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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: 8BW-PIM1821

July 23, 2018

Simon-Pier Laberge
Tower Arctic Ltd.
1502 Federal Road P.O Box 717
Iqaluit, NU X0A 0H0
E-mail: info@towerarctic.ca

RE: NWB New Water Licence No. 8BW-PIM1821

Dear Mr. Simon-Pier Laberge:

Please find attached Licence No. **8BW-PIM1821** issued to Arctic Tower Ltd. by the Nunavut Water Board (NWB), pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (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 the use of Water and deposit of Waste 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.

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/dd/rqd

Enclosure: Licence No. **8BW-PIM1821**

Comments – CIRNAC, ECCC

Cc: Qikiqtani Distribution List

¹ Environment and Climate Change Canada (ECCC) July 9, 2018, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) July 10, 2018.

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DECISION

LICENCE NUMBER: 8BW-PIM1821

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated June 1, 2018, for a new water licence made by:

TOWER ARCTIC LTD

to allow for the use of water to support construction activities at the Pond Inlet Marine Infrastructure Project, and associated quarry development, haul road construction and water crossings, located within the Qikiqtani Region, Nunavut, generally at the following geographical coordinates:

Project Extents:

NW:	Latitude: 72° 42' 02.7" N	Longitude: 77° 59' 27.6" W
NE:	Latitude: 72° 42' 08.3" N	Longitude: 77° 52' 12.0" W
SE:	Latitude: 72° 40' 53.9" N	Longitude: 77° 52' 12.0" W
SW:	Latitude: 72° 40' 54.7" N	Longitude: 77° 59' 58.0" 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 Plan¹, and was screened by the Nunavut Impact Review Board (NIRB)² in which it was determined that a review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*, 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 *NLCA* and of the *Act*, waived the requirement to hold a public hearing, and determined that:

Licence No. 8BW-PIM1821 be issued subject to the terms and conditions contained therein. (Motion #: 2018-B1-021)

SIGNED this 23rd day of July 2018 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board
Chair

LT/dd/rqd

1 NPC Conformity Determination (File No. 148432) dated February 22, 2017.

2 NIRB Screening Decision (File No. 17XN030) dated October 2, 2017.

I. PROJECT OVERVIEW

The objective of the Application is to obtain the water licence required to cross water courses for the Pond Inlet Marine Infrastructure Haul Road Project. The hauling road will make the 6-kilometers link between the quarry and the new small craft harbour being constructed at Pond Inlet. There are 11 potential water crossings at which a culvert will be placed to ensure the continuous water flow. Each one of these culverts will have either a 900 mm or a 1200 mm diameter, depending on the width of the watercourse, which will be determined in the field.

All other aspects of the Pond Inlet Marine Infrastructure Project related to water use and waste deposit will be covered through the Hamlet of Pond Inlet under their municipal Licence.

In brief, the Proponent intends to construct a new small craft harbour and associated infrastructure in Pond Inlet to improve marine access and safety by providing a protected harbour for private, local, and recreational users, community re-supply, as well as cruise ships and associated vessels. Construction is expected to take two (2) years from 2018 through 2020, followed by ongoing operations and maintenance. Construction activities include:

- Development of marine in-water infrastructure;
- Development and upgrading of onshore infrastructure; and
- Quarrying, transport, and deposition of approximately 200,000 tonnes of rock from a new quarry located approximately six (6) kilometres (km) from the Hamlet to Pond Inlet, including.

At the end of the Project construction, haul road will be barricaded by the proponent with an earth berm to avoid use by local vehicles, and handed over to the municipality in useful condition and without potholes.

II. PROCEDURAL HISTORY

The Nunavut Water Board (NWB or Board) received the above-mentioned application and supporting information (the Application) from Arctic Tower Ltd. on June 1, 2018. The Application consisted of the following documents:

- 180601 8BW-PIM---- (ANNEX 3) Summary English
- 180601 8BW-PIM---- NIRB 17QN015-Quarry
- 180601 8BW-PIM---- NIRB 17XN030
- 180601 8BW-PIM---- Page couverture envoi
- 180601 8BW-PIM---- PI Site Design_a_recover-Coupes
- 180601 8BW-PIM---- PI Site Design_a_recover-Plan_1-5000
- 180601 8BW-PIM---- PI Site Design_a_recover-Profil 0-1500
- 180601 8BW-PIM---- PI Site Design_a_recover-Profil 1500-4500
- 180601 8BW-PIM---- PI Site Design_a_recover-Profil 4500-6000
- 180601 8BW-PIM---- Water Licence Application

Following receipt and an internal preliminary technical review the Applicant was requested to and provided additional information including the following:

- 180604 8BW-PIM---- Cover Letter
- 180605 8BW-PIM---- 21807-GE-0001_1-5_01-Plan_1-5000
- 180605 8BW-PIM---- Simplified map
- 180605 8BW-PIM---- Spill Response Plan
- 180618 8BW-PIM---- Construction Work Plan
- 180618 8BW-PIM---- Pond Inlet Marine Infrastructure
- 180626 8BW-PIM---- (ANNEX 4) Summary Inuktitut

The NWB distributed the Application on June 18, 2018, for a twenty-one (21) day comment and/or review period with the deadline for comments set for July 10, 2018. Comments submissions were received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC or former INAC) and Environment and Climate Change Canada (ECCC).

The following is a summary of those comments:

ECCC:

- 1) Recommended that the Proponent provide erosion and sediment management measures as well as a total suspended solids management measures for in-water work;
- 2) Recommended that the Proponent mitigate possible adverse effects on migratory birds;
- 3) Recommended that the Proponent provide details on what will be done with any dredged materials that are not used during construction.

CIRNAC:

- 1) Advised the Proponent to include the quarry activities as part of the application;
- 2) Asked the Proponent to clarify the requested-term of licence;
- 3) Requested that the Spill Plan and Construction Plan be updated to include information of refueling of equipment, explosives, and general safety measures;
- 4) Requested that the Applicant submit a Quarry Management Plan and include measures to prevent sediment from entering streams in its Road Restoration Plan.

Subsequent to the comment period, the following information was received from the Applicant on July 13, 2018 to address interveners' comments:

- Revised Summary emphasizing erosion control;
- *Quarry Management Plan, Work Plan, Tower Arctic Ltd.*, dated July 10, 2018;
- Revised *Spill Response Plan, Work Plan, Tower Arctic Ltd.*, dated July 13, 2018;
- Clarification on the inclusion of quarrying activities and on the term of Licence;
- Confirmation that work would occur outside of the breeding bird window, and that an environmental monitor would be on site; and
- Confirmation that all dredge materials will be used in totality to fill the laydown area.

Copies of interveners' submissions as well as information submitted in support of the application can be accessed through the NWB's public registry and ftp site using the following links:

<ftp://ftp.nwb-oen.ca/registry/8%20MISCELLANEOUS/8B/8BW%20-%20Watercourse/8BW-PIM----%20Tower%20Arctic%20Ltd/>

III. GENERAL CONSIDERATIONS

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 three (3) year term for the licence to allow for the construction of water crossings associated with the *Pond Inlet Marine Infrastructure Haul Road Project*. The Board views the term requested for the project appropriate and has granted this term. The Licensee should note that the licence is granted solely for the construction and operation of water crossings along the Project haul road. Upon expiry of this Licence, the responsibility of the haul road and associated water crossings will be handed over to the Municipality of Pond Inlet.

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 reporting that licensees can use to submit annual reporting information, supplemented by other relevant details. Copies of the NWB's generic Annual Reporting form can be obtained from the NWB's public registry and FTP site using the following Link:

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

Use of Water

No direct water use was requested for the Project as the Licensee indicated that it will obtain water from the Hamlet of Pond Inlet. Accordingly, the Licensee is prohibited from withdrawing any water from nearby sources to carry out the project.

Deposit of Waste

The Applicant indicated that personnel associated with the project will reside within the community of Pond Inlet; therefore, there will be no use of Water or deposit of Waste will at the project site and no camp infrastructure will be established. With respect to construction waste generated by the project, all steel, wood, and other construction waste will either be backhauled to the hamlet's landfill facility for disposal.

Construction Drawings and Plans

The Licensee submitted as part of its Application, design drawings for the structures to be constructed in connection with the Project. Following completion of construction activities, the Licensee is required to submit a construction summary report that includes as-built drawings of the facilities constructed under the licence.

Spill Contingency Planning

The licensee submitted a spill contingency plan as part of the Application, and updated it to address interveners comments. The Board approves this plan under the Part G, Item 1 of the Licence.

Closure and Reclamation

A closure and reclamation plan was not submitted to the Board for approval as the Applicant indicated that their instructions are to “barricade the haul route with an earth berm to avoid use by vehicles. Handover shall be in useful condition and without potholes.” However, to ensure that all future abandoned facilities are reclaimed in an appropriate manner, the NWB has imposed appropriate terms and conditions under Part G of the Water Licence.

Monitoring

To ensure effects of construction are detected in a timely fashion, the NWB has imposed appropriate terms and conditions under Part H of the Water Licence.



NUNAVUT WATER BOARD WATER LICENCE

Licence No. **8BW-PIM1821**

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

ARCTIC TOWER LTD

(Licensee)

P.O. BOX 717, IQALUIT, NU, X0A 0H0

(Mailing Address)

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

Licence Number/Type: **8BW-PIM1821 / TYPE "B"**

Water Management Area: **ECLIPSE SOUND WATERSHED (48)**

Project/Location: **POND INLET MARINE INFRASTRUCTURE HAUL ROAD PROJECT/ POND INLET, QIKIQTANI REGION, NUNAVUT**

Classification: **OTHER UNDERTAKING**

Purpose: **WATERCOURSE CROSSING AND QUARRYING**

Quantity of Water use not to Exceed: **NO WATER USE IS AUTHORIZED**

Date of Licence Issuance: **JULY 23, 2018**

Expiry of Licence: **JULY 22, 2021**

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 crossing of water courses, for the Pond Inlet Marine Infrastructure Haul Road Project, located within the municipal boundaries of the Hamlet of Pond Inlet, Qikiqtani Region, Nunavut, and classified as an “Other” undertaking under Schedule 1 of the Regulations.
- b. This Licence is issued subject to the conditions contained herein with respect to the using of Water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: **8BW-PIM1821**

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

“**Abutment**” means the structure built to support the lateral pressure of an arch or span, e.g., at the ends of a bridge;

“**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;

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

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

“**Applicant**” means the Licensee;

“**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;

“Armoring” means the application of various materials to protect banks and shores of water bodies from erosion;

“Bank stabilization” means any works undertaken to protect or armour a bank or shore from erosion;

“Best Management Practice (BMP)” means a recommended technique shown to be effective and practical in preventing or limiting harmful impacts to the environment. Best Management Practices include any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces pollution. A practice, or combination of practices, that are determined to be the most technologically and economically feasible means of preventing or managing potential impacts;

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

“Culvert” means one or more pipes, pipe arches, or structures covered with soil and lying below the road surface, used to carry water, but does not include log structures;

“Debris” means an accumulation of loose, predominantly coarse grained soil and rock fragments, and sometimes with large organic material such as limbs and trunks of trees, that have become mixed together in an unsorted fashion. The term is sometimes used to refer solely to organic materials as in "logging debris";

“Deleterious Substance” means a substance is deleterious if it is harmful to fish, if it limits the use of fish by humans (for example contamination of fish by dioxins or shellfish by E. coli), or if by going through some process of degradation, it harms the water quality (for example, oxygen-depleting wastes). A substance is also deleterious if it exceeds a level prescribed by regulation;

“Divert” means taking water from a stream and includes causing water to leave the channel of a stream and making a change in or about the channel that permits water to leave it;

“Dredging” means an excavation activity or operation usually carried out at least partly underwater, in shallow seas or freshwater areas with the purpose of gathering up bottom sediments and disposing of them in a different location;

“Embankment” means a bank of earth or rock constructed above the normal ground surface, usually referred to as a bank;

“Embedded” means enclosed firmly in a surrounding mass;

“Ecosystem” means the dynamic and interrelated complex of plant and animal communities and their non-living environment. All parts of an ecosystem, including physical, chemical, and biological components, are interconnected; that is, they affect and are affected by all other parts;

“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;

“Endangered” means a species designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as facing imminent extirpation or extinction if limiting factors are not reversed;

“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*;

“Entrained” means when a fish is drawn into a water intake and cannot escape;

“Ephemeral” means seasonal, usually in reference to a watercourse that does not flow year-round or a wetland that is dry in summer months, also known as an intermittent stream;

“Erosion” means a process by which surface soil and rock is loosened, dissolved or worn away and moved from one place to another, usually by wind or water;

“Fish” includes parts of fish, shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals;

“Fish-bearing Waters” means a stream having a fish population present at some time during the year;

“Fish Habitat” means spawning grounds and nursery, rearing, food supply and navigation areas on which fish depend directly or indirectly in order to carry out their life processes (Fisheries Act). Fish habitat comprises physical, chemical and biological attributes of the freshwater, estuarine, marine and terrestrial (riparian) environment that directly or indirectly supports fish populations, including streamside habitat;

“Fish Passage” means by which fish in a stream are able to pass by or through in both upstream and downstream directions;

“Fish Salvage” means the removal of imperiled fish populations by methods delineated in relevant regulation for their protection;

“Fisheries Window” means a time of reduced risk for important commercial, sport and resident fish species when instream construction is permitted;

“Freshet” means a large increase in water flow down a river or estuary, typically from heavy rains or melting snow;

“Grade” means the slope of road, channel, or natural ground;

“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;

“Metal Leaching” means the mobilization of metals into solution under neutral, acidic or alkaline conditions;

“Mitigation” means actions taken during the planning, design, construction, and operation of a project to control, reduce or eliminate a potential adverse impact of a project;

“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;

“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;

“Permanent Stream” means a stream that typically contains surface waters or flows for periods more than six months in duration, also known as perennial stream;

“Permanent Structure” means any building or structure that was lawfully constructed, placed or erected on a secure and long lasting foundation on land in accordance with any local government bylaw or approval condition in effect at the time of construction, placement or erection;

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

“Riparian Area” means the area adjacent to a stream that may be subject to temporary, frequent or seasonal inundation, and supports plant species that are typical of an area of inundated or saturated soil conditions, and that are distinct from plant species on freely drained adjacent upland sites because of the presence of water;

“Riparian Vegetation” means vegetation adjacent to a watercourse, lake, swamp, or spring, which is generally critical for wildlife cover, fish food organisms, stream nutrients and large organic debris, and for stream bank stability;

“Secondary Containment” means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles

“Sediment” means the material carried in suspension by a flowing body of water and which will ultimately settle to the bottom as water velocity decreases. Fine silt particles suspended in water are extremely difficult to remove;

“Sediment Control Plan” means a plan developed by a qualified professional to control sediment, and implemented prior to site preparation and construction;

“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 a structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste;

“Timing Window” means a period of reduced risk during which a particular type of works are permitted. It is referred to by various terms including "reduced risk window" and "window of least risk". Timing windows vary depending on a site-specific basis, depending on which species may be present and the sensitivity of habitat.

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

“Water” 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. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than the 31st of March of the year following the calendar year being reported, containing the following information:
 - a. Summary report of all construction activities including photographic records before, during and after construction;
 - b. Summary report of acid rock drainage and metal leaching characterization of the borrow material to be used for construction as required under Part C, Item 12;
 - c. All monitoring information required under Part H of the Licence;
 - d. A list of unauthorized discharges and a summary of follow-up action taken;
 - e. A summary of any abandonment and restoration work completed during the year and an outlined of any work anticipated for the next year;
 - f. Any revision to approved plans and manuals as required by Part B, Item 8 submitted in the form of an addendum;
 - g. A summary of any studies or reports requested by the Board that relate to the use of Water and the deposit of Waste, or restoration, and a brief description of any future studies planned; and
 - h. Any other details on water use or Waste disposal requested by the Board by the 1st of November of the year being reported.
2. 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.
3. The Licensee shall comply with the Monitoring Program described in Part I of this Licence, and any amendments to the Monitoring Program as may be made from time to time, pursuant to the conditions of this Licence.
4. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.
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. In the event that a Plan is not found acceptable to the Board, the Licensee shall, within thirty (30) days of notification by the Board, provide a revised version to the Board for review or approval in writing.
7. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

8. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
9. 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.
10. 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
11. The Licensee shall submit one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
12. 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.
13. This Licence is assignable as provided for in Section 44 of the *Act*.
14. 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 THE PROTECTION OF WATER

1. The Licensee shall not deposit of sediment into any water body.
2. The Licensee shall not remove any material from below the ordinary High Water Mark of

any Water body unless authorized.

3. The Licensee shall not cause the obstruction of natural drainage, flooding, or channel diversion unless authorized.
4. The Licensee shall minimize stream bank disturbances and shall provide necessary controls to prevent erosion of stream banks.
5. The Licensee shall undertake appropriate corrective measures to mitigate impacts on surface drainage resulting from the Licensee's activities.
6. The Licensee shall limit any in-stream activity to either no-flow or low-flow Water periods. In stream activity is prohibited during fish migration.
7. Machinery is not permitted to travel up the stream bed and fording of any Water body is to be kept to a minimum and limited to one area and a one-time event. Equipment used should be well cleaned and free of oil and grease and maintained free of fluid leaks.
8. The Licensee shall ensure that pollutants from machinery fording the crossing do not enter Water.
9. To minimize impacts on surface drainage, the Licensee shall prepare all sites in such a manner as to prevent rutting of the ground surface.
10. Equipment storage holding areas should be located on gravel, sand or other durable land, a distance of at least thirty-one (31) meters above the ordinary High Water Mark of any Water body in order to minimize impacts on surface drainage and Water quality.
11. The Licensee shall designate an area for the deposition of excavated and stockpiled materials that is at least thirty-one (31) metres above the ordinary High Water Mark of any Water body.
12. The Licensee shall not utilize any equipment or vehicles in the course of this undertaking unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall cease if rutting occurs.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. Permanent disposal of waste at site is not authorized.
2. The Licensee shall locate areas designated for temporary 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.

3. The Licensee shall not practice on-site land filling of domestic Waste, unless otherwise approved by the Board in writing.
4. The Licensee shall backhaul and all Waste generated through the course of the operation to a licensed Waste disposal site in the Municipality of Pond Inlet.
5. The Licensee shall provide to the Board, documented authorization from all communities in Nunavut receiving Waste from the Coral Harbour Airport Community Road Washout Rehabilitation Project prior to the backhauling any Waste.
6. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste. These records shall be made available to an Inspector upon request.

PART E: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS

1. The Licensee shall implement the Plan entitled “Quarry Management Plan, Work Plan, Tower Arctic LTD.” dated July 10, 2018, having been approved by the Board with the issuance of this Licence.
2. The Licensee shall notify the Board and the Inspector at least ten (10) days prior to the construction or installation of any of the Water crossings associated with the Project.
3. The Licensee shall submit to the Board for review and acceptance, for-construction drawings stamped and signed by an Engineer, at least thirty (30) days prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Wastes.
4. The Licensee shall, within ninety (90) days of completion of construction activities, submit to the Board for review a Construction Summary Report that includes stamped as-built plans and drawings, explanation for any deviation from construction drawings, and consideration of construction and field decisions and their effects on the performance of engineered facilities.
5. The Licensee shall ensure that all fill material used for the project is from an approved source, shall be free of all contaminants, and shall be characterized and confirmed to not possess acid generating potential or metal leaching properties prior to its use, with results and assessment to be submitted within the annual reporting requirements of Part B, Item 1.
6. All surface runoff or discharges impacted by construction activities associated with the Project, where flow may directly or indirectly enter Water, shall not exceed the following Effluent quality limits:

Parameter	Maximum Average Concentration (mg/L)	Maximum Concentration of Any Grab Sample (mg/L)
Total Suspended Solids	50.0	100

Oil and Grease	No Visible Sheen	No Visible Sheen
pH	Between 6.0 and 9.5	Between 6.0 and 9.5

7. The Licensee shall locate stream crossings to minimize approach grades. Approaches shall be stabilized to control runoff, erosion and subsequent siltation of any Water body.
8. The Licensee shall not gather rock or construction materials from below the ordinary High Water Mark of any Water body.
9. Sediment and erosion measures must be used to mitigate the deposition of debris and sediment into or onto any Water body during the construction and operation. 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 Water.
10. The Licensee shall maintain a minimum of thirty-one (31) metres large undisturbed buffer zone between the periphery of quarry sites and the ordinary High Water Mark of any water body.
11. The Licensee shall not excavate and/or remove material from the quarry/borrow area beyond a depth of one (1) metre above the ordinary High Water Mark or above the groundwater table, to prevent contamination of groundwater.
12. The Licensee shall, during periods of flow and following a major precipitation event, conduct water quality testing on a monthly basis, of any significant water seeps in contact with the roads, earthworks and any flows originating from quarries for criteria listed under Part E, Item 6.
13. The Licensee shall limit any in-stream activity to low water periods. In-stream activity is prohibited during fish migration.
14. The Licensee shall not cut any stream bank or remove any material from below the ordinary High Water Mark of any water body.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written approval from the Board, carry out Modifications to the water crossings 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, this will to include:
 - i. a description of the facilities and/or works to be constructed;
 - ii. the proposed location of the structure(s);
 - iii. identification of any potential impacts to the receiving environment;
 - iv. a description of any monitoring required, including sampling locations, parameters measured and frequencies of sampling;

- v. schedule for construction;
 - vi. drawings of engineered structures signed and stamped by an Engineer; and
 - vii. proposed sediment and erosion control measures.
 - b. the proposed 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 F, Item 1, have not been met, may only be carried out upon approval from the Board in writing.
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 G: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the plan entitled “Spill Response Plan, Work Plan, Tower Arctic Ltd.” dated July 13, 2018 submitted as additional information with the Application.
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 above the ordinary High Water Mark of any adjacent water body and inspected on a regular basis.
3. The Licensee shall conduct 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 Spill Contingency Plan;
 - b. Report the spill immediately to the 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.
5. The Licensee shall, in addition to Part H, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Water body.

6. The Licensee shall have a spill kit with a minimum capacity of approximately 205 litres available at the site, in the event that fuel lines and/or hydraulic hoses rupture on equipment being used near the water.
7. The Licensee shall remove and treat any hydrocarbon contaminated soils at an approved facility.

PART H: CONDITIONS APPLYING TO RECLAMATION AND CLOSURE

1. The Licensee shall, once the marine infrastructure project construction is complete, barricade the haul road with an earth berm and hand over the haul road to the municipality in useful condition and without potholes.
2. The Licensee shall complete any additional restoration work prior to the expiry of this Licence, including the removal of all infrastructure, site materials, fuel caches, drums, barrels, and equipment from the site.
3. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
4. The Licensee shall re-establish vegetation and/or stabilize exposed soils before removing erosion control measures.
5. The Licensee shall restore the drainage to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.
6. 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.
7. All disturbed areas shall be contoured and stabilized upon completion of work and restored, to the extent possible, to a pre-disturbed state.

PART I: CONDITIONS APPLYING TO MONITORING PROGRAM

1. The Licensee shall monitor all activities for signs of erosion and shall implement and maintain sediment and erosion control measures prior to the undertaking to prevent entry of sediment into any Water body.
2. The Licensee shall obtain a digital photographic record of the water crossing before, during, and after the completion of construction activities.

3. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of the location where the watercourse crossing (culverts) are located.
4. The Licensee shall, during periods of flow, conduct water quality testing immediately upstream and downstream of the water crossings, any significant water seeps in contact with the road and any significant seeps originating from borrow pits or rock quarries prior to construction, weekly during the construction and upon completion.
5. The Licensee shall monitor runoff and/or discharge from the borrow pits and quarry sites, during blasting activities, during periods of flow and following significant precipitation events, on a monthly basis, for the following parameters:

Group	Parameters
Physical Parameters	pH (field and laboratory), temperature (field), alkalinity, bicarbonate, carbonate, electrical conductivity, hardness, hydroxide, ion balance, total dissolved solids, total suspended sediments.
Nutrients	Ammonia-nitrogen, nitrate nitrogen, nitrite-nitrogen, ortho-phosphate.
Major Ions	Calcium, chloride, magnesium, potassium, sodium, sulphate.
Total Metals	Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, tin, titanium, uranium, vanadium and zinc.

6. The Licensee shall implement water crossings visual inspection and maintenance program prior to and during spring freshet and after heavy rainfall events to identify issues relating to watercourse crossings structural integrity and hydraulic function.
7. 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 in writing.
8. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
9. The Licensee shall implement water crossings visual inspection and maintenance program prior to and during spring freshet and after heavy rainfall events to identify issues relating to watercourse crossings structural integrity and hydraulic function.
10. Additional monitoring requirements may be requested by the Inspector.

11. The Licensee shall include in the Annual Report required under Part B, Item 1, all monitoring data and analysis and information required by this Part.
12. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
13. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.