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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: **1BR-CAM2030/
Renewal-Amendment**

September 30, 2020

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DEW Line Clean-up Project Manager
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60 Moodie Drive,
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RE: NWB Renewal - Amendment Water Licence No: 1BR-CAM2030

Dear Ms. D'Costa and Ms. Street,

Please find attached Licence No: **1BR- CAM2030** (Licence) issued to the Department of National Defence (DND) 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 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 may be in contravention of the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA or 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 Section 75(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the Board is not allowed to issue a permit or authorization for any project proposal that has not been submitted to the Nunavut Planning Commission (NPC) in accordance with Section 76 of NuPPAA.

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 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 **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 strongly recommends that the Licensee consult the comments received by interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,

Lootie Toomasie
Nunavut Water Board
Chair

LT/as/ri

Enclosure: Licence No: **1BR-CAM2030**
Comments – CIRNA

Cc: Kitikmeot Distribution List

¹ Crown-Indigenous Relations and Northern Affairs (CIRNA), September 11, 2020

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DECISION

LICENCE NUMBER: 1BR-CAM2030

This is the decision of the Nunavut Water Board (NWB or Board) with respect to an application received on August 04, 2020 for the renewal and amendment of a Water Licence made by:

DEPARTMENT OF NATIONAL DEFENCE

to allow for the use of Water for the continued monitoring activities at the CAM-M Cambridge Bay Distant Early Warning (DEW) Line Site Landfill Monitoring Program within the Kitikmeot Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 69°07'00" N Longitude: 105°07'00" W

DECISION

After having been satisfied that the Application is for a proposal that is outside the area of an applicable regional Land Use Plan² and is exempt from the requirements for screening by the Nunavut Impact Review Board (NIRB)² as described within Section 12.4.3/ Schedule 12-1 of the *Nunavut Agreement*, subject to the terms and conditions recommended in the original October 14, 2003 Screening Decision Report No: 03DN119³, 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* (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-CAM0520 be renewed as Licence No: 1BR-CAM2030 subject to the terms and conditions contained therein (Motion #: 2020-B1-020)

Signed this 24th day of September, 2020 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board, Chair

LT/as/ri

² Nunavut Planning Commission (NPC) Confirmation Determination, February 04, 2020

³ Nunavut Impact Review Board (NIRB) Screening Decision, October 14, 2003

I. BACKGROUND

The former Distant Early Warning (DEW) Line sites in Nunavut under the jurisdiction of the Department of National Defence (DND) were remediated between the 1990s and the 2010s. Following remediation, DND began a long-term monitoring program of landfills remaining at these sites.

CAM-M is a former main radar site on the DEW Line. The former main site was decommissioned and replaced by the North Warning System (NWS) in the early 1990s. As part of the CAM-M site conversion a Long Range Radar (LRR) and Logistical Support Site (LSS) was installed. The site is still active and manned year-round. The objective of the long-term monitoring plan is to collect sufficient information to assess the geotechnical and environmental performance of the landfills. The components of the monitoring program include visual inspection, thermal monitoring and soil and groundwater monitoring.

II. PROCEDURAL HISTORY

The original Water Licence 1BR-CAM0520 was issued to Defence Construction Canada (DCC) on July 05, 2005 and expires on October 01, 2020. On April 29, 2020, the NWB received an application from DCC to assign this licence from Defence Construction Canada to the Department of National Defence (DND) pursuant to Section 44 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (“Act”). After giving Public Notice of this Assignment Application and receiving comments, the Board (Motion #2020-B1-009) effective May 25, 2020, authorized the assignment of this licence to the Department of National Defence (DND).

Water use is not authorized in the current licence. The Applicant has proposed an amendment to the licence terms to authorize one (1) cubic meter per day of Water, which would be obtained from Water Supply Lake, or from one of the small unnamed surface Water bodies near landfills. The Water use would include regular groundwater sampling, as well as Water use for potential future monitoring well repair/replacement/ decommissioning activities.

On **August 04, 2020**, the Department of National Defence (DND) submitted a renewal and amendment Water Licence Application (Application). The following documents were submitted by the Applicant:

- Renewal - Amendment application, dated August 4, 2020
- NPC Determination , dated February 04, 2020
- NIRB Determination , dated October 14, 2003
- Executive Summary (English)
- Executive Summary (Inuktitut)
- NWB Approval of monitoring modifications, dated December 12, 2019
- CAM-M Landfill Monitoring Program 2020 Updates
- Updated Spill Contingency Plan, effective November 1, 2019
- Map of area

On **August 11, 2020**, the NWB concluded that the Application generally met the requirements of

section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWSRTA or Act) and forwarded notice of the Application to interested parties. All parties were invited to make representations to the NWB within thirty (30) days by **September 11, 2020**. Comments were received from Crown Indigenous Relations and Northern Affairs (CIRNA)¹.

The NWB has placed in its Public Registry copies of the Application and all comments received from interveners. This information can be accessed on the NWB's FTP site using the following link:

<ftp://ftp.nwb-oen.ca/registry/1%20INDUSTRIAL/1B/1BR%20-%20Remediation/1BR-CAM2030%20CAM%20M/>

III. GENERAL CONSIDERATIONS

The following sections provide background information relevant to the terms and conditions included in this Licence, in the context of submissions received and/or the Board's rationale.

Scope of Undertaking

The scope of this Water Licence 1BR-CAM2030 (Licence) is limited to the long-term monitoring and maintenance of an existing Landfill Facility.

Term

In accordance with s. 45 of the *Act*, the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining an appropriate term for a renewal licence, the Board generally takes into consideration several factors including interveners' comments, the Licensee's compliance history, as well as the rationale contained in the Application.

The Licensee requested in its Application a ten (10) year term for the licence. The intervening parties in their submissions did not comment on the term requested for the renewal licence. The Applicant has stated that the requested term includes some contingency for unforeseen requirements arising in the future. The Board has therefore granted the **ten (10) year** term requested by the Licensee. In so doing, the Board believes that this ten-year term will provide the Licensee with opportunities to assess and monitor the landfill facility.

Annual Reports

Under Part B, Item 1 of the Licence, the Licensee is required to submit Annual Reports for the purpose of ensuring that the NWB has an accurate annual update of activities related to Water use and Waste disposal during each calendar year. Annual reporting information is kept in the NWB's public registry, as well as made available to interested persons upon request. The Board notes that the Licensee indicated in its Application that the Annual Report will be provided as a Monitoring Report for the applicable licence along with a summary table for all licences currently in care of the DND. The NWB would like to emphasize that the NWB standardized form should be used for

annual reporting at all times. This form can be supplemented by the Monitoring Program Report and any other relevant information specific to the Project. The NWB's "Standardized Form for Annual Reporting" can be obtained from its FTP site using the following link:

<ftp://ftp.nwb-oen.ca/other documents/Standardized Forms/>

Water Use

The expired licence did not authorize any Water use, because groundwater obtained from sampling was not considered to be Water use at the time the licence was issued. The proposed amendment will change the overall quantity of authorized Water use to five (5) cubic metres per day. This includes regular groundwater sampling, as well as Water use for potential future monitoring well repair/replacement/ decommissioning activities that would be obtained from Water Supply Lake, or from one of the small unnamed surface Water bodies near landfills. The requirements for these potential future activities would be determined by the DND-NTI DEW Line Steering Committee. The Board does not have any concerns with respect to the quantity of Water requested and has therefore set the maximum Water use for all purposes under this Licence at no more than five (5) cubic metres per day, to allow for some flexibility, under Part C, Item 1 in the Licence. If the Licensee requires Water in quantities greater than that allowed under the Licence, the Licensee will be required to submit an Amendment Application to the Board for consideration.

Deposit of Waste

No authorization was sought by the Applicant for the disposal of Solid Waste and Sewage as there is no camp facility associated with the project and the project is located relatively close to the Hamlet of Cambridge Bay. The Licensee intends to dispose of all solid Waste off-site at an approved facility, and no other type of Waste is expected as a result from the undertaking. Therefore, this Licence does not permit the Licensee to dispose of Waste.

Monitoring

The long-term monitoring program at CAM-M was initiated in July 2001 and includes soil and groundwater sampling, as well as the collection of ground temperature and geophysical data. The monitoring program is segmented into the following phases:

- Phase I - Years 1, 2, 3, 4 and 5 (2001, 2002, 2003, 2004 and 2005)
- Phase II - Years 7, 10, 15 and 25 (2007, 2010, 2015 and 2025)
- Phase III - Beyond 25 years (if required)

The last monitoring event was in 2015 and the next and final Phase II monitoring event is planned to take place in August 2025. There was a supplementary monitoring visit in 2019 which was added to the regular monitoring program to address a few specific geotechnical items of interest. There was no requirement to undertake soil or groundwater sampling in 2019.

In 2013, a report titled "*DEW Line Cleanup Landfill Monitoring Program – Review of Phase I and Phase II Chemical Data*" was prepared by Environmental Sciences Group (ESG). The purpose of

the report was to evaluate if the data requirements under the current soil and groundwater monitoring plan for the first 25 years of landfill monitoring at the DEW Line sites are sufficient to determine whether or not the landfills are successfully containing the encapsulated contaminants and if they are likely to continue to do so in the foreseeable future.

The 2013 report noted that there were very few detectable concentrations of mercury in the soil and groundwater samples collected at the DEW Line sites to date and very few detectable concentrations of PCBs in the groundwater samples. It was concluded that mercury and Polychlorinated Biphenyls (PCBs) in groundwater, as well as mercury in soil, are not useful indicators of potential landfill failure. Consequently, ESG recommended that mercury analysis be removed from the DEW Line soil and groundwater monitoring program and that PCB analysis be removed from the DEW Line groundwater monitoring program. On February 09, 2017, the NWB was notified of this scope update to the DEW Line long-term monitoring program, which was subsequently approved by the Board on December 12, 2019.



NUNAVUT WATER BOARD AMENDED RENEWAL WATER LICENCE

Licence No: 1BR-CAM2030

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

DEPARTMENT OF NATIONAL DEFENCE

(Licensee)

60 MOODIE DRIVE, OTTAWA, ONTARIO K1A 0K2

(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:

| | |
|---|--|
| Licence Number/Type: | 1BR-CAM2030 / TYPE "B" |
| Water Management Area: | SOUTHERN VICTORIA ISLAND WATERSHED (38) |
| Project/ Location: | CAM-M DEW LINE SITE, CAMBRIDGE BAY, KITIKMEOT REGION, NUNAVUT |
| Classification: | INDUSTRIAL UNDERTAKING |
| Purpose: | USE OF WATER |
| Quantity of Water use not to Exceed: | FIVE (5) CUBIC METRES PER DAY |
| Effective Date: | OCTOBER 02, 2020 |
| Expiry of Licence: | OCTOBER 01, 2030 |

This Licence 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 for an Industrial Undertaking, classified as per Schedule 1 of the *Regulations*, for the Continued Monitoring Activities at the Cambridge Bay DEW Line Site (CAM-M) Landfill Monitoring Program, located near Cambridge Bay, within the Kitikmeot Region of Nunavut, generally at the following geographical coordinates:

Latitude: 69°07'00" N

Longitude: 105°07'00" 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

“**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 *Act*;

“Environmental Working Group” means the group established to provide technical support to the Steering Committee comprised of qualified engineering and environmental scientists with expertise in environmental remediation and clean up in northern climates as described in the document entitled *“Defence Construction Canada, Landfill Monitoring Program, CAM-M, Cambridge Bay”*, dated January 2005;

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

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

“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 an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;

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

“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*;

“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;

“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 as described in the document entitled *“Defence Construction Canada, Landfill Monitoring Program, CAM-M, Cambridge Bay”*, dated January 2005;

“NTI Agreement” means the *“Agreement Between Nunavut Tunngavik Incorporated and Her Majesty the Queen in the Right of Canada, as Represented by the Minister of National Defence for the Clean-up and Restoration of Distant Early Warning Sites within the Nunavut Settlement Area-Environmental Provisions”* including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“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;

“Post Construction Monitoring Plan” means the plan entitled *“Defence Construction Canada, Landfill Monitoring Program, CAM-M, Cambridge Bay”*, dated January 2005;

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

“Sewage” means all toilet Wastes and Greywater;

“Solid Waste” means non-hazardous waste, Type A soil, Tier I soil and Tier II soil;

“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 or Sumps” means an excavation in impermeable soil for the purpose of catching or storing Water or Waste;

“Tier I Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier I in Appendix E of the NTI Agreement, including its preamble and schedules, and any amendments to that agreement made pursuant to it (see Table 1);

“Tier II Soil” means soil containing contaminant concentrations within the types and ranges defined as DCC Tier II in Appendix E of the NTI Agreement including its preamble and schedules, and any amendments to that agreement made pursuant to it (see Table 1);

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

“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 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; this soil does not contain polychlorinated biphenyl (PCB);

“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;

“Waste Disposal Facilities” means all facilities designated for the disposal of Waste, as described in the Application for Water Licence filed by the Applicant on August 4, 2020.

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

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. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than the 31st March of the year following the calendar year being reported, containing the following information:
 - a. A summary report of Water use and Waste disposal activities;
 - i. Quantity of Water used for sampling purposes;
 - ii. Quantity and quality of Effluent discharged from Landfarm;
 - iii. Quantity and characterization of soils placed within the Landfarm for treatment.
 - b. A list of unauthorized discharges and a summary of follow-up actions taken;
 - c. Any revisions to the Spill Contingency Plan and other plans associated with the Licence, submitted in the form of an Addendum;
 - d. Description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - e. A summary of all information requested and results of the Monitoring Program;
 - f. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.

2. The Licensee shall comply with the long-term 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 Licensee shall post signs in the appropriate areas to identify the stations of the Monitoring Program associated with the Landfill Facility. All signage postings shall be in the Official Languages of Nunavut.
4. 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.
5. 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.
6. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
7. 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.
8. 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 required by Part B, Item 1, complete with a revisions list detailing where significant content changes are made.
9. 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, CIRNA
Nunavut District, Nunavut Region

P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

10. The Licensee shall submit an 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.
11. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.
12. This Licence is assignable as provided for in Section 44 of the *Act*.
13. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee is authorized to withdraw up to five (5) cubic metres of Water per day for sampling, monitoring well repair, replacement or decommissioning activities and related purposes. This Water can be obtained from Water Supply Lake or from one of the small unnamed surface Water bodies near the landfills. Total quantity of Water for all purposes under this Licence shall not exceed five (5) cubic metres per day.
2. The use of Water from streams or any Water bodies not identified in Part C, Item 1, is prohibited unless authorized and approved by the Board in writing.
3. The Licensee shall not remove any material from below the ordinary High Water Mark of any Water body unless authorized.
4. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
5. 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.

PART D: CONDITIONS APPLYING TO WASTE AND WASTE MANAGEMENT

1. The Licensee is not allowed to discharge effluent from the facilities approved under the Licence unless written authorization is obtained from the Board.
2. The Licensee shall backhaul and dispose of all Waste generated through the course of the operation at a licensed Waste disposal site.

3. The Licensee shall not transport any hazardous wastes prior to registering with the Government of Nunavut as a waste generator and utilizing the prescribed manifests.
4. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Wastes from the Site prior to any backhauling and disposal of Wastes to those communities.
5. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste and include this information within the Annual Report in Part B, Item 1.

PART E: CONDITIONS APPLYING TO THE UNDERTAKING

1. The Licensee shall conduct all activities 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.
2. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
3. 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.
4. The Licensee shall implement proper handling, storage and transportation procedures for the management of hazardous materials during execution of the Project to prevent entry to any Water body.
5. All sites affected by sampling activities shall be stabilized, landscaped as necessary, and suitable erosion control measures implemented to minimize sediment deposition into watercourses located on or adjacent to the site.

PART F: CONDITIONS APPLYING TO CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. No camp activities are authorized under the provisions of this Licence.
2. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake corrective measures in the event of any impacts on surface drainage.
3. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of Water, ice or snow, and shall be removed prior to spring break-up.

4. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any Water body is prohibited. These materials shall be disposed at a distance of at least thirty-one (31) metres from the ordinary High Water Mark in such a fashion that they do not enter the Water.
5. The Licensee shall not mobilize heavy equipment or vehicles unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.

PART G: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing and repairing monitoring wells.
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 dispose of all drill Waste, including Water, chips, muds and salts (CaCl₂) in any quantity or concentration, from land-based and on-ice drilling, 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.

PART H: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities 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. 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 H, 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 I: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall implement the Plan entitled “*Spill Contingency Plan - CAM-M*”, effective as of November 1, 2019, that was submitted along with the Application and approved by the Board with the issuance of the Licence.
2. 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.
3. The Licensee shall carry out any equipment maintenance and servicing 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.
4. 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 approved Spill Contingency Plan;
 - b. Report the spill immediately to the NWT/NU 24-Hour Spill Line at (867) 920-8130 and to the Inspector 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.

PART J: CONDITIONS APPLYING TO ABANDONEMENT AND RESTORATION

1. The Licensee shall backfill and restore all sumps to the pre-existing natural contours of the land.
2. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, buildings and contents, docks, Water pumps and lines, material and equipment prior to the expiry of this Licence.
3. All roads and airstrip, if any, shall be re-graded to match natural contour to reduce erosion.
4. The Licensee shall remove any culverts and restore the drainage to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.

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, 2010. 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.

PART K: CONDITIONS APPLYING TO MONITORING PROGRAM

1. The Licensee shall carry out the long-term monitoring activities as defined in the Plan entitled "*Defence Construction Canada, Landfill Monitoring Program, CAM-M, Cambridge Bay*", dated January 2005, that was originally approved by the Board.
2. The Licensee shall submit to the Board for review, as part of the next renewal application, a comprehensive CAM-M Monitoring Program Review Report to evaluate the 25-year performance of the reclamation program in support of the proposed next steps and long-term requirements for the site. This Report shall be prepared by a Geotechnical Engineer and shall summarize data collected during Phase I and II monitoring, and include information on the integrity of the Waste Disposal Facilities. The Report shall also address whether the facilities have performed as expected and encased in permafrost. The Report must include an assessment of how the facilities are expected to perform in the long term as well as appropriate recommendations.
3. The Licensee shall measure and record the volume of Water used for all purposes under this Licence.
4. The Licensee shall conduct all sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
5. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
6. Additional monitoring requirements may be requested by the Inspector.
7. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.

8. The Licensee shall ensure that tabular summaries for all data and information generated under the “Monitoring Program”, as well as an analysis of data collected during the “Monitoring Program,” are provided to the Board in the Annual Report, in accordance with Part B, Item 1.
9. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.

Table 1
(From CIRNA Abandoned Military Site Remediation Protocol)
DEW Line Clean-up Criteria (DCC)^a

| Substance | DCC Tier I^{bc} (mg/kg) | DCC Tier II^d (mg/kg) |
|------------------|--|--|
| Arsenic | - | 30 |
| Cadmium | - | 5.0 |
| Chromium | - | 250 |
| Cobalt | - | 50 |
| Copper | - | 100 |
| Lead | 200 | 500 |
| Nickel | - | 100 |
| Zinc | - | 500 |
| PCB's | 1.0 | 5.0 |

- a. These criteria were adopted specifically for the cleanup of Arctic DEW Line Sites from the 1991 versions of the Quebec Soil Contamination Indicators and the Canadian Council of Ministers of the Environment Interim Canadian Environmental Criteria for Contaminated Sites.
- b. Soil criteria are given in parts per million, ppm.
- c. Soils containing lead and/or PCBs at concentrations in excess of DCC I, but less than DCC II, may be landfilled,
- d. Soils containing one or more substrates in excess of DCC II must be containerized - i.e. removed in a manner which precludes contact with the Arctic ecosystem.