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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

Licence No.: 1BR-CLY1828

July 18, 2018

Bhabesh Roy
Municipal Planning Engineer
Community Government Services
Baffin Region, Government of Nunavut
PO Box 379, Pond Inlet, X0A 0S0
Email: broy@gov.nu8.ca

RE: NWB Replacement Licence No. 1BR-CLY1828

Dear Mr. Roy:

Please find attached Replacement Licence No. **1BR-CLY1828** issued to the Government of Nunavut, Community and Government Services (GN-CGS) by the Nunavut Water Board (NWB or Board) 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 (Nunavut Agreement)*. The terms and conditions of the attached Licence related to the use of Waters and the deposit of Waste 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 deposit must cease, or the Licensee may be in contravention of the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. 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 (3) months** prior to the Licence expiry date. It should be noted that in accordance with s. 75 (1) (a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the Board is not allowed to issue a permit or authorization for a project proposal that has not been submitted to the Nunavut Planning Commission (NPC) for the NPC's relevant determination.

If the Licensee contemplates or requires an amendment to this Licence, the NWB may decide, in the public's interest, to hold a public hearing. The Licensee should submit any application 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 **sixty (60) days** is required from time of acceptance by the NWB. It is the

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

The NWB received written confirmation from intervening parties (ECCC, DFO, CIRNAC) that they have no concern with the Application at this current time.

Sincerely,

Lootie Toomasie
Nunavut Water Board
Chair

LT/dd/rqd

Enclosure: Replacement Licence No. **1BR-CLY1828**

Cc: Qikiqtani Region Distribution List

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DECISION

LICENCE NUMBER: 1BR-CLY1828

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated May 29, 2018, for a renewal Water Licence made by:

GOVERNMENT OF NUNAVUT, COMMUNITY AND GOVERNMENT SERVICES

to allow for the use of water and deposit of waste to support remediation and monitoring activities at the, Clyde River Old Town Site Remediation Project located 5 km southeast of the community of Clyde River within the Qikiqtani Region, Nunavut, generally at the following geographical coordinates:

Project Extents:

NW:	Latitude: 70° 28 58 N	Longitude: 68° 38 10" W
NE:	Latitude: 70° 28 49 N	Longitude: 68° 30 53" W
SE:	Latitude: 70° 27 06 N	Longitude: 66° 33 24" W
SW:	Latitude: 70° 28 02 N	Longitude: 68° 38 17" W

DECISION

After having been satisfied that the Application is for a proposal that was reviewed by the NPC and conforms to the North Baffin Land Use Plan and is exempt from the requirements for further screening as described within s. 12.4.3 / Schedule 12-1 of the *Nunavut Agreement*¹ (previously screened by NIRB²), the NWB decided that the application could proceed through the regulatory process. In accordance with s. 55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or *Act*) and Article 13 of the *Nunavut Agreement*, public notice of the Application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, 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 *Nunavut Agreement* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

Licence No. 1BR-CLY1828 be issued subject to the terms and conditions contained therein. (Motion #: 2018-B1-018)

SIGNED this 18th day of July 2018 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board Chair
LT/dd/rqd

¹ NPC conformity determination originally dated November 16, 2012, confirmed May 25, 2018.

² NIRB Screening Decision dated January 24, 2013.

I. PROJECT OVERVIEW

Nunami Stantec Ltd. (Nunami) was retained by the Government of Nunavut, Department of Community and Government Services (GN-CGS) to complete the remediation project at the Clyde River Old Town Site generally located 5km south east of the current community of Clyde river, on the east side of Patricia Bay. The remediation site is the former settlement of Clyde River and was occupied from 1923 until 1970 when the new community was established. Several building foundations, four bulk fuel aboveground storage tanks (ASTs) and several dump sites containing hazardous and non-hazardous wastes, are currently situated at the Old Town Site.

A final Environmental screening submitted by Nunami Stantec Ltd. identified the following remediation activities to include:

- Construction, operation, and decommissioning of a 2.6 km access road from an existing municipal road to the Old Town Site;
- Development and operation of eight existing borrow sources, including the Hamlet's existing quarry;
- Construction, operation, and closure of a landfarm at the Old Town Site to treat petroleum hydrocarbon contaminated soils;
- Construction, operation, and closure of a staging area at the Old Town Site;
- Construction, operation, and closure of a landfill containment cell at the Hamlet's solid waste facility;
- Excavation of buried waste debris, including hazardous and non-hazardous wastes, with appropriate segregation, containerization, transportation, and disposal;
- Excavation of contaminated soils with appropriate treatment or disposal;
- Collection and treatment of contaminated water; and,
- Monitoring following closure.

Shortly after the issuance of the current expired Licence, the project was put on hold and to date, "practically no work" has been conducted.

II. PROCEDURAL HISTORY

The NWB received the Water Licence Renewal Application from GN-CGS (Application) on May 29, 2018, to replace their current Water Licence 1BR-CLY1318, which expired on July 4, 2018. The Application included the following documents:

- Water Licence Application;
- Annual Reports from 2013 to 2017;
- Technical summary in English and Inuktitut;
- NPC's conformity determination letter, dated May 25, 2018;
- Figures:
 - Clyde River Old Town Remediation Site;
 - Water crossing;

- Borrow Sources;
- Final Environmental Screening Report.

It was noted in the Application that the documents provided with the original August 16, 2012, application still apply. These include:

- General Water Licence Application;
- Project Summaries, English, Inuktitut;
- Authorization letter
- Final Environmental Screening;
- HHER Assessment;
- Appendix A to G;
- Remediation Action Plan;
- Geotechnical Assessment;
- Draft SIG for Hydrocarbon Impacted Soil storage and Landfarm Treatment Facilities; and
- Supplemental Phase III Environmental Site assessment.

On June 5, 2018, following a preliminary internal technical review the NWB concluded that the Application met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA or Act) and forwarded notice of the Application to regulators, council of the municipality most affected by the project and other interested parties. All parties were invited to make representations to the NWB within thirty (30) days.

Written submissions were received from Crown Indigenous Relations and Northern Affairs Canada (CIRNAC), Environment and Climate Change Canada (ECCC), and Fisheries and Oceans Canada (DFO). No public concern was expressed during the notice period. Therefore, the NWB waived the requirement to hold a public hearing and proceeded with the application process.

Based upon the results of the detailed assessment of the Application, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have in the area, the Board has approved the Application and has issued Water Licence 1BR-CLY1828.

III. GENERAL CONSIDERATIONS

The issuance of this Licence (No. **1BR-CLY1318**) will replace Licence No. **1BR-CLY1828**. Since no activity and no modifications have occurred since the issuance of the original Licence, terms and condition in the replacement Licence will be similar.

Term of Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 45, the NWB may issue a Licence for a term not exceeding twenty-five (25) years. The applicant requested a ten (10) year Replacement Licence (for a Licence expiry in 2028), under which they plan to complete all remediation activities followed by two years of monitoring. In its review of the

Application, ECCC, DFO and CIRNAC had no issues with the ten (10) year Licence term. However, in determining an appropriate term of a Water Licence, the Board considers a number of factors including the risk to Water resources posed by the undertaking. Given that the project has only recently been funded and is expected to take five to ten years, the Board has decided to issue the Licence for a term of ten (10) years. This 10 years Licence term should allow the Licensee sufficient time to complete all remediation activities and 2 years of monitoring.

A. Scope Definitions and Enforcement

The Licence allows for the use of water in support of an (Industrial Undertaking). Definitions related to reclamation that are not associated with monitoring, have been removed to reflect current conditions.

B. General Conditions

Annual Report

As a requirement of section 14(1) of the *Nunavut Waters Regulations* and similar to the terms and conditions generally included in all licences issued by the Board, the NWB has included under Part B, Item 1 of this Licence, requirements for the Licensee to submit to the Board for review, prior to the 31st of March, annually, a report detailing Water use and/or Waste deposit activities for the undertaking for the preceding year. The submission of Annual Reports ensure that the NWB has on file accurate updates of all Water use and/or Waste deposit activities related to an undertaking for any particular year preceding one in which the report is filed.

The Board provides public access to the information submitted in licensees' annual reports through its ftp site as well as upon request from interested parties.

The NWB has included on its website a standardized form for annual reporting that licensees can use to submit annual reporting information, supplemented by other project-specific, relevant details. A copy of the NWB's generic Annual Report Form can be obtained from the NWB upon request or electronically from the NWB's FTP site using the following link:

<ftp://ftp.nwb-oen.ca/other%20documents/>

C. Conditions Applying to Water Use

The Licensee has requested two (2) cubic meters per day of water use over an estimated 200 days for activities associated with construction and remediation of the Old Town Site. A total of 1.8 cubic meters was requested to be withdrawn from the marine environment (Patricia Bay) which falls outside the Nunavut Water Board mandate. A total of 2 cubic meters was requested to be withdrawn from Clyde River on a weekly basis to be used for on-site remedial activities. The Board considers the volume of water requested to be reasonable and has included conditions governing water use under Part C, Item 1 in the Licence.

D. Conditions Applying to Waste Disposal

Borrow Sources and Quarries

The Licensee has indicated that borrow materials will be required from eight existing borrow sources and the hamlet's existing quarry to supply granular material for the construction of the temporary road access, construction of the new containment cell at the existing Clyde River

landfill site, development and treatment areas such as the staging area and landfarm, backfilling of contaminated soil excavation. Conditions have been included in the Licence, under Part D, requiring that geo-chemical analyses be conducted on borrow materials suspected of having acid generating and metal leaching potential prior to the use of such materials. In cases where it is determined that the materials are suitable for use, the Licensee is required to implement drainage control measures to prevent sediment loading to nearby water bodies.

Hazardous Waste

The Licensee has proposed to package and ship to approved facilities in the south, all hazardous waste including waste oil, items contaminated with PCBs, and capacitors and transistors. It should be noted that all hazardous wastes must be handled in accordance with applicable regulations including the *Transportation of Dangerous Goods Act*. The Licensee is required, under Part D to dispose of all hazardous substances and/or materials at approved facilities.

Landfill Containment Cell

A Landfill Containment Cell will be constructed near the Clyde River Solid Waste Facility, to dispose of all non-hazardous waste, aluminum waste, metal contaminated soil and lead impacted waste expected from the remediation site as outlined in the application and as per Table 1-1 of the Report "Remediation of the Old Town Site, Clyde River, Nunavut, Environmental Screening, Final". The Landfill Containment Cell will be located east of the existing municipal site and designed as per engineered drawings provided, complete with ground water monitoring wells. The Landfill Containment Cell Design Drawings for Tender were included with the application. The Licensee will be required to provide to the Board, within ninety (90) days of the completion of construction as-built drawings stamped by an Engineer.

Land Treatment Facility

A Hydrocarbon Impacted Soil Treatment Facility (Landfarm Facility) is to be constructed 200 m east of Patricia Bay on the Old Town Site, to treat Type B hydrocarbon contaminated soil. It is anticipated that soil at the Landfarm Facility will be treated to meet criteria specified in GN's *Environmental Guideline for Contaminated Site Remediation (2009)*. CCME Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil, Requirements for the Landfarm Facility have been included under Part J, Item 4 in the Licence. The Landfarm Design Drawings for Tender were included with the application. The Licensee will be required to provide to the Board, within ninety (90) days of the completion of construction as-built drawings stamped by an Engineer.

Effluent Discharge

Wastewater generated during the remedial activities will be treated in the on-site Wastewater Treatment Facility, as per Part D, Item 8. Contact water will be analysed prior to collection to determine if it meets criteria, if contact water meets discharge criteria it will be discharged without treatment. Part D of the Licence includes criteria for contact water discharge from Staging Area, Non-Hazardous Waste Landfill (NHWL), excavation areas, Landfarm Facility and other relevant facilities as per *Nunavut Environmental Guidelines for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities (2002)*.

E. Conditions Applying to Construction and Operations

The Licensee is required to submit to the Board for approval in writing, within sixty (60) days of

issuance of the Licence, an Operation and Maintenance Plan (O&M Plan) for the Landfarm, Wastewater Treatment Facilities, and Landfill Containment Cell. This requirement is detailed under Part E, Item 1, 2, and 3.

F. Conditions Applying to Drilling Operations

The Applicant indicated that eight (8) groundwater monitoring wells will be installed. The Licence includes standard conditions under Part F related to drilling operations for the purpose of installing groundwater monitoring wells.

G. Conditions Applying to Modifications

The Board allows for modification to the project in accordance with Part G of this Licence.

H. Conditions Applying to Spill Contingency Planning

The Board has previously approved, under Part H, Item 1 of the Licence, the Plan entitled “Spill Contingency Plan, Remediation of the Old Town Site, Clyde River, Nunavut”, dated August, 2012 that was submitted as additional information with the Application. The Applicant is required under Part B, Item 2 and as per Part B, Item 10, to submit to the Board for review any revisions of the Plan, in the form of an addendum.

I. Conditions Applying to Closure and Reclamation

The Board has previously approved the plan entitled “Remedial Action Plan Old Town Site, Clyde River, Nunavut” dated June 10, 2011.

Under the terms and conditions in the Licence applying to abandonment and restoration, the Licensee is required to remove any remaining equipment associated with the project upon completion. Additional conditions for restoration have been included under Part I of this Water Licence.

J. Conditions Applying to the Monitoring Program

In its Remediation Action Plan, the Applicant proposed to conduct site monitoring twice per year: once during spring freshet in June and once during mid-summer in August-September. The monitoring will include the sampling of eight (8) groundwater monitoring wells.



NUNAVUT WATER BOARD REPLACEMENT WATER LICENCE

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

THE GOVERNMENT OF NUNAVUT COMMUNITY AND GOVERNMENT SERVICES

(Licensee)

P.O BOX 379 POND INLET, NUNAVUT X0A 0S0

(Mailing Address)

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

Licence Number/Type: **1BR-CLY1828 / TYPE "B"**

Water Management Area: **SOUTHWESTERN BAFFIN BAY WATERSHED (49)**

Location: **CLYDE RIVER OLD TOWN SITE REMEDIATION PROJECT, CLYDE RIVER, QIKIQTANI REGION, NUNAVUT**

Classification: **INDUSTRIAL UNDERTAKING**

Purpose: **DIRECT USE OF WATER AND DEPOSIT OF WASTE**

Quantity of Water use not to Exceed: **TWO (2) CUBIC METRES PER DAY**

Date of Licence Issuance: **JULY 18, 2018**

Expiry of Licence: **JULY 17, 2028**

This Licence Amendment issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

**Lootie Toomasie,
Nunavut Water Board
Chair**

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

- a. This Licence allows for the use of water and the disposal of waste for an undertaking classified as Industrial as per Schedule II of the Regulations at the Clyde River Old Town Site Remediation Project, located 5km east of Clyde River within the Qikiqtani Region, Nunavut.
- 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

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

“**Addendum**” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

“**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;

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

“**Board**” means the Nunavut Water Board established under the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Borrow Sources**” means materials required for the development and construction of the, access road, containment cell, staging area and land farm as described in the application;

“**Demolition Rinse Wastewater**” means water and associated waste generated by the operation of decontamination and decommissioning activities;

“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 facility;

“Engineer” means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

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

“High Water Mark” means the usual or average level to which a body of water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

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

“Landfill Containment Cell (“LCC”) means the new waste disposal facility located at the Clyde River Solid Waste Facility and comprises the area and associated infrastructure designed to dispose of all non-hazardous wastes, lead impacted waste, asbestos waste, metal contaminated soil and aluminum waste, as described in the renewal application filed by applicant on August 16, 2012 and as described in *Remediation of the Old Town Site, Clyde River, Nunavut Final Environmental Screening*, (Nunami, August, 2012) as illustrated in drawing no. 05-B signed and stamped by Stantec Engineering Consultants;

“Landfarm” comprises the area and associated infrastructure designed to biologically remediate petroleum hydrocarbon-impacted soil, as described in the renewal application filed by applicant on August 16, 2012 and as described in the *Remediation of the Old Town Site, Clyde River, Nunavut Final Environmental Screening*, (Nunami, August, 2012) and illustrated in drawing no. 04-A and 04-B, signed and stamped by Stantec Engineering Consultants;

“Licensee” means the holder of this Licence;

“Modification” means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“Nunavut Agreement” 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;

“Regulations” means the *Nunavut Waters Regulations SOR/2013-69 18th April, 2013*;

“Spill Contingency Plan” means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

“Sump” means an excavation in impermeable soil for the purpose of catching or storing water or waste;

“Type A Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of lubricating oil and grease (F3 – F4 Fractions);

“Type B Soil” means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and/or diesel fuel and/or gasoline (F1 – F2 Fractions);

“Treatment Objective” means the treatment objective for the Land Treatment Unit which is based on the Canadian Council of Ministers of the Environment (CCME) *Canada – Wide Standard for Petroleum Hydrocarbon in Soil*, revised January 2008; and as determined by the Government of Nunavut, Environmental Protection Service based on the 2009 *Environmental Guideline for Site Remediation*; See Table No. 1;

“Petroleum Hydrocarbon Contaminated Soils” means soil contaminated with petroleum hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and /or diesel fuel and /or gasoline as described in the *Remediation of the Old Town Site, Clyde River, Nunavut Final Environmental Screening*, dated August 2012;

“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;

“Wastewater Treatment Facility” means the wastewater treatment facility as described in section 2.6 of the *Remediation of the Old Town Site, Clyde River, Nunavut Final Environmental Screening*, dated August 2012;

“Water” or “Waters” means waters as defined in section 4 of the *Act*.

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*; and

- 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.

PART B: GENERAL CONDITIONS

1. Water use fees are not applicable as per sec. 7 of the *Act*. (or) the amount of water use fees shall be determined and payment of those fees shall be made in accordance with section 12 of the *Regulations*.
2. The Licensee shall file an Annual Report on the appurtenant undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:
 - a. The monthly and annual quantities (in cubic metres) of fresh water obtained from all sources;
 - b. The monthly and annual quantities (in cubic meters) of treated wastewater discharged;
 - c. A summary of all waste treated and/or backhauled for disposal at approved facilities under Part D;
 - d. A summary of any construction work, modification and major maintenance work (including as-built diagrams) carried out on all new and existing waste handling facilities associated with this Licence;
 - e. Tabular summaries for all data and information generated under the “Monitoring Program”;
 - f. A summary of all waste disposal activities including:
 - i. Quantity and quality of effluent discharged from Landfarm; and
 - ii. Quantity and characterization of soils placed within the Landfarm for treatment.
 - iii. Soil removed from landfarm and final use.
 - g. A list of unauthorized discharges and a summary of follow-up actions taken;
 - h. Any revisions to the Spill Contingency Plan, Abandonment and Restoration Plan, and Operation and Maintenance Plan as required by Part B, Item 10, submitted in the form of an Addendum;
 - i. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - j. A summary of all information requested and results of the Monitoring Program, an analysis and interpretation of the results, and any follow-up measures that may be required; and
 - k. Any other details on Waste disposal requested by the Board by November 1 of the year being reported.
3. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.

4. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of water volumes as required under Part J, Item 1.
5. 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.
6. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.
7. The Licensee shall post signs in the appropriate areas to identify the stations of the Monitoring Program and to inform the public of the location of the Landfarm, Landfill Containment Cell, and Wastewater Treatment Facility. All signage postings shall be in the Official Languages of Nunavut.
8. 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.
9. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
10. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans accordingly. Revisions to the Plans are to be submitted in the form of an Addendum to be included with the Annual Report complete with a revisions record detailing where significant content changes are made.
11. 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 conditions 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.
12. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

(a) **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@nwb-oen.ca

(b) **Inspector Contact:**
Manager of Field Operations, INAC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

13. The Licensee shall submit one (1) 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.
14. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.
15. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee is allowed to withdraw up to a maximum of two (2) cubic meters per day of water to support remediation activities as outlined in the application and shall come from Clyde River.
2. The Licensee shall not remove any material from below the ordinary high water mark of any water body.
3. The Licensee shall not conduct any activity that will cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
4. The Licensee shall implement and maintain sediment and erosion control measures prior to and during the operation to prevent entry of sediment and/or dust into Water.
5. The Licensee shall carry out quarrying activities that are consistent with the Northern Land Use Guidelines; Pits and Quarries (INAC 2003 or revised) as well as not excavating or removing of materials within one (1) metre of the normal High Water Mark above the ground water table.
6. The Licensee shall only use fill material for construction that is from an approved source and shall be free of contaminants. Evidence shall be provided by carrying out a comprehensive assessment of materials suitability, including geochemical and physical characterization. This assessment should provide the necessary information to verify that non-acid generating and non-metals leaching materials have been selected for construction, allowing an evaluation of the qualitative and quantitative effects upon water. The assessment results, complete with discussion shall be reported as an appendix within the Annual Report as required under Part B, Item 2.

7. Equipment used should be well cleaned and free of oil and grease and maintained free of fluid leaks. The Licensee shall ensure that pollutants from machinery used during construction do not enter water.
8. The Licensee shall, during any instream works in flowing water conditions, isolate the area during construction and maintain 100% of downstream flow at all times. If a pump is used to maintain downstream flow, the intake should be screened in accordance with DFO's Freshwater Intake End-of-Pipe Fish Screen Guideline.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty one (31) metres from the ordinary High Water Mark of any water body, such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee shall utilize the Landfill Containment Cell for the disposal of all non-hazardous waste, any aluminum waste, metal impacted soil and lead impacted waste wastes as identified in the *Remediation of the Old Town Site, Clyde River, Nunavut Final Environmental Screening*, dated August 2012, or as otherwise approved by the Board.
3. The Licensee shall not open burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding waters, unless otherwise approved by the Board in writing.
4. The Licensee is authorized to dispose and treat all petroleum hydrocarbon contaminated soils within the Landfarm. The Licensee shall limit this treatment to those soils as acceptable for treatment, outlined in the Remedial Action Plan dated June 10, 2011 and submitted as additional information with the application.
5. The Licensee shall treat, to the Treatment Objective, petroleum hydrocarbon contaminated soils in the Landfarm, or as otherwise approved by the Board.
6. The Licensee shall maintain the Landfarm to the satisfaction of the Inspector.
7. The Licensee shall treat, to the Treatment Objective, Type B Soil in the Landfarm, or as otherwise approved by the Board.
8. The Licensee shall direct all sewage to the existing Wastewater Treatment Facility as described in the application received August 16, 2012 or as otherwise approved by the Board in writing.
9. The Licensee shall collect and temporarily store in preparation for future disposal, all water generated from the storage and segregation of solid waste, demolition rinse water resulting from decontamination processes or procedures as well as water derived from

borrow pits, quarry sites and excavation activities that does not meet the Effluent quality limits in Part D, Item 10.

10. All Effluent discharge and contact water from the Staging Area, Non-Hazardous Waste Landfill (NHWL), excavation areas, Landfarm Facility and other relevant facilities, shall not exceed the following wastewater Effluent discharge limits prior to being released:

Parameter	Maximum Concentration of any Grab Sample (mg/L)
pH	6 to 10.5 (pH units)
Aluminum	1
Arsenic	1
Cadmium	0.1
Chromium	0.1
Copper	1
Iron	1
Lead	0.05
Mercury	0.0006
Nickel	1
Phenolic Compounds	0.02
Zinc	0.5
Total Suspended Solids	15
Oil and Grease	15mg/L and no visible sheen or odors

11. All pump out water from excavation and borrow pits satisfying the requirement of Part D, Item 9 shall be pumped to an area to undergo treatment or as otherwise approved by the Board in writing.
12. The Licensee shall treat all effluent that does not meet the effluent quality limits in Part D, Item 10, until it meets the above-referenced limits, or it shall be considered hazardous waste and disposed off-site at an approved facility or as otherwise approved by the Board in writing.
13. The discharge location for all Effluents described in Part D Item10 shall be located at a minimum of thirty one (31) metres from the ordinary High Water Mark of any water body and where direct or indirect flow into a water body is not possible and no additional impacts are created.
14. The Licensee shall sample and carry out laboratory analyses on potential Borrow Sources prior to the using materials from those potential sources. Borrow Materials possessing acid rock drainage and metal leaching characteristics cannot be used as construction materials and/or for remediation purposes.

PART E: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS

1. The Licensee shall submit to the Board for review, within thirty (30) days of issuance of

the Licence, the final version of the report entitled “Geotechnical Assessment: Clyde River Old Town Site Remediation Landfill, Landfarm, and Access Road Development, Clyde River, NU”, along with a record of revisions for any changes made to the document in finalizing the draft document dated September 27, 2011.

2. The Licensee shall submit to the Board for approval, at least sixty (60) days prior to commissioning the Wastewater Treatment Facility, an Operation and Maintenance Plan. As a minimum, the plan should include the following information:
 - a. The design specifications of the selected Wastewater Treatment Facility;
 - b. Operation and maintenance procedures for the facility;
 - c. Water quality monitoring program;
 - d. Licensed discharge criteria; and
 - e. Erosion control measures applied when discharging treated effluent.
3. The Licensee shall submit to the Board for approval, at least sixty (60) days prior to commissioning the Landfarm Facility, an Operation and Maintenance Plan, prepared in accordance with the Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils (SAIC 2005) as a minimum, the plan should include the following information;
 - a. Operation and maintenance procedures for the facility;
 - b. Runoff diversion and management;
 - c. Soil quality remediation objectives; and
 - d. Monitoring program for both water and soil.
4. The Licensee shall submit to the Board for approval, at least sixty (60) days prior to commissioning the Landfill Containment Cell, an Operation and Maintenance Plan, and as a minimum, the plan should include the following information;
 - a. Operation and maintenance procedures for the facility;
 - b. Runoff diversion and management;
 - c. Monitoring program for runoff and leachate.
5. The Licensee shall, within ninety (90) days of completion of construction of the Wastewater Treatment Facility, Landfill Containment Cell and Landfarm, submit to the Board a Construction Summary Report along with stamped as built plans and drawings, providing explanation to reflect any deviations from construction drawings taking into account construction and field decisions and how they may affect the performance of engineered facilities.
6. The Licensee shall, during the excavation of soils to be treated within the Landfarm, implement measures prior to, during and following the excavation of soils, to prevent migration of sediments from the site that may impact water.
7. The Licensee shall implement proper handling, storage and transportation procedures for the management of hazardous materials during clean-up activities.

8. The Licensee shall minimize disturbance to terrain, permafrost and drainage during extraction of granular material, movement of contractor's equipment and personnel around the site and removal of site debris.

PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing groundwater monitoring wells and other instrumentation related to monitoring.
2. The Licensee shall not conduct any land-based drilling within thirty one (31) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing.
3. The Licensee shall ensure that all drill waste, including water, chips, muds and salts (CaCl₂) in any quantity or concentration, from land-based drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.
4. If artesian flow is encountered, drill holes shall be immediately sealed and permanently capped to prevent induced contamination of groundwater or salinization of surface waters. The Licensee shall report all artesian flow occurrences within the Annual Report, including the location (GPS coordinates) and dates.
5. The Licensee shall, where drilling activity has penetrated below the permafrost layer, record the depth of permafrost and location of the drill hole for inclusion in the annual report required by Part B, Item 2.

PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water and Waste management structures or 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. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. such Modifications are consistent with the NIRB Screening Decision;
 - d. 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

- e. the Board has not rejected the proposed Modifications.
- 2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.
- 3. 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.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

- 1. The Licensee shall implement the Plan entitled “Spill Contingency Plan Remediation of the Old Town Site, Clyde River, Nunavut”, dated August, 2012 that was previously approved by Board and was submitted as additional information with the Application.
- 2. The Licensee shall submit, prior to the commencement of project activities, an Addendum to the Plan referred to in Part H, Item 1, in the format set out by the Consolidation of Spill Contingency Planning and Reporting Regulations, R-068-93, to address minor issues identified by AANDC and EC during the review of the original plan such as:
 - a. Contact information for the project foreman/Supervisor
 - b. A site map depicting the area the project encompasses, nearby water bodies, fuel caches/sources, and the location where spill kits are mobilized
- 3. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the project from entering water. All sumps and fuel caches shall be located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body and inspected on a regular basis.
- 4. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.
- 5. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the Spill Contingency Plan;
 - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the INAC Manager of Field Operations at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.
- 6. The Licensee shall, in addition to Part H, Item 5, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line and the NWB, if the release is near

or into a Water body.

**PART I: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION OR
TEMPORARY CLOSING**

1. The Licensee shall implement the Plan entitled “Remedial Action Plan Old Town Site, Clyde River, Nunavut” dated June 10, 2011 and received as part of the Application.
2. The Licensee shall submit to the Board for approval in writing, at least sixty (60) days prior to the completion of the Clyde River Old Town Site Remediation Project, a closure plan for all quarries developed for the project or any other remain facilities.
3. Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee’s operations.
4. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, material and equipment prior to the expiry of this Licence.
5. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
6. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut’s Environmental Guideline for Site Remediation, January 2009. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.
7. The Licensee shall restore all drill holes and disturbed areas to natural conditions immediately upon completion of the drilling. The restoration of drill holes must include the removal of any drill casing materials and if having encountered artesian flow, the capping of holes with a permanent seal.
8. All roads and airstrip, if any, shall be re-graded to match natural contours to reduce erosion.
9. The Licensee shall remove any culverts and restore the drainage to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.
10. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.
11. The Licensee shall complete all restoration work prior to the expiry of this Licence.

PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain the Monitoring Program Stations, sampling and analysis requirements as described below at the following locations:

Monitoring Program Station	Description	Frequency	Parameters
CLY-1	Freshwater Intake; Clyde River	Upon withdrawal (daily)	Volume
CLY-2	Effluent discharged from the Wastewater Treatment Facility	Prior to discharge	Volume in accordance with Part J Item 5 Quality in accordance with Part J Item 6
CLY-3	Effluent discharged from the Landfarm Facility	Prior to discharge	Volume in accordance with Part J Item 5 Quality in accordance with Part J Item 6
MW1	Monitoring well down-gradient of the Landfarm	Twice per Year (once during freshet and once during mid-summer)	Quality in accordance with Part J, Item 6
MW2	Monitoring well down- gradient of the Landfarm		Quality in accordance with Part J, Item 6
MW3	Monitoring well down- gradient of the Landfarm		Quality in accordance with Part J, Item 6
MW4	Monitoring well up- gradient of the Landfarm		Quality in accordance with Part J, Item 6
MW5	Monitoring well	Twice per Year (once	Quality in accordance

	up-gradient of the Landfill Containment Cell (LCC)	during freshet and once during mid-summer)	with Part J, Item 6
MW6	Monitoring well down-gradient of the LCC		Quality in accordance with Part J, Item 6
MW7	Monitoring well down-gradient of the LCC		Quality in accordance with Part J, Item 6
MW8	Monitoring well down-gradient of the LCC		Quality in accordance with Part J, Item 6

- a) MW1-MW8 monitoring wells are identified as per Design Drawings 04-A, 04-B, 05-A, 05-B of the Appendix B Nunami Stantec Clyde River Old Town Remediation 100% Design Drawings.
- The Licensee shall confirm the locations and GPS coordinates for all Monitoring Program Stations referred to in Part J, Item 1 with an Inspector.
 - The Licensee shall measure and record the volume of all soil from all locations entering the Landfarm.
 - The Licensee shall assess and record the concentration of F1 – F4 fractions in petroleum hydrocarbon contaminated soil, according to the CCME *Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil* that is entering the Landfarm from all sources (See Table 1).
 - The Licensee shall sample prior to discharge at Monitoring Program Station CLY-2, to verify compliance with the Effluent quality limits under Part D, Item 10.
 - The Licensee shall record the volume of all Effluent discharged from the Landfarm at Monitoring Program Station CLY-3.
 - The Licensee shall sample at Monitoring Program Stations MW1, MW2, MW3, MW4, MW5, MW6, MW7 and MW8. Samples shall be analyzed for the following parameters:

Total Suspended Solids	pH
Total Hardness	Total Alkalinity
Conductivity	Nitrate-Nitrite
Ammonia Nitrogen	Chloride
Oil and Grease	Total Phenols
Calcium	Magnesium
Sodium	Potassium
Chloride	Sulphate
Total Aluminium	Total Arsenic

Total Cadmium	Total Cobalt
Total Copper	Total Iron
Total Lead	Total Molybdenum
Total Nickel	Total Selenium
Total Silver	Total Titanium
Total Zinc	
Total Extractable Hydrocarbons (TEH)	
Polycyclic Aromatic Hydrocarbons (PAH)	
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	

8. The Licensee shall sample soil being treated in the Landfarm twice per year, in the spring-summer following thaw and prior to freeze-up in the fall, for the period of active land treatment to monitor contaminant levels until analytical results are below acceptable levels as determined Government of Nunavut *Environmental Guideline for Contaminated Site Remediation*, (2009).
9. The Licensee shall submit to the Board for approval in writing, ninety (90) days prior to carrying out post closure monitoring, a Post-Closure Monitoring Program to assess the completion of remedial objectives as described in the Remediation Action Plan (June 10, 2011). This program is to include an evaluation of analytical results from the monitoring of the groundwater quality monitoring stations, surface water, soil analysis, and a general investigation of the project area.
10. 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.
11. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
12. Additional monitoring requirements may be requested by the Inspector.
13. The Licensee shall include in the Annual Report required under Part B, Item 2 all data, monitoring results and information required by this Part.
14. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.

Table 1: Remediation Requirements

(All values are in parts per million, ppm)	Agricultural		Residential/Parkland	Commercial	Industrial
Fraction 1	Coarse	30b	150	300	2800
	Fine	210 (170 ^a)	150	1300	5600
Fraction 2	Coarse	30b	150	300	2800
	Fine	210 (170 ^a)	150	1300	5600
Fraction 3	Coarse	320 (240 ^a)	260	1700	3300
	Fine	320 (170 ^a)	260 (230 ^a)	2500	6600
Fraction 4	Coarse	320 (240 ^a)	260	1700	3300
	Fine	320 (170 ^a)	260 (230 ^a)	2500	6600
Benzene		0.05	0.5	5	5
Toluene		0.1	0.8	0.8	0.8
Ethylbenzene		0.1	1.2	20	20
Xylene		0.1	1	17	20
Total Petroleum Hydrocarbons		-	500	2500	2500
Lead		70	140	260	400
Polychlorinated biphenyl		0.5	5	50	50

Notes: a = Where applicable, for protection of potable groundwater.

b = Assumes contamination near residence

Data from CCME *Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil*, (2001) Revised January 2008 and the Government of Nunavut *Environmental Guideline for Contaminated Site Remediation*, (2009).