04 resolved pending fulfillment of commitment 2.

### **3.5 ECCC-05 – Sewage Lagoon Monitoring Locations**

#### **References**

- Technical Review Comments Applicant Response – February 3, 2022
- Arviat Environmental Monitoring Program and QA/QC Plan, updated March 2022

#### **ECCC's Comments**

It was confirmed that lagoon effluent quality discharge to the wetlands would be monitored and assessed. In addition, GN-CGS suggested monitoring of the influent to the lagoon. ECCC is supportive of periodic characterization of trucked wastewater discharges.

#### **ECCC Recommendation(s):**

ECCC considers ECCC-05 resolved.

### **3.6 ECCC-06 – Replicate or Duplicate Samples**

#### **References**

- Technical Review Comments Applicant Response – February 3, 2022

- Arviat Environmental Monitoring Program and QA/QC Plan, updated March 2022
- Pre-hearing Conference Decision Report – Appendix D – March 25, 2022

**ECCC's Comments**

GN-CGS submitted an updated QA/QC Plan following discussions at the technical meeting. It was understood that this updated plan should include frequency of replicate/duplicate samples as well as provide a lab approval letter as per commitment 4. ECCC notes that while a lab approval letter was provided, the frequency of replicate/duplicate sampling is still absent from the report. This information will need to be provided in an update to the QA/QC Plan.

**ECCC Recommendation(s):**

ECCC considers ECCC-06 resolved pending fulfillment of commitment 4.

## **4.0 Acknowledgements**

ECCC acknowledges and appreciates the effort that GN-CGS and the Proponent have taken to provide information and to address concerns brought forward by parties throughout the water licence process. ECCC would like to thank the Nunavut Water Board for this opportunity to provide input to the Hamlet of Arviat Type A WL review 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.