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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

File No.: 3BM-COR0813

April 8, 2008

Ron Ladd  
Senior Administrative Officer  
Hamlet of Coral Harbour  
P.O. Box 30  
Coral Harbour, Nunavut  
X0C 0C0

Email: [munch@qiniq.com](mailto:munch@qiniq.com)

**RE: NWB Licence No. 3BM-COR0813**

Dear Mr. Ladd,

Please find attached Licence No. 3BM-COR0813 issued to the Hamlet of Coral Harbour by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*. The terms and conditions of the attached Licence related to water use and waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee will be in contravention of the *Nunavut Land Claims Agreement* (NLCA) and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRTA). However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment process. The process and timing may vary depending on the scope of the amendment, however a minimum of thirty (30) days is required from the time of acceptance by

the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments received by interested persons on issues identified. This information is attached for your consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read 'T. Kabloona', with a long horizontal flourish extending to the right.

Thomas Kabloona  
A/Chief Executive Officer

TK/tla/dh

Enclosure: Licence No. 3BM-COR0813  
Comments GN DoE, INAC and EC

cc: Kivalliq Distribution List



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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

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## DECISION

### LICENCE NUMBER: 3BM-COR0813

This is the decision of the Nunavut Water Board (NWB) with respect to an application for a Licence renewal originally received October 11, 2007, made by:

#### Hamlet of Coral Harbour

to allow for the use of water and disposal of waste for the Hamlet of Coral Harbour, located within the Kivalliq region of Nunavut. With respect to this application, the NWB gave notice to the public that the Hamlet had filed an application for a water licence renewal.

### DECISION

After having been satisfied that the application was exempt from the requirement for screening by the Nunavut Impact Review Board in accordance with S. 12.3.2 of the *Nunavut Land Claims Agreement* (NLCA), the NWB decided that the application could proceed through the regulatory process. After reviewing the full submission of the Applicant and written comments expressed by interested parties, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the NLCA and of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA), decided to waive the requirement to hold a public hearing and determined that:

**Licence Number 3BM-COR0813 be issued subject to the terms and conditions contained therein. (Motion #: 2008-01-06)**

SIGNED this 2<sup>nd</sup> day of April, 2008 at Gjoa Haven, NU.

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Thomas Kabloona  
Acting Chief Executive Officer

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## **I. BACKGROUND**

The Hamlet of Coral Harbour has a population of 789 (2006) and is located at the coordinates of 64°08' north latitude and 83°10' west longitude on south shore of Southampton Island within the Keewatin planning region of Nunavut. The surrounding landscape is characterized generally by low relief and many shallow surface water bodies. Existing water use and waste disposal facilities include a freshwater intake and pump and reservoir, exfiltration sewage lagoon, wetland treatment area, solid waste and bulky items disposal areas and hazardous waste storage.

## **II. PROCEDURAL HISTORY**

The NWB issued a municipal water licence to the Hamlet of Coral Harbour on November 1, 2002, to allow for the use of water and disposal of waste. Following an application by the Hamlet, the NWB issued an amendment to the Licence on February 17, 2005 to allow for the construction of additional infrastructure including perimeter containment berms and chain link fencing at the Hamlet's Sewage Disposal Facility.

The municipal water licence expired on October 31, 2007. Nunami Jacques Whitford Limited (NJWL), on behalf of the Hamlet, submitted an application for water licence renewal to the NWB on October 11, 2007. Following a preliminary review of the application, the NWB concluded that it met the requirements of section 48(1) of the *Nunavut Waters and Surface Rights Tribunal Act* (the Act) and advised the Applicant and distribution list accordingly on November 27, 2007.

Information contained in the October 11, 2007 submission and distributed for review was as follows:

- Application cover letter
- Application summary;
- NWB Licence renewal application;
- NWB Municipal licence questionnaire;
- Report of the Natural Tundra Wetland Sewage Treatment Facility (NJWL October 2007)
- Schematic Design Report: Natural Tundra Wetland Sewage Treatment Area Design (NJWL August 29, 2007);
- Appendix B: Wetland photos; and
- Figure 1: Hamlet of Coral Harbour Water and Waste Facility Locations (NJWL).

The scope of the renewal application included ongoing operation of the existing Sewage Disposal Facility, Wetland Treatment Area, and Solid Waste Disposal Facility. In its application, the Licensee also advised the NWB of plans to construct diversion berms to redirect wetland treatment flow away from the community and requested that the Wetland Treatment Area be included as part of the overall sewage treatment system.

The Nunavut Water Board publicly posted notice of this application, in accordance with Section 55.1 of the Act and Article 13 of the *Nunavut Land Claims Agreement* (NLCA), on November 27, 2007. This assessment process included the referral of the application to a variety of Federal, Territorial and local organizations for their review and comment.

As no public concern was expressed, the NWB waived the requirement to hold a public hearing and proceeded with the application process.

The NWB received comments on the application from interested parties including Indian and Northern Affairs Canada (INAC), Environment Canada (EC), and the Government of Nunavut Department of Environment (GN-DOE) on or prior to January 11, 2008.

Based upon the results of the detailed assessment, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have in the area, the Board approved the application and has issued Licence 3BM-COR0813.

### III. ISSUES

#### Term of Licence

In accordance with section 45 of the Act, the NWB may issue a licence for a term not exceeding twenty-five years. In determining an appropriate term of a water licence, the Board considers a number of factors, including, but not limited to, the results of INAC site inspections and the compliance record of the Applicant. In review of the previous water licence NWB3COR0207 inspection reports, the NWB has noted that there were several issues of non-compliance and other related problems identified by the inspector, which include:

- i. Record keeping for the freshwater intake facility;
- ii. Leachate from the solid waste facility mixing with sewage lagoon effluent and exceeding *Canadian Guidelines for the Protection of Aquatic Life* for iron.
- iii. Insufficient segregation of materials at the solid waste facility;
- iv. Insufficient measures to deal with hazardous waste;
- v. Unacceptable waste oil handling;
- vi. Sewage treatment facility effluent exceeding licensed limits;
- vii. The Hamlet has not submitted an Operation and Maintenance Plan; and
- viii. Incomplete monitoring data.

In review of the application and the comments received from interested parties, there were no comments with respect to the Hamlet's request for a term of ten (10) years for the Licence renewal. However, the NWB has decided on a five (5) year term for the Licence. Although the Board has recently issued municipal licences for terms of two (2) years where compliance issues have been of a concern, the Board finds that a five (5) year term is warranted in this case given the information submitted as part of the application. The Board interprets the level of detail

contained in the application as a significant step towards achieving compliance. However, the Board fully expects the Hamlet to take further and immediate steps to come into full compliance with the Licence requirements for its water and waste facilities. The Board had included a requirement for a “Plan For Compliance” be submitted under Part B, Item 10 of the Licence, that will clearly demonstrates how the Hamlet will achieve full compliance with the Licence conditions. The Plan for Compliance must also address the issues raised by GN-DOE concerning sewage treatment and potential non-compliance during the winter when raw, untreated sewage may potentially be entering the environment with minimal or no treatment due to a combination of a leaky sewage lagoon and frozen conditions in the wetland area. This is of significant importance given the current design of the system, which consists of an exfiltration detention cell and large wetland area, both which have very limited capacity for the control of effluent discharge.

The NWB reminds the Licensee of its responsibility to be in compliance with the conditions of the Licence. If monitoring results demonstrate that the wetland area is incapable of treating sewage, at any time of the year, the Licensee will be required to take the necessary remedial actions to remedy the situation.

### **Annual Report**

The NWB has imposed on the Licensee, the requirement to produce an Annual Report. These Reports are for the purpose of ensuring that the NWB has an accurate annual update of municipal activities during a calendar year. This information is maintained on the public registry and is available to interested parties upon request. A “*Standardized Form for Annual Reporting*” is to be used by the Licensee and is available from the NWB file transfer protocol (FTP) site under the Public Registry link at the NWB Website.

Link = <http://nunavutwaterboard.org/ADMINISTRATION/Standardized%20Forms/>

### **Operational Plans**

Appropriate Plans need to be developed to the satisfaction of the NWB for the operation and maintenance of the facilities, the protection of the environment with regard to potential spills through day-to-day operations, and abandonment and restoration of the sites.

It is noted that the Licensee has not submitted an Operations and Maintenance (O&M) Plan to the NWB. This Licence has therefore, included the requirement to provide O&M Manual to the NWB, which is to include the following in accordance with Part F, Item 1 of the Licence:

- i. *Water Storage and Distribution Facility Operation and Maintenance (O&M) Plan;*
- ii. *Sewage Disposal Facility Operation and Maintenance (O&M) Plan;*
- iii. *Sewage Sludge Management Plan;*
- iv. *Solid Waste Disposal Facility Operation and Maintenance (O&M) Plan;*

- v. *Spill Contingency Plan; and*
- vi. *Monitoring Program Quality Assurance/Quality Control Plan.*

The purpose of the O&M Manual noted above is to assist Hamlet staff in carrying out the procedures relating to their water distribution and waste disposal facilities. The O&M Manual should demonstrate to the NWB that the Hamlet is capable of operating and maintaining the infrastructure related to water use and waste disposal adequately and to meet the requirements of the Licence. The O&M Manual should be based, at a minimum on the various NWB-approved guidelines available (i.e. *Guidelines for the Preparation of an Operations and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories*, Duong and Kent, 1996) and other regulatory guidelines as deemed appropriate.

### **Water Use**

The Hamlet of Coral Harbour currently utilizes the Post River as a source of potable water with the quantity used not exceeding 35,000 cubic metres annually. No concerns were raised by the parties in their written submissions as to the amount of water required by the Hamlet, the manner in which it is obtained or in the manner in which this water will be used. The NWB has renewed the terms and conditions associated with water use by the Hamlet accordingly.

### **Sewage**

The Hamlet of Coral Harbour currently provides trucked sewage services for the Community's residents, businesses and institutions. The trucked sewage is discharged to the Sewage Disposal Facilities, where primary treatment typically occurs. Within the Application, information was provided as to the plans to construct diversion berms to redirect wetland treatment flow away from the community. This information was contained in the report This information was considered very preliminary and the Licensee is required to provide the NWB with finalized As-Built Drawings, stamped and signed by an Engineer, for all construction of diversion berms associated with the Sewage Disposal Facilities and the Solid Waste Disposal Facility. This requirement is set out in Part E of this Licence.

Specific comments relevant to sewage disposal operations in the Hamlet were provided by GN-DOE, INAC and EC.

EC also noted that the wetland area was proposed as a treatment component of the overall Sewage Disposal Facility and suggests that much lower limits than those contained in the expired water licence be applied for the outflow from the wetland. The NWB, in accordance with the definitions provided in Part A of the Licence identifies the Sewage Disposal Facility and Wetland Treatment Area as separate components of an overall treatment strategy. The NWB also observes that the outflow from the Wetland Treatment Area eventually discharges to a large lake as indicated in the NJWA report (October 2007). Therefore, the NWB concurs with EC's recommendation and in being consistent with the *Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories* (Northwest Territories Water Board, 1992),



has included lower discharge limits within in Part D, Item 3 of this Licence to reflect the release of effluent from the wetland into a lake.

EC noted that any effluent discharged must be in compliance with Section 36(3) of the Fisheries Act. In order to effectively monitor the effluent for compliance purposes, the NWB has imposed acute toxicity testing as a Licence requirement under Part D, Item 6 at the outlet of the Wetland Treatment Area prior to entering the receiving lake.

In its submission, INAC noted that the Hamlet is not planning to upgrade the existing exfiltration berm and concern was raised over its stability. The NWB has added a requirement for a geotechnical inspection of the facilities to be carried out on an annual basis by a qualified engineer. This condition is consistent with other water licences issued in Nunavut. The Licensee must also address the Hamlet's response to potential berm failure within the Spill Contingency Plan in the O&M Manual.

EC noted that maintenance should include removal and disposal of sewage sludge. EC recommended that prior to removal of sludge occurring, that the Licensee submit for approval a Sewage Sludge Management Plan (as part of the above-mentioned O&M Manual) that clearly outlines the chemical composition of the sludge, and how sludge will be stored, treated and eventually disposed of. The NWB concurs with this recommendation, and has imposed this requirement in the Licence.

EC noted that a Spill Contingency Plan should be submitted to the NWB by the Licensee. The NWB concurs with this recommendation, and has imposed this requirement as part of the O&M Manual in the Licence.

Finally, as part of the Sewage Disposal Facility O&M Plan, the NWB requires that the Licensee include procedures and frequencies of inspections to be carried out to verify when there is flow from the Sewage Disposal Facility or outflow from the Wetland Treatment Area, which would trigger the monitoring program. Part D, Item 2 of the Licence requires that the Inspector be notified upon commencement on the monitoring program.

### **Solid Waste**

The development of an O&M Plan for the Solid Waste Disposal Facility is required as part of the overall O&M Manual discussed above. The O&M Plan for the Solid Waste Disposal Facility should set out procedures for the segregation, storage and eventual removal for disposal of hazardous wastes, including waste oil, and should also address procedures for the incineration of solid waste.

The 2002 Application for water licence indicated that the Hamlet was currently using a Solid Waste Disposal Site located approximately 2.5km northwest of the community on the east side of a gravel ridge. The site covered an area of approximately 7,300m<sup>2</sup>. The recent Application indicates that the Hamlet will continue to collect and deposit solid waste in the Landfill.

Comments provided by INAC noted a second waste storage location by the Coral Harbor Airport, which is not a licensed facility. The Supplementary Questionnaire submitted included a reference to this facility, however there is insufficient detail provided to licence its operation. The NWB requests that the Licensee submit for approval, the details concerning its location, construction including as-built design drawings stamped and signed by an Engineer, as well as including its operation within an Operations and Maintenance Manual. The Licensee will also be required to obtain an amendment to this licence for its use. Should the facility no longer be in use, the Licensee is required to comply with the abandonment and restoration conditions set out in Part G of this Licence and provide a Plan for the Abandonment and Restoration of the site.

The NWB also notes the concern raised by INAC regarding the mixing of leachate from the Solid Waste Disposal Facility with effluent from the Sewage Disposal Facility leading to the presence of metals in the Wetland Treatment Area. The NWB requires that the Licensee address this concern and propose a way to divert solid waste runoff from the wetland area. This may require modification to the current drainage from the Solid Waste Disposal Facility, with all modifications being subject to Part E of this Licence.

### **Abandonment and Restoration**

To ensure that all existing end-of-life facilities are reclaimed in an appropriate manner, the NWB requires Licensees to submit an *Abandonment and Restoration Plan*. This Plan is to be submitted at least six (6) months prior to final closure of any licensed facility or upon submission of the final design drawings for the construction of new facilities to replace existing ones. The requirements for the Plan are outlined in Part G, Item 1 of this Licence.

#### IV. LICENCE 3BM-COR0813

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

**HAMLET OF CORAL HARBOUR**  
\_\_\_\_\_  
(Licensee)  
of  
**CORAL HARBOUR, NUNAVUT X0C 0C0**  
\_\_\_\_\_  
(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water for a period subject to restrictions and conditions contained within this Licence:

**3BM-COR0813**  
Licence Number \_\_\_\_\_

**NUNAVUT 05**  
Water Management Area \_\_\_\_\_  
**CORAL HARBOUR, NU (Latitude 64°08'N and Longitude 83°10'W)**  
Location \_\_\_\_\_

**WATER USE AND WASTE DISPOSAL**  
Purpose \_\_\_\_\_

**MUNICIPAL UNDERTAKINGS**  
Description \_\_\_\_\_

**35,000 CUBIC METRES ANNUALLY**  
Quantity of Water Not to Exceed \_\_\_\_\_

**APRIL 2<sup>nd</sup>, 2008**  
Date of Licence \_\_\_\_\_

**MARCH 31, 2013**  
Expiry Date of Licence \_\_\_\_\_

Dated this 2<sup>nd</sup> day of April, 2008 at Gjoa Haven, NU.



\_\_\_\_\_  
Thomas Kabloona  
Acting Chief Executive Officer

## **PART A: SCOPE AND DEFINITIONS**

### **1. Scope**

- a. This Licence allows for the use of water and the disposal of waste for municipal undertakings at the Hamlet of Coral Harbour, Kivalliq Region, Nunavut (64°08' N; 83°10'W);
- b. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Nunavut Waters and Nunavut Surface Rights Tribunal Act, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

### **2. Definitions**

In this Licence: **3BM-COR0813**

**“Act”** means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

**“Amendment”** means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

**“Analyst”** means an Analyst designated by the Minister under Section 85 (1) of the *Act*;

**“Appurtenant undertaking”** means an undertaking in relation to which a use of waters or a deposit of waste is permitted by a licence issued by the Board;

**“Average Concentration”** means the arithmetic mean of the last four consecutive analytical results for composite or grab samples collected from the monitoring stations identified in Part H;

**“Board”** means the Nunavut Water Board established under the *Nunavut Land Claims Agreement*;

**“Composite Sample”** means a water or wastewater sample made up of four (4) samples taken at regular periods over a 24 hour period;

**“Effluent”** means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or a treatment plant;

**“Engineer”** means a professional engineer registered to practice in Nunavut in accordance with the *Engineering, Geological and Geophysical Act (Nunavut)* S.N.W.T. 1998, c.38, s.5;

**“Final Discharge Point”** in respect of an effluent means an identifiable discharge point of a facility beyond which the operator of the facility no longer exercises control over the quality of the effluent;

**“Freeboard”** means the vertical distance between water line and the designed maximum operating height on the crest of a dam or dyke’s upstream slope;

**“Geotechnical Engineer”** means a professional engineer registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization with the engineering properties of earth materials in dealing with man-made structures and earthworks that will be built on a site. These can include shallow and deep foundations, retaining walls, dams, and embankments;

**“Grab Sample”** means a single water or wastewater sample taken at a time and place representative of the total discharge;

**“Greywater”** means all liquid wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet wastes;

**“Inspector”** means an Inspector designated by the Minister under Section 85 (1) of the Act;

**“Licensee”** means the holder of this Licence;

**“Modification”** means an alteration to a physical work that introduces new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion, and changes to the operating system that are consistent with the terms of this Licence and do not require amendment;

**“Monitoring Program”** means a monitoring program established to collect data on surface water and groundwater quality to assess impacts to the freshwater aquatic environment of an appurtenant undertaking;

**“Nunavut Land Claims Agreement”** (NLCA) means the *“Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada”*, including its preamble and schedules, and any amendments to that agreement made pursuant to it;

**“Sewage”** means all toilet wastes and greywater;

**“Sewage Disposal Facilities”** comprises the exfiltration detention cell as described in the Application for Water Licence filed by the Applicant on October 11, 2007.

**“Solid Waste Disposal Facilities”** means the facilities designated for the disposal of solid waste, as described in the Application for Water Licence filed by the Licensee on October 11, 2007;

**“Toilet Wastes”** means all human excreta and associated products, but does not include greywater;

**“Waste”** means, as defined in S.4 of the Act, any substance that, by itself or in combination with other substances found in water, would have the effect of altering the quality of any water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means;

**“Water Supply Facilities”** comprises the area and associated intake infrastructure at Post River, as described in the Application for Water Licence filed by the Licensee on October 11, 2007;

**“Wetland Treatment Area”** comprises the area of land immediately downstream of the Sewage Disposal Facility as described in the supplemental information report entitled *Report of the Natural Tundra Wetland Sewage Treatment Facility, Coral Harbour, NU. Prepared for Nunavut Water Board in support of Licence renewal application NWB #COR0207*; Prepared by Nunami Jacques Whitford Limited, Rankin Inlet, Nunavut, October 2007.

### **3. Enforcement**

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;

- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*;
- c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law; and
- d. The Licensee shall, in relation to any application to renew or amend the Licence, have in place a Plan for Compliance approved by the Board in writing, to achieve full compliance with the conditions of this Licence, or a Plan for Compliance must be submitted at the time of Application, in order for the Application to be deemed complete.

## **PART B: GENERAL CONDITIONS**

- 1. The Licensee shall file an Annual Report with the Board not later than March 31<sup>st</sup> of the year following the calendar year reported which shall contain the following information:
  - a. tabular summaries of all data generated under the “Monitoring Program”;
  - b. the monthly and annual quantities in cubic metres of fresh water obtained at the Water Supply Facilities;
  - c. the monthly and annual quantities in cubic metres of each and all waste discharged;
  - d. a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;
  - e. a list of unauthorized discharges and summary of follow-up action taken;
  - f. a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
  - g. Any updates or revisions for manuals and plans (i.e., *Operations and Maintenance Manual*) as required by changes in operation and/or technology;
  - h. a summary of any studies or reports requested by the Board that relate to water use and waste disposal or restoration, and a brief description of any future studies planned;

- i. any other details on water use or waste disposal requested by the Board by November 1<sup>st</sup> of the year being reported; and
2. The Licensee shall comply with the “Monitoring Program” described in this Licence, and any amendments to the “Monitoring Program” as may be made from time to time, pursuant to the conditions of this Licence.
3. The “Monitoring Program” and compliance dates specified in the Licence may be modified at the discretion of the Board.
4. Meters, devices or other such methods used for measuring the volumes of water used and waste discharged shall be installed, operated and maintained by the Licensee.
5. The Licensee shall, within ninety (90) days after the first visit by the Inspector following issuance of this Licence, post the necessary signs to identify the stations of the “Monitoring Program.” All signage postings shall be in the Official Languages of Nunavut.
6. The Licensee shall immediately report to the 24-Hour Spill Report Line (867-920-8130) any spills of Waste, which are reported to, or observed by the Licensee, within the municipal boundaries or in the areas of the Water Supply or Waste Disposal Facilities.
7. The Licensee shall ensure a copy of this Licence is maintained at the Municipal Office at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

**Manager of Licensing:**

Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0  
Telephone: (867) 360-6338  
Fax: (867) 360-6369  
Email: [licensing@nunavutwaterboard.org](mailto:licensing@nunavutwaterboard.org)

**Inspector Contact:**

Water Resources Officer  
Nunavut District, Nunavut Region  
P.O. Box 100  
Iqaluit, NU X0A 0H0  
Telephone: (867) 975-4295  
Fax: (867) 979-6445



**Analyst Contact:**

Taiga Laboratories  
Department of Indian and Northern Affairs  
4601 – 52 Avenue, P.O. Box 1500  
Yellowknife, NT X1A 2R3  
Telephone: (867) 669-2781  
Fax: (867) 669-2718

8. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
9. The Licensee shall ensure that all document(s) and correspondence submitted by the Licensee to the Board are received and acknowledged by the Manager of Licensing.
10. The Licensee shall submit to the Board for approval within the lesser of ninety (90) days or upon the filing of any application in relation to the Licence, a Plan for Compliance that clearly demonstrates the ways and means the Licensee will undertake to achieve full compliance with the conditions of this Licence. The Plan for Compliance must also address the potential for minimally treated sewage to enter the environment during periods when the wetland area may be frozen or otherwise not fully capable of treating sewage.
11. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
12. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
13. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and condition imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
14. This Licence is not assignable except as provided in Section 44 of the Act.

**PART C: CONDITIONS APPLYING TO WATER USE**

1. The Licensee shall obtain all fresh water from the Post River using the Water Supply Facilities or as otherwise approved by the Board.

2. The annual quantity of water used for all purposes shall not exceed 35,000 cubic metres.
3. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.
4. The Licensee shall not remove any material from below the ordinary high water mark of any water body unless otherwise approved by the Board in writing.
5. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
6. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.

#### **PART D: CONDITIONS APPLYING TO WASTE DISPOSAL**

1. The Licensee shall direct all Sewage to the Sewage Disposal Facility or as otherwise approved by the Board.
2. The Licensee shall provide notice to an Inspector annually upon commencing the monitoring program when flow is observed from either the Sewage Disposal Facility, at monitoring station COR-3, or the Wetland Treatment Area at monitoring station COR-5.
3. All Effluent discharged from the Wetland Treatment Area Final Discharge Point at Monitoring Program Station COR-5 shall meet the following effluent quality limits:

<b>Parameter</b>	<b>Maximum Average Concentration</b>
BOD <sub>5</sub>	30 mg/L
Total Suspended Solids	30 mg/L
Fecal Coliforms	1 x 10 <sup>4</sup> CFU/100mL
Oil and grease	No visible sheen
pH	between 6 and 9

4. The Licensee shall maintain at all times, a freeboard of at least 1.0 metre, or as recommended by a qualified geotechnical engineer and as approved by the Board, for all dams, dykes or other structures intended to contain, withhold, divert or retain water or wastes.
5. The Sewage Disposal Facility shall be maintained and operated in such a manner as to prevent structural failure.

6. All Effluent discharged from the Wetland Treatment Area Final Discharge Point, Monitoring Program Station COR-5, shall be demonstrated to be Not Acutely Toxic under the following tests to be conducted once annually approximately mid-way through discharge:
  - a. Acute lethality to Rainbow Trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13); and
  - b. Acute lethality to the crustacean, *Daphnia magna* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/14).
7. The Licensee shall dispose of and contain all solid wastes at the Solid Waste Disposal Facility or as otherwise approved by the Board.
8. The Licensee shall segregate and store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facility in a manner as to prevent the deposit of deleterious substances into any water until such a time as proper disposal arrangements are made.
9. The Licensee shall implement measures to control wind-blown litter at the Solid Waste Disposal Facility.

#### **PART E: CONDITIONS APPLYING TO MODIFICATION AND CONSTRUCTION**

1. The Licensee shall submit to the Board for approval, design drawings stamped by a qualified engineer registered in Nunavut, prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain water or wastes.
2. The Licensee may, without written approval from the Board, carry out modifications to the Water Supply and Waste Disposal Facilities provided that such modifications are consistent with the terms of this Licence and the following requirements are met:
  - a. the Licensee has notified the Board in writing of such proposed modifications at least sixty (60) days prior to beginning the modifications;
  - b. these modifications do not place the Licensee in contravention of the Licence or the Act;
  - c. the Board has not, during the sixty (60) days following notification of the proposed modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and

- d. the Board has not rejected the proposed modifications.
3. Modifications for which all of the conditions referred to in Part E, Item 2, have not been met may be carried out only with written approval from the Board. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.
4. The Licensee shall provide as-built plans and drawings, stamped and signed by a professional Engineer registered in Nunavut, within ninety (90) days of completion of construction or, if already constructed, upon issuance of this Licence, including the following:
  - a. Sewage Treatment Facilities upgrade, authorized under Amendment No.1, issued February 17, 2005 for the construction of additional infrastructure including perimeter containment berms and chain link fencing;
  - b. Constructed diversion berms within the Wetland Treatment Area as identified in the conceptual Drawing No.3 and 4 of the Schematic Design Report (NJWL, August 2007), including location plans and cross sections; and
  - c. Solid Waste Disposal Facilities and up grades authorized under Amendment No.1;
5. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage
6. The Licensee shall ensure that sediment and erosion control measures are implemented prior to and maintained during activities carried out under this Part to prevent the release of sediment and minimize erosion.

#### **PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE**

1. The Licensee shall submit to the Board for approval, within ninety (90) days of issuance of the Licence, an Operations and Maintenance Manual prepared where appropriate, in accordance with the "*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996*". The Manual shall take into consideration the comments received during the application review process and shall contain the following plans:
  - a. *Water Distribution Facility Operation and Maintenance (O&M) Plan;*

- b. *Sewage Disposal Facility Operation and Maintenance (O&M) Plan;*
  - c. *Sewage Sludge Management Plan;*
  - d. *Solid Waste Disposal Facility Operation and Maintenance (O&M) Plan;*
  - e. *Spill Contingency Plan; and*
  - f. *Monitoring Program Quality Assurance/Quality Control Plan (QA/QC Plan).*
2. The Licensee shall review the O&M Manual referred to in Part F, Item 1 as required by changes in operation and/or technology and modify accordingly. Revisions are to be submitted in the form of an Addendum to be included with the Annual Report.
3. An inspection of all engineered facilities related to the management of water and waste shall be carried out annually in July or August by a Geotechnical Engineer. The engineer's report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations.
4. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.
5. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a. employ the appropriate contingency measures as approved under the Operation and Maintenance Manual for the Hamlet of Coral Harbour;
  - b. report the incident immediately via the 24-Hour Spill Reporting Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
  - c. submit to the Inspector, a detailed report on each occurrence, not later than thirty (30) days after initially reporting the event, that provides the necessary information on the location (including the GPS coordinates), initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and preventative measures to be implemented.

## **PART G: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Licensee shall submit to the Board for approval an *Abandonment and Restoration Plan* at least six (6) months prior to abandoning any facilities or upon submission of the final design drawings for the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following:
  - a. water intake facilities;
  - b. the water treatment and waste disposal sites and facilities;
  - c. petroleum and chemical storage areas;

- d. any site affected by waste spills;
- e. leachate prevention;
- f. an implementation schedule;
- g. maps delineating all disturbed areas, and site facilities;
- h. consideration of altered drainage patterns;
- i. type and source of cover materials;
- j. future area use;
- k. hazardous wastes; and
- l. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.

## **PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM**

1. The Licensee shall maintain Monitoring Program Stations at the following locations:

<b>Monitoring Program Station Number</b>	<b>Description</b>	<b>Status</b>
COR-1	Raw water supply intake at Post River	Active (Volume)
COR-2	Raw Sewage from pump-out truck	Active (Volume)
COR-3	Sewage on upstream side of lagoon berm	New
COR-4a, (corresponds to proposed SNP point 2)	Station within the Wetland Treatment Area	New
COR-4b(corresponds to proposed SNP point 3)	Station within the Wetland Treatment Area	New
COR-4c(corresponds to proposed SNP point 4)	Station within the Wetland Treatment Area	New
COR-5	Final Discharge Point of the Wetland Treatment Area	New
COR-6 (previously COR-2 under licence NWB3COR0207)	Run-off from the Solid Waste Disposal Facility	Active

2. The Licensee shall sample at Monitoring Program Stations COR-3, COR-4a, COR-4b, COR-4c and COR-5 once at the beginning, middle and near the end of the open water season when during periods of observed flow. Samples shall be analyzed for the following parameters:

Biochemical Oxygen Demand (BOD <sub>5</sub> )	Faecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite

Oil and Grease (visual)	Total Phenols
Magnesium	Calcium
Sodium	Potassium
Chloride	Sulphate
Total Hardness	Total Alkalinity
Ammonia Nitrogen	Total Zinc
Total Cadmium	Total Iron
Total Cobalt	Total Manganese
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Aluminum	Total Arsenic
Total Mercury	Total Organic Carbon (TOC)

3. The Licensee shall sample at Monitoring Program Station COR-6 annually during periods of runoff or seepage. Samples shall be analyzed for the following parameters:

TPH (Total Petroleum Hydrocarbons)  
 PAH (Polycyclic Aromatic Hydrocarbons)  
 BTEX (Benzene, Toluene, Ethylbenzene, Xylene)

BOD <sub>5</sub>	Faecal Coliforms
pH	Conductivity
Total Suspended Solids	Oil and Grease
Nitrate-Nitrite	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Total Arsenic	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel

4. The Licensee shall report all results of acute toxicity testing as required under Part D, Item 6 within the Annual Report as per Part B, Item 1.
5. The Licensee shall measure and record, in cubic metres, the monthly and annual quantities of water pumped at Monitoring Program Station COR-1, for all purposes.
6. The Licensee shall measure and record, in cubic metres, the monthly and annual quantities of raw sewage offloaded from trucks at Monitoring Program Station COR-2, for all purposes.
7. Additional monitoring stations, sampling and analysis may be requested by an Inspector.

8. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
9. All analyses shall be performed by a laboratory certified by the Canadian Association of Environmental Analytical Laboratories (CAEAL), or as otherwise approved by an Analyst.
10. The Licensee shall measure and record the annual quantities of sewage solids removed from the Sewage Disposal Facility.
11. The Licensee shall include all of the data and information required by the “Monitoring Program” in the Licensee's Annual Report, as required *per* Part B, Item 1, or as requested by an Inspector.
12. Modifications to the Monitoring Program may be made only upon written approval from the NWB.
13. The Licensee shall submit to the Board for review and approval, within six (6) months of the issuance of this licence, a report identifying any additional Final Discharge Points from the Wetland Treatment Area. The report shall at least include:
  - a. Plans, specifications, geographic coordinates and a general description of each Final Discharge Point; and
  - b. A description of how each Final Discharge Point is designed and maintained, if required.
14. If, during the term of this Licence, additional Final Discharge Points are identified, the Licensee shall submit the information as required by Part H, Item 13 for each new Final Discharge Point.